Arch Physioter 2026; 16 (Suppl. 1): 4-157
ISSN 2057-0082 | DOI: 10.33393/aop.2026.4050
CONGRESS ABSTRACTS

6th Europe Region Physiotherapy Congress

Platform Presentations

BASIC SCIENCE INCLUDING MOLECULAR AND CELLULAR HEALTH

O0134

NEUROSCIENCE ADVANCES AND PHYSIOTHERAPY IN NEUROLOGICAL CONDITIONS: PHYSIOTHERAPY A FACILITATOR OF NEUROPLASTICITY AND RECOVERY

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Background: Advances in neurosciences over recent decades—particularly in neuroplasticity, motor control, neuroimaging, and neurophysiology—have profoundly influenced neurological physiotherapy. This evolution shifted physiotherapy from impairment-reduction paradigms toward evidence-based, task-oriented, neuroplasticity-driven rehabilitation aimed at restoring autonomy and participation. Despite strong evidence supporting physiotherapy's impact on functional outcomes, its direct influence on brain activity required further systematic exploration.
Purpose: The aim of this chapter was to synthesize current scientific knowledge on: (1) how neuroscientific advances shaped neurological physiotherapy; (2) the effects of physiotherapy on brain activity; and (3) evidence for physiotherapy's impact on functional outcomes across neurological conditions.
Methods: A narrative review summarized recent neuroscience developments and their influence on physiotherapy approaches. A scoping review (2013–2023) following PRISMA guidelines analyzed 67 eligible studies assessing physiotherapy's impact on brain activity across stroke, MS, Parkinson's disease, and dementia.
Results: The scoping review demonstrated consistent physiotherapy-related changes in brain activation, connectivity, excitability, neurochemical biomarkers (e.g., BDNF), and neurovascular function. Effects varied by pathology and intervention type. Evidence for manual facilitation also revealed meaningful cortical and subcortical activation patterns. Moreover, findings confirm evidence for physiotherapy's effectiveness on functional outcomes across conditions, particularly for task-oriented, intensive, technology-supported, and aerobic/strength-based interventions in association with brain changes.
Conclusion: Physiotherapy contributes to modulate brain activity, supporting its role as a neuroplasticity-facilitating and as an evidence- based profession in the context of neurorehabilitation. Research gaps remain for TBI, SCI, and hands-on approaches.
Implications: Physiotherapists should integrate neuroscientific results into practice.
Funding acknowledgement: Funded by Escola Superior de Saúde do Alcoitão.

CARDIORESPIRATORY

O0153

EFFECTS OF RESPIRATORY MUSCLE TRAINING ON EXERCISE VENTILATORY PATTERN AND HEART RESPONSE IN INDIVIDUALS WITH ISCHAEMIC HEART DISEASE

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Background: Respiratory muscle weakness contributes to exercise intolerance in individuals with ischaemic heart disease (IHD). The effects of inspiratory and expiratory muscle training (IMT+EMT) on exercise ventilatory mechanics and heart response remain unknown.
Purpose: To examine the effects of telerehabilitation-based IMT+EMT versus sham training on the ventilatory pattern and heart response during exercise in individuals with IHD.
Methods: Triple-blind randomized controlled trial. Thirty-six individuals with IHD were randomly assigned to IMT+EMT (n = 18) or sham training (n = 18). Both groups completed an 8-week home-based telerehabilitation respiratory program. Cardiopulmonary exercise testing was performed pre- and post-intervention, with ventilatory and heart outcomes recorded for 7 minutes.
Results: A significant between-group difference in the inspiratory fraction of the respiratory cycle (tIn/tTot; p = 0.041) was detected, suggesting better expiratory performance. The tidal volume-to-inspiratory capacity ratio (Vt/IC) decreased significantly in IMT+EMT (p = 0.048), alongside Vt/CV (p = 0.018), indicating attenuation of dynamic hyperinflation. IMT+EMT significantly reduced heart rate during exercise (p = 0.016) and showed a trend toward improvement in O_2 pulse per kilogram (p = 0.094). No significant changes were observed in the sham group.
Conclusion: Telerehabilitation-based IMT+EMT could improve dynamic hyperinflation and the cardiac workload in individuals with IHD compared to sham intervention. However, caution is needed to interpret these results due to the small sample size.
Implications: IMT+EMT via telerehabilitation may enhance ventilatory efficiency and reduce cardiovascular strain during exercise, supporting its integration as a complementary strategy within cardiac rehabilitation for individuals with IHD.
Funding acknowledgements: This work was supported by the Instituto de Salud Carlos III (ISCIII) [Grant No. PI23/00816], co-funded by the European Union.

O0026

BASELINE MUSCLE OXYGEN CONSUMPTION PREDICTS VO_2 PEAK CHANGE AND BASELINE FATIGUE BUT NOT 24H POST-EXERTIONAL MALAISE IN LONG COVID

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Background: Post-Exertional Malaise (PEM) is a hallmark feature of Long COVID and is assessed using the two-day Cardiopulmonary Exercise Test (CPET), quantifying reductions in exercise capacity on the second test. Mitochondrial dysfunction has been proposed as a contributor to PEM and exercise intolerance in Long COVID. Near-Infrared Spectroscopy (NIRS) enables non-invasive assessment of muscle oxygen consumption (mVO2) and resaturation kinetics through the Tissue Saturation Index (TSI).

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Purpose: To investigate whether baseline NIRS parameters predict objective and subjective markers of PEM in Long COVID.
Methods: Objective PEM was quantified as the change in VO2peak between day 2 and day 1 (ΔVO_2peak). Fatigue was assessed using the Revised Piper Fatigue Scale (RPFS) 15 minutes pretest and 24 h posttest. Backward linear regression analyses were conducted with mVO_2, TSI resaturation slope, and Body Mass Index (BMI) as predictors.
Results: Participants (n = 18) completed a two-day CPET. mVO_2 was the only significant predictor of ΔVO_2peak (p = 0.023), explaining 33.9% of the variance (R^2 = 0.339). Higher mVO_2 was also associated with lower baseline fatigue (p = 0.042). TSI resaturation slope and BMI were not significant predictors. No baseline NIRS parameters predicted PEM 24 h after exercise.
Conclusion: Baseline mVO_2 is associated with ΔVO_2peak and baseline fatigue in Long COVID, but not with PEM after 24 h.
Implications: Impaired peripheral muscle oxidative capacity may contribute to exercise intolerance and baseline fatigue in Long COVID and may provide a useful physiological marker.
Funding acknowledgements. Funding for this work was provided by Fonds Wetenschappelijk Onderzoek (FWO) grant number G075423N.

O0022

MUSCLE STRENGTH-ENDURANCE MISMATCH IN PEOPLE WITH LONG COVID: A CROSS-SECTIONAL ANALYSIS

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Background: LongCOVID affects exercise tolerance, yet the muscle strength-endurance relationship remains unclear.
Purpose: To investigate strength-endurance mismatch and its associations with clinical outcomes in LongCOVID.
Methods: Design: Cross-sectional study. Participants: People with LongCOVID; healthy controls. Outcomes: Muscle strength (quadriceps maximal voluntary contraction-QMVC; handgrip); functional capacity [1 min sit-to- stand (1minSTS); 6 min walk test (6MWD)]; dyspnoea (modified Medical Research Council-mMRC); fatigue (Functional Assessment of Chronic Illness Therapy-Fatigue-FACIT-FS); post-exertional malaise (DePaul Symptom Questionnaire-DSQ); health-related quality of life-HRQoL (EuroQoL-Five Dimensions-Five Levels-EQ5D5L); physical activity-PA (light-moderate-vigorous PA-LPA/MVPA, sedentary time). Analyses: Mismatch index (strength (mean[zQMVC-zhandgrip]) minus endurance (mean[z1minSTS-z6MWD]) scores); multivariable regression analyses between mismatch index and clinical outcomes.
Results: 197 participants (151 Long COVID, 55 ± 14 y, 60%♀; 46 controls, 54 ± 17 y, 33%♀). People with Long COVID had lower muscle strength and functional capacity than controls (QMVC: 18 ± 7 vs. 21 ± 5 kg; handgrip: 26 ± 10 vs. 30 ± 8 kg; 1 minSTS: 24 ± 10 vs. 32 ± 11 reps; 6MWD: 519 ± 139 vs. 658 ± 122m). They also showed lower strength (-0.11 ± 0.93 vs. 0.35 ± 0.73) and endurance (-0.20 ± 0.86 vs. 0.64 ± 0.83) scores, and a higher mismatch index (0.10 ± 0.82 vs. -0.29 ± 0.75), indicating greater endurance impairment. In Long COVID, greater mismatch was independently associated with higher symptom burden (β = 0.2[0.0;0.4]mMRC; β = -5[-8;-3]FACIT-FS; β = 8[4;12]DSQ), lower HRQoL (β = -7[-11;-3]EQ5D5L), and reduced PA (β = -62[-88;-37]min/day LPA; β = -15[-21;-8]min/day MVPA; β = 93[52;135]min/day sedentary time) ($0.11 \leq$ adj.$R2 \leq 0.22$, $p < 0.01$).
Conclusion: People with Long COVID present a strength-endurance mismatch, with greater endurance impairment.
Implications: Assessing muscle strength-endurance mismatch may help characterize exercise intolerance and tailor rehabilitation interventions in Long COVID.

Funding acknowledgements: This work was supported by the University of Alcalá, Alcalá de Henares, Madrid, Spain (grant number: FPI-UAH-20).

O0170

Clinical interpretation of cardiopulmonary exercise testing variables in paediatric population with pectus excavatum

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Background: Pectus excavatum is the most common congenital chest wall deformity and may be associated with exertional dyspnea and reduced exercise capacity. Cardiopulmonary exercise testing (CPET) is the gold standard for evaluating cardiorespiratory capacity because it allows integrated assessment of ventilatory, cardiovascular, and metabolic responses during exercise.
Purpose: To interpret the scientific literature regarding CPET-derived variables in pediatric populations with pectus excavatum, focusing on VO_2max, ventilatory reserve, and their relationship with functional limitation.
Methods: A literature search was conducted in PubMed, EBSCO, and Ovid (October 2025–February 2026) using "CPET AND pectus excavatum AND pediatrics". Studies published within the last 10 years were included. Studies focusing on surgical outcomes or adult populations were excluded.
Results: Evidence consistently reported reduced aerobic capacity. VO_2max values were significantly lower than in healthy controls (37.2 ± 6.6 vs 45.4 ± 6.4 $ml \cdot kg^{-1} \cdot min^{-1}$), with values around 78% of predicted VO_2max in some analyses. VO_2max Z-scores were also reduced (−1.51 ± 1.11), confirming lower aerobic capacity than expected for age. Improvement in VO_2max after surgical correction has been reported. In contrast, ventilatory reserve remained within physiological ranges during maximal exercise (≈34.6 ± 12.5% and 49.9 ± 13.2%), suggesting ventilation is unlikely to be the main limiting factor.
Conclusion: Children with pectus excavatum show reduced aerobic capacity despite preserved ventilatory reserve.
Implications: CPET may help PT identify mechanisms of exercise limitation, guiding exercise rehabilitation programmes.
Funding acknowledgements: None declared.

O0158

PERSONALIZED REHABILITATION FOR PEOPLE WITH INTERMITTENT CLAUDICATION (IC) VIA NOVEL AI STRATIFICATION STRATEGIES: THE PREPARE PROJECT

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Background: IC is associated with reduced walking distance and quality of life. Despite the growing body of evidence on the merit of person-centred physiotherapy, there are limited prediction models available leveraging AI in the treatment of people with IC. The PREPARE project, a large European initiative, aims to advance rehabilitation through AI-driven prediction models.
Purpose: The PREPARE project aims to develop a prediction model that supports treatment decision-making for patients with IC undergoing exercise physiotherapy.
Methods: This retrospective cohort study used data from >11,000 patients collected by physiotherapists within the Chronic CareNet Quality system, included between 2015 and 2022 in the Netherlands. The primary outcome was clinically important improvement in walking distance, assessed at 6 months and 1 year. Different machine learning models were developed and evaluated using a federated infrastructure. Model performance was assessed using discrimination and calibration metrics to choose the best model.
Results: Models developed utilizing lasso logistic regression demonstrated moderate performance (AUROC 0.68, AUPRC 0.83, F1 score 0.87 at threshold 0.33). This model is currently being translated into a user-friendly tool for physiotherapists.
Conclusion: AI-based prediction models show potential to support physiotherapists in estimating expected outcomes of supervised exercise therapy in patients with IC. While current performance is moderate, these models represent an important step toward integrating data-informed personalized decision-making into physiotherapy practice.
Implications: Leveraging routinely collected clinical data can support person-centered physiotherapy by informing individualized prognosis for patients with IC.
Funding acknowledgements: PREPARE is funded by the European Union. Grant Agreement 101080288 PREPARE HORIZON-HLTH-2022-TOOL-12-01.

O0157

EFFECTIVENESS OF DUAL-TASK EXERCISE ADDED TO PULMONARY REHABILITATION IN PEOPLE WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Background: Central nervous system dysfunction and impaired frontal lobe function are recognized extrapulmonary features of COPD. Dual-task performance may therefore be compromised, but the available evidence remains limited.
Purpose: To evaluate the effects of pulmonary rehabilitation (PR) alone and PR combined with dual-task training (DTT) in people with COPD.
Methods: Thirty-three people with COPD were randomly allocated to the DTT group (n = 17) or PR group (n = 16). Both groups completed 16 sessions. In addition to standard PR, the DTT group performed walking and balance exercises combined with cognitive tasks. Cognitive status was assessed using the Mini-Mental State Examination (MMSE) and Frontal Assessment Battery (FAB). Functional balance and mobility were assessed using the Timed Up and Go test (TUG) and the 10-Meter Walk Test (10 MWT) under single- and dual-task conditions at baseline and after 8 weeks.
Results: Baseline characteristics were similar between groups. The DTT group showed significant improvements in MMSE orientation and total score, FAB similarities, lexical fluency and total score, TUG under single- and dual-task conditions, and 10MWT under single- and dual-task conditions. The PR group showed significant improvements in MMSE total score and 10MWT under single- and dual-task conditions. Changes in MMSE orientation, FAB lexical fluency and total score were significantly greater in the DTT group ($p < 0.05$).
Conclusion: (s): Adding dual-task exercise to PR improved cognitive outcomes, particularly frontal lobe functions, lexical fluency, and orientation. Both interventions improved walking performance.
Implications: Dual-task exercise may be a useful adjunct to conventional PR to enhance cognitive benefits in people with COPD.
Funding acknowledgements: None declared.

O0151

COMPARISON OF PHYSIOLOGICAL DEMAND IN CARDIOVASCULAR DISEASE PATIENTS USING THE INCREMENTAL SHUTTLE AND SIX-MINUTE WALK TESTS

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Introduction: Field walking tests are widely used to assess functional capacity in cardiovascular rehabilitation. The Six-Minute Walk Test (6MWT) is simple and commonly applied, while the Incremental Shuttle Walk Test (ISWT) may provide a more dynamic evaluation of cardiovascular response. Comparative evidence on their physiological demands in cardiovascular disease is limited, highlighting a gap in exercise prescription.
Purpose: To compare for the first time the physiological and perceptual responses elicited by the ISWT and 6MWT, providing novel insights into their complementary role in functional evaluation.
Methods: Twenty-three patients (mean age: 74 ± 8.8 years) with cardiovascular disease performed both tests on the same day in randomized order. Hemodynamic responses (systolic/diastolic blood pressure, heart rate, peak heart rate, heart rate recovery) and perceived dyspnea (Borg scale) were recorded. Total walking distance was measured. Paired comparisons and correlation analyses were conducted.
Results: The ISWT elicited significantly greater cardiovascular responses than the 6MWT, with higher post-exercise systolic blood pressure, heart rate ($p < 0.05$), and dyspnea scores. Walking distance was longer during the 6 MWT (mean difference = 57m, $p < 0.001$). Strong correlations were observed between tests for post-exercise heart rate, peak heart rate, and distance ($r = 0.70–0.80$).
Conclusion: The ISWT is more physiologically demanding, whereas the 6MWT reflects functional walking capacity.
Implications: This study directly compared the ISWT and 6MWT for the first time, showing their complementary roles in cardiovascular rehabilitation. The ISWT provides a sensitive measure of cardiovascular stress, while the 6MWT remains practical. Using both tests can enhance functional evaluation, guide individualized exercise prescription, and optimize rehabilitation outcomes.
Funding acknowledgements: None declared.

O0160

ELECTROCARDIOGRAPHIC ADAPTATIONS DURING ADOLESCENCE IN RHYTHMIC GYMNAST ATHLETES: A LONGITUDINAL STUDY OF BIOLOGICAL MATURATION

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Introduction: Accurate interpretation of electrocardiograms (ECGs) in pediatric athletes remains challenging, particularly in females, where the impact of biological maturation is underexplored. To date, no longitudinal study has examined ECG adaptations in relation to maturation status in young rhythmic gymnasts, limiting the precision of current screening approaches.
Purpose: To investigate for first time ECG adaptations in female rhythmic gymnasts according to biological maturation (menstrual status) and to prospectively examine their evolution over one year.
Methods: Twenty-eight rhythmic gymnasts (6–14 years) underwent resting ECG assessment alongside anthropometric measurements and maturation classification (pre/post-menarche). Key ECG parameters (heart rate, PR interval, P wave, QRS, T wave) were analyzed. A subgroup (n = 11) was reassessed after one year to evaluate longitudinal changes and intra-individual variability.
Results: Post-menarcheal athletes demonstrated significantly greater height and body mass ($p < 0.001$) and longer PR intervals ($p = 0.005$), indicating maturation-related atrioventricular conduction adaptations. Conduction parameters showed strong longitudinal stability (PR: $r = 0.795$; P: $r = 0.940$; QRS: $r = 0.843$; $p < 0.001$), whereas repolarization parameters (T-wave) were more variable over time, suggesting ongoing physiological remodeling.
Conclusion: This is the first longitudinal study to demonstrate that biological maturation significantly influences ECG characteristics in young female rhythmic gymnasts, particularly atrioventricular conduction patterns.
Implications: These findings introduce a novel, maturation-informed perspective for ECG interpretation in pediatric athletes, supporting more individualized and precise cardiovascular screening. Integrating maturation status into clinical and physiotherapy practice may improve diagnostic accuracy, facilitate early detection of abnormalities, and ultimately enhance athlete safety and long-term health outcomes.
Funding acknowledgements: None declared.

O0152
CLINICAL FEASIBILITY OF A SHORT-TRACK SIX-MINUTE WALK TEST IN PATIENTS WITH ARTERIAL HYPERTENSION
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Introduction: The Six-Minute Walk Test is widely used to assess functional capacity in patients with cardiovascular disease. Standard administration requires a 30-meter walkway, often impractical in smaller clinical settings. No studies have explored a 15-meter walkway for this population, leaving a practical assessment gap.
Purpose: This study aimed, for the first time, to evaluate agreement between 6MWT results on 15-meter and 30-meter walkways and identify determinants of walking performance in older adults with arterial hypertension.
Methods: Twenty-three patients (57% men; mean age 74.0 ± 8.9 years) completed the 6MWT on both walkways in randomized order. Anthropometric measures, cardiovascular parameters, physical activity (International Physical Activity Questionnaire), and health-related quality of life (Short Form-36) were recorded. Agreement was assessed using intraclass correlation coefficients, and correlations with patient characteristics were analyzed.
Results: Walking distance was greater on the 30-meter walkway (mean difference = 64 m, $p < 0.001$), but moderate agreement was observed (ICC = 0.65). Height and the Physical Functioning domain of SF-36 positively correlated with distance, while age negatively correlated with performance.
Conclusion: Walkway length influences distance, yet the 15-meter 6MWT shows acceptable agreement with the standard 30-meter protocol, providing first-time evidence for a shortened walkway in patients with arterial hypertension.
Implications: The 15-meter 6MWT offers a feasible, validated alternative for space-limited clinical environments, enabling broader implementation of functional capacity assessment. Its adoption can support physiotherapists and clinicians in monitoring patient progress, guiding exercise prescription, and enhancing care in outpatient, primary care, and rehabilitation settings worldwide.
Funding acknowledgements: None declared.

O0159
PREDICTORS OF HEALTH-RELATED QUALITY OF LIFE IN CARDIAC REHABILITATION: THE ROLE OF POSITIVE ATTITUDE AND KINESIOPHOBIA
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Background: Kinesiophobia is often assessed as a unidimensional construct, limiting its ability to explain health-related quality of life (HRQoL). This study examined kinesiophobia as a multidimensional phenomenon to identify psychological and functional predictors of physical and mental HRQoL following cardiac rehabilitation (CR).
Purpose: The main purpose of this study was to investigate psychological and functional predictors of health-related quality of life following CR and to identify the optimal explanatory model for physical and mental quality-of-life outcomes in this population.
Methods: In this retrospective observational study (N = 171), exercise capacity (METs), HRQoL (SF12), anxiety/depression (HADS), and kinesiophobia (TSK-Heart) were assessed. Three subscales were analyzed: Fear of Harm (FEAR), Avoidance of Exercise (AVO), and Positive Attitude (POS). Multivariable linear regression models identified predictors of HRQoL at discharge.
Results: Significant improvements occurred across all outcomes, with the largest effect size for exercise capacity ($d = 1.09$). Discharge MCS was independently predicted by baseline anxiety, depression, and higher POS ($R^2 = 0.58$). Discharge PCS was predicted by exercise capacity, lower AVO, family history of cardiovascular disease, and COPD ($R^2 = 0.37$).
Conclusion/Implications: Findings underscore the clinical need for a differentiated approach to kinesiophobia. Beyond reducing fear and avoidance, actively fostering a Positive Attitude toward exercise (POS) is a highly malleable and impactful therapeutic target. Since POS is more amenable to change during short-term CR than chronic anxiety or depression, incorporating adaptive belief strategies alongside functional training is essential to optimize quality-of-life outcomes.
Funding acknowledgements: None declared.

COMMUNITY-BASED REHABILITATION

O0174
AWARENESS–BEHAVIOR GAP IN EXERCISE PARTICIPATION AMONG BREAST CANCER SURVIVORS: A COMMUNITY-BASED EXPLORATORY STUDY
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Ipiaget

Background: Breast cancer is the most commonly diagnosed cancer among women worldwide, and survivorship continues to increase across Europe. Despite improved survival, many survivors experience fatigue, reduced physical capacity, and functional limitations

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after treatment. Although exercise is widely recommended in survivorship care, participation in physical activity remains low in community settings, suggesting a gap between awareness of exercise benefits and actual engagement.
Purpose: To explore exercise behavior, perceived barriers, and support preferences among breast cancer survivors in a community context.
Methods: A quantitative exploratory study was conducted with 20 breast cancer survivors (mean age 59,5) recruited through a community cancer support organization. A structured questionnaire assessed exercise behavior, perceived benefits, perceived barriers, and preferences regarding professional support for physical activity. A physiotherapy-led educational session on exercise benefits was delivered, followed by evaluation of perceived motivational impact. Data was analyzed using descriptive statistics.
Results: Eighteen participants (90%) recognized the benefits of exercise, yet nine (45%) reported being physically inactive. Pain, fear of injury, and perceived physical insecurity were the most frequently reported barriers. Sixteen participants (80%) indicated that professional supervision would be important to initiating or maintaining exercise. Following the educational session, fifteen participants (75%) reported increased motivation to engage in exercise.
Conclusion: Despite high awareness of exercise benefits, participation in physical activity remains limited among breast cancer survivors in community settings.
Implications: These findings highlight a persistent awareness-behavior gap and provide preliminary community-based evidence informing the design of a randomized controlled trial to improve exercise in breast cancer survivorship.
Funding acknowledgements: None declared.

O0025
MIND-BODY TELEREHABILITATION FOR MYALGIC ENCEPHALOMYELITIS AND POST-COVID SYNDROME: PRELIMINARY RESULTS FROM A RANDOMIZED TRIAL
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Background: Myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS) and post-COVID syndrome (PCS) are chronic conditions characterized by fatigue, post-exertional symptom exacerbation, and reduced functional capacity. Rehabilitation remains challenging in these populations.
Purpose: To study the preliminary effects of a 12-week telerehabilitation program on physical capacity in adults with ME/CFS or PCS.
Methods: This analysis included the first wave of participants from an ongoing randomized controlled trial (NCT06978582). Participants were randomized into an MBE program, a conventional low-intensity exercise program, or usual care. Physical capacity was assessed remotely at baseline (T0) and post-intervention (T1), using the 60-s Sit-to-Stand test (StS-60) and One-Leg Stand Test (OLST). Linear mixed models examined group-by-time interaction effects.
Results: A total of 47 participants (87% female; mean age 49 years) completed T0, and 32 completed T1. For the StS-60, a significant group-by-time interaction was found ($F(2, 30.67) = 3.892$, $p = 0.031$). Only the MBE group experienced a statistically significant improvement over time, with a mean increase of 4.64 repetitions (95% CI: 1.87 to 7.41, $p = 0.002$). No significant changes were observed in the other groups. Regarding the OLST, no significant group-by-time interaction was observed ($F(2, 34.69) = 0.983$, $p = 0.384$).
Conclusion: Telerehabilitation-based MBE seems to improve sit-to-stand performance, but not flexibility or static balance in adults with ME/CFS and PCS.
Implications: Remote MBE may represent a feasible strategy to improve functional lower-limb performance in fatigue-related chronic conditions. These findings should be interpreted cautiously given the preliminary scope of the analysis.
Funding acknowledgements: VIIPPIT-US supported the predoctoral contract of Hermann Fricke-Comellas. It didn't provide funding for the study itself.

O0067
SELFIE PROJECT: A CASE-SERIES OF A COMMUNITY-BASED HYBRID PROGRAM SUPPORTING SELF-MANAGEMENT IN INDIVIDUALS WITH FIBROMYALGIA
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Background: Current evidence identifies non-pharmacological approaches as first-line interventions for individuals with fibromyalgia, particularly supported self-management education and exercise; however, their implementation within community settings remains challenging.
Purpose: To explore the potential impact of SELFIE, a community-based hybrid physiotherapy program co-designed with health professionals/patients/researchers, on self-efficacy for fibromyalgia self- management, and on pain, fatigue, functional capacity, quality of life, and physical capacity.
Methods: This case-series study included a 12-week program combining behavior-change-based education with structured and personalized exercise to support self-management. Assessments occurred at baseline, 6 and 12 weeks. Outcome measures included the Six-Item Self-Efficacy for Managing Chronic Disease Scale, Brief Pain Inventory, Multidimensional Daily Diary of Fatigue–Fibromyalgia, Revised Fibromyalgia Impact Questionnaire, and EQ-5D-5L. Physical capacity was evaluated using the Chair Stand, Chair Sit-and-Reach, Arm Curl, Back Scratch, 8-Foot Up-and-Go, and Six-Minute Walk Test.
Results: Fifteen participants were included; 13 completed the program. Most participants improved self-efficacy. Clinically meaningful improvements were observed in pain, fatigue, and functional ability. Improvements in physical capacity were primarily reflected in upper-limb strength and endurance.
Conclusions: This first evaluation of the SELFIE program suggests that combining behavior-change education with exercise may improve symptom burden and self-efficacy in fibromyalgia. Further investigation is needed to evaluate effectiveness.
Implications: Community-based, hybrid programs supporting self-management may positively influence self-efficacy and symptomatology in fibromyalgia, reinforcing the value of co-designed, patient-centered approaches.
Funding acknowledgements: None declared

CRITICAL CARE

O0156
OPTIMIZED ACUTE REHABILITATION FOR TRACHEOSTOMIZED PATIENTS IN PERIOPERATIVE INTENSIVE CARE MEDICINE: WHAT EFFECTS ARE POSSIBLE?
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There is no consensus on the scale, organization, and content of physical, occupational, and speech therapy in intensive care. Therefore, we systematically dissected the effect of optimized acute rehabilitation in intensive care units (ICUs) in a group of tracheotomized patients. Patients in ICUs with tracheostomy were subjected to intervention (IG, n = 59) and compared to a historical group (HG, n = 56). Intervention included doubling of staff and adherence to SOPs covering mobilization, dysphagia, and tracheostomy tube management. A daily interprofessional therapy conference and weekly goal meetings were introduced. The primary endpoint was a composite total score (CTS) consisting of length of stay (LOS) in the intensive care unit and Barthel Index at discharge for surviving patients. The total scores were compared between HG and IG using linear regression, controlling for intensive care health status as expressed by SOFA, SAPS, and TISS scores. The average therapeutic time (PT+OT+ST) increased from HG = 28 to IG = 75 minutes/case/day. The intervention was associated with a significantly higher CTS (adj. Cohen's d = 0.54; 95% CI [0.07, 1.01]; p ≈ 0.03). When comparing the HG with the IG, there was a relevant reduction in mortality (HG = 28.6%, IG = 20.3%), LOS (mean HG = 33.4, IG = 21.6 days), and an increase in the Barthel Index (from -80.2 to -36.9). We show here that optimizing acute rehabilitation strategies for tracheotomized patients in ICUs in terms of scale, structure, and content can result in positive effects both for patients and for the limited resources and should therefore also be considered for other ICUs.
Funding acknowledgements: None declared.

O0155

Correlation of the level of mobilization of ICU patients with the occurrence of frailty syndrome

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Background: In recent years, early mobilization has emerged as a key strategy in ICU rehabilitation, while frailty syndrome—common in elderly patients—has been linked to ICU stay, highlighting the need to examine their correlation.
Purpose: The aim was to evaluate whether the degree of early mobilization is associated with the occurrence of frailty upon discharge from the ICU and with muscle strength**.**
Methods: This prospective, cross-sectional study in the ICU of Evangelismos General Hospital included patients under mechanical ventilation for >72 hours. ICU course data were recorded, and strength (MRC, hand dynamometer), functionality (Barthel Index), and quality of life (EuroQol 5D-5L) were assessed at ICU and hospital discharge; frailty (Clinical Frailty Scale) and mobilization (Manchester Mobility Scale) were also evaluated.
Results: 54 patients (30♂, 24♀) were recorded over 6 months; 46% had Frailty Syndrome.
Mobilization: 31.5% sat without support, 16.7% sat on a chair away from the bed, 10% stood/walked. MRC at ICU discharge: 37.31 ± 19; Barthel at hospital discharge: 70±26; EuroQoL at hospital discharge: 15±5 (mean ± SD). Mobilization correlated negatively with Frailty (-0.504, $p < 0.05$) and positively with MRC (-0.597, $p < 0.01$).
Conclusions: ICU mobilization appears to affect frailty and muscle strength at discharge, with early mobilization likely reducing frailty syndrome and preserving strength, pending confirmation by larger prospective studies.
Implications: This prospective, cross-sectional study provides important data for managing critically ill patients with frailty syndrome, helping physiotherapists set therapeutic goals and highlighting the need for early mobilization.
Funding acknowledgements: None declared.

DISABILITY AND REHABILITATION

O0024

IN THE ABSENCE OF PROFESSIONAL KNOWLEDGE: INDIVIDUALS' WORK TO RECREATE NORMALCY IN THE CONTEXT OF LONG COVID

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Background: Despite vaccination to reduce disease severity and duration, long-term illness after SARS-CoV-2 infection persists.
Purpose: To examine patients with Long COVID's experiences to identify narrative patterns of illness and recovery.
Methods: A qualitative design was applied. Six women and two men in recovery from Long COVID narrated life before illness, illness onset, and the course up to the present. Narrative analysis focused on both content and how stories were told.
Results: Two illness and recovery trajectories were identified aligning with Arthur Frank's typologies. One follows a restitution narrative: 1. acute SARS-CoV-2 infection leads to hospitalization for severe cardiac and respiratory problems that are effectively treated, clear advice to rest and avoid overexertion is followed, symptoms resolve, and return to full-time work is reached. The other follows a quest narrative after a mild infection: 2. an initial full or partial recovery is followed by a gradual unexpected deterioration into an inexplicable, complex, diffuse illness that fractures daily life, and largely no effective recommendations are provided. In the absence of clear knowledge, participants adopt self-care strategies to prevent further deterioration and relieve symptoms, cautiously reintroducing activities while monitoring for overexertion. Gradual improvement is observed, but the nature of their future life remains uncertain.
Conclusion: An essential difference between the restitution and the quest narratives is the presence versus absence of helpful knowledge.
Implications: Physiotherapists can learn from patients what is essential for self-care and management from the patient's perspective.
Funding acknowledgements: None declared.

O0136

EFFECTIVENESS OF A GAMIFIED TELEREHABILITATION SYSTEM IN INDIVIDUALS WITH CHRONIC POST-STROKE IMPAIRMENTS

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Stroke remains a leading cause of long-term disability. In the chronic phase, persistent upper-limb and balance impairments are common, while access to rehabilitation is often limited by socioeconomic and geographical barriers, particularly in rural areas. Telerehabilitation may offer a sustainable alternative for long-term home-based care. We conducted a single-blind randomized controlled trial in Catalonia (2023–2024) to evaluate a gamified, non-immersive virtual reality telerehabilitation system (Muvity) compared with paper-based home exercise in individuals >12 months post-stroke. Participants performed 30-minute sessions, three times per week for 12 weeks. The primary outcome

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was upper-limb motor function (FMA-UE); secondary outcomes included balance (BBS), functional independence (BI), pain (BPI), and health- related quality of life (ECVI-38). Thirty-nine participants were enrolled (IG = 20; CG = 19); 27 completed the intervention (IG = 13; CG = 14; mean age 67.0 ± 12.7 years). Between-group differences favored the intervention but were not statistically significant for FMA-UE, BBS, BI, or BPI. A significant between-group improvement was observed in quality of life (ECVI-38 −5.5 vs +1.0; p = 0.040), with a moderate-to-large effect size (Cohen's d = 0.83). Within-group analysis showed significant improvement in upper-limb motor function in the intervention group (FMA-UE +3.0 points; p = 0.030), not observed in controls. In chronic stroke, meaningful patient-centered gains may emerge even when motor changes are modest. These findings suggest that adaptive gamified feedback may enhance engagement and perceived recovery during long-term rehabilitation. Larger trials are warranted to confirm long-term effects and support implementation. Gamified non-immersive telerehabilitation may help sustain physiotherapy delivery in underserved rural settings.

Funding acknowledgements: This work was supported by the Department for Social Rights of the Generalitat de Catalunya (grant DDS008/22/000342).

O0135

START–THE SWISS TELE-ASSISTED REHABILITATION AND TRAINING PROGRAM FOR PATIENTS AFTER STROKE: FEASIBILITY, SAFETY AND PERFORMANCE

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Background: Stroke rehabilitation intensity declines after discharge from inpatient rehabilitation, creating a gap between patients' recovery needs and therapy delivered. Telerehabilitation and mobile health applications help bridge this transition.
Purpose: Evaluation of feasibility, safety, and performance of the Swiss tele-assisted rehabilitation and training programme (START) for patients in the subacute phase after stroke during transition from inpatient to outpatient rehabilitation. Secondary objectives explored disability, functional status, quality of life, life-space mobility, physical performance, and physical activity.
Methods: In this single-center feasibility trial, 40 patients after stroke were enrolled and 29 (age 59.7 ± 13.7, 11 females) were included in the final analyses. START, delivered via the Blended Clinic platform, comprised daily training, coaching and monitoring. Patients used START for two weeks before discharge and continued for 12 weeks (outpatient).
Results: No device- or procedure-related adverse events with causal relationships occurred. The programme fulfilled feasibility criteria for sample size, recruitment, safety, stability, maintenance, and perceived change. Usability scores were high (System Usability Scale 88.3/100; German mHealth Application Usability Questionnaire 5.3/7); app quality was rated favorably (AQUA 4.1/5). Training adherence was 65.1% (inpatient) and 66.7% (outpatient). Significant improvements were observed in the mRS, FAC, SIS, life-space mobility, TUG, Short Physical Performance Battery, gait speed, and Trunk Impairment Scale. Outpatients were more physically active than inpatients.
Conclusion and implication: START appears feasible, safe, and well accepted. It extends rehabilitation beyond discharge and addresses reduced therapy intensity after inpatient rehabilitation. Digitally supported, coach-guided telerehabilitation helps to maintain rehabilitation intensity during transition to home and support continuity of care.

Funding acknowledgements: The TeleRehaStroke project (2023–2024) was funded by the Canton Aargau, Department of Health and Social Services, Division of Health.

O0137

PERSONALISED, HIGH-DOSE, MOTOR REHABILITATION FOR PEOPLE WITH CHRONIC STROKE OR SPINAL CORD INJURY: CLINICAL AND HEALTH ECONOMIC OUTCOMES

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Neurological conditions are a leading cause of long-term disability and rehabilitation needs. High-dose rehabilitation may improve persistent motor symptoms following stroke or spinal cord injury (SCI). We investigated the clinical and cost-effectiveness of the INTeRAcT treatment in adults in the chronic phase after stroke or SCI. Participants were randomized to either the INTeRAcT treatment or usual care. INTeRAcT consisted of a three-week, 90-hour personalized, goal-directed motor rehabilitation programme that integrated rehabilitation technology, cardiovascular fitness training, and self-management. The primary outcome was the Functional-Spinal Cord Independence Measure (FIM-SCIM), and a secondary outcome was the Goal Attainment Scale (GAS), both assessed at baseline (T0), after 3 weeks (T1), and 9 months (T2). Analyses followed the intention-to-treat principle using multivariate linear models. Cost-effectiveness was assessed through a nine-month cost-utility analysis from a healthcare perspective, using a €50,000/QALY willingness-to-pay threshold. 101 participants (59 stroke; 42 SCI) were included. INTeRAcT (n = 50) resulted in significant improvements compared to usual care (n = 51) in FIM-SCIM from T0–T2 (mean difference (95% CI) = 4.5 (2.6–6.4), d=1.07), in GAS from T0–T1 (17.2 (13.9-20.5); d = 3.1) and from T0–T2 (17.2 (13.0-21.5); d = 2.1). No difference was observed for FIM-SCIM from T0–T1. The incremental cost-effectiveness ratio was €73,553/QALY. INTeRAcT improved long-term independence in daily activities and the achievement of rehabilitation goals in the chronic phase after stroke and SCI, but was not cost-effective within nine months. The findings support integrating high-dose personalized rehabilitation into chronic neurorehabilitation, while emphasizing the need for long-term economic evaluation.

Funding acknowledgements: National Institute for Health and Disability Insurance, Belgium; Research Foundation Flanders (FWO), Belgium.

O0097

Pain modulation and cognitive function in migraine during the interictal period

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Background: Migraine is a primary headache disorder associated with reduced quality of life and productivity. Evidence suggests persistent psychoneurobiological alterations even during the interictal period.

Purpose: To compare quantitative sensory testing (QST) outcomes and multidimensional cognitive functions in individuals with migraine during the headache-free phase and asymptomatic controls.
Methods: This cross-sectional study included 43 participants (22 migraine, 21 controls). QST assessed pressure pain threshold at segmental and extra-segmental sites (Extensor Carpi Radialis Longus and Tibialis Anterior) and conditioned pain modulation using a cold stimulus. Cognitive functions were evaluated using MoCA, Stroop, Digit Span, and FAB. Groups were compared using the Mann–Whitney U test.
Results: The migraine group showed significantly lower PPT in mean temporal PPT values ($p = 0.049$) and higher CPM scores ($p = 0.003$). They made fewer errors in Stroop Part 4 ($p = 0.02$). However, forward digit span length and score were lower, and backward digit span showed more errors with lower scores ($p < 0.001$). MoCA and FAB scores were similar ($p > 0.05$).
Conclusion: Migraine is associated with altered pain modulation and domain-specific cognitive changes during the interictal period.
Implications: Management should include assessment of pain modulation and cognitive functions. Integrating QST, pain neuroscience education, and cognitively informed rehabilitation may improve outcomes and support interdisciplinary care.
Funding acknowledgements: None declared

O0068
Validation of the Italian version of the Fatigue Severity Scale in people with fibromyalgia: a cross-sectional study
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Background: Fibromyalgia is characterized by widespread pain, sleep disturbances, cognitive symptoms, and severe fatigue that substantially impacts daily functioning. Systematic fatigue assessment is essential, yet validated and culturally adapted instruments for people with fibromyalgia remain limited. The Fatigue Severity Scale (FSS) is widely used to assess fatigue impact, but its psychometric properties have not been specifically evaluated in Italian individuals with fibromyalgia.
Purpose: To evaluate the psychometric properties of the Italian version of the FSS in people with fibromyalgia.
Methods: A cross-sectional study with a seven-day follow-up was conducted in individuals with fibromyalgia. Participants completed the FSS and the Revised Piper Fatigue Scale (R-PFS). A subsample performed the Six-Minute Walk Test, Borg Rating of Perceived Exertion, and Berg Balance Scale. Internal consistency (Cronbach's α), test–retest reliability (ICC), structural validity (exploratory factor analysis), construct validity (Pearson correlations), and discriminative validity (ROC analysis) were examined.
Results: A total of 136 people with fibromyalgia participated. The mean FSS score was 6.1 ± 1.1, with 86.1% reporting clinically relevant fatigue. Internal consistency was excellent (Cronbach's $\alpha = 0.912$), and test–retest reliability showed excellent stability (ICC = 0.965). Strong correlations were observed between FSS and the R-PFS ($r = 0.680$). EFA supported a predominantly unidimensional structure. Discriminative validity was excellent (AUC = 0.925) with a cut-off of 4.88.
Conclusion: The Italian FSS demonstrated strong reliability and validity in people with fibromyalgia.
Implications: The FSS provides a brief tool for identifying and monitoring fatigue severity in fibromyalgia, supporting clinical assessment and outcome evaluation in physiotherapy.
Funding acknowledgements: None declared.

EDUCATION

O0110
ENHANCING STUDENTS' AI LITERACY THROUGH STRUCTURED LEARNING ACTIVITIES IN PHYSIOTHERAPY EDUCATION: A QUASI-EXPERIMENTAL STUDY
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Background: The rapid advancement of generative artificial intelligence (GAI) is reshaping health professions education, requiring new approaches to support students' digital competences, clinical judgement, and responsible use. Therefore, the physiotherapy program at Linköping University has implemented targeted curricular adaptations and structured learning activities.
Purpose: To evaluate changes in physiotherapy students' use, perceptions of GAI, and their AI literacy following GAI curricular adaptations and learning activities.
Methods: A two-part quasi-experimental design was employed, using repeated cross-sectional surveys. Data were collected during the implementation of GAI-related curricular adaptations (baseline 2024 and follow-up 2025), and pre- and post-GAI learning activities to assess changes in AI literacy.
Results: In total, 123 students completed the survey in 2024 and 112 students in 2025. Frequency of GAI use increased between baseline and 1-year follow-up, χ^2 (3) = 62.40, $p < 0.001$. A larger proportion of students also reported that GAI contributed to their learning at follow-up, χ^2 (4) = 24.94, $p < .001$. Preliminary results indicate enhanced AI literacy following GAI learning activities.
Implications: Given the rapid rise in student use of GAI, continued curricula integration and purposefully designed learning activities are essential to promote appropriate use, reduce misuse, and strengthen students' agency and critical engagement with GAI tools.
Funding acknowledgements: This work was supported by the Faculty of Medicine and Health Sciences, Linköping University, Sweden.

O0187
TRANSLATION AND CULTURAL ADAPTATION OF THE COMMUNICATION SKILLS QUESTIONNAIRE INTO EUROPEAN PORTUGUESE
Sofia Lopes, Raquel Carvalho, Alice Carvalhais, Gabriela Brochado
CESPU

Background: The importance of physiotherapists' communication skills within the biopsychosocial model is essential for a comprehensive approach to patients and effective teamwork. Many students feel unprepared to communicate effectively, yet no validated tool exists in European Portuguese to assess these skills.
Purpose: This study aims to cross-culturally adapt the Physiotherapist Communication Skills Questionnaire (PCSQ) into European Portuguese, providing a preliminary instrument to improve physiotherapy education and clinical practice**.**
Methods: The PCSQ was translated and adapted following international guidelines. The process included independent translations, consensus synthesis, back-translation, and validation by the original authors. A cognitive debriefing (pre-test) was conducted with 15 physiotherapy students to evaluate the items' face and content validity. No significant difficulties were identified, and the final adapted version was approved for use with the Portuguese population.
Results: After translation, expert consensus resolved semantic discrepancies, ensuring cultural suitability. The back-translation confirmed that the original meaning was preserved despite minor linguistic adjustments. The cognitive pre-test demonstrated that the items were clear and easily understood by the target population, with no significant difficulties identified.

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Conclusion: The European Portuguese version of the PCSQ achieved semantic and idiomatic equivalence. Content validity and clarity were confirmed, and the final version is suitable for physiotherapy students and professionals. Larger studies are required for full psychometric validation.
Implications: This European Portuguese version of the PCSQ offers a culturally and semantically validated instrument that can strengthen physiotherapy students' and professionals' communication skills, which are crucial for effective patient-centered care and collaborative practice.
Funding acknowledgements: None declared.

O0104
IMPROVING CLINICAL REASONING IN HEALTHCARE EDUCATION VIA ITERATIVE CURRICULUM DESIGN: A MIXED-METHODS STUDY
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Vrije Universiteit Brussel

Background: Clinical reasoning (CR) is essential in physiotherapy, yet traditional teaching often fails to prepare students for real-world complexity. TRANSFER (TRAiNing Skills For Evidence-based practice and CR) aims to strengthen CR skills.
Purpose: This study used an iterative co-creative process, guided by a quality improvement cycle. Objectives were to identify student-perceived barriers, adapt TRANSFER accordingly, and re-evaluate whether revisions improved learning and CR development**.**
Methods: The study comprised three phases. Phase 1 (2023): TRANSFER piloting in 140 national (master) and international (bachelor) students. Three focus groups (n = 12) explored experiences and barriers; transcripts were thematically analyzed. Phase 2 (2024): Revisions were implemented with 110 students using a mixed-methods Start–Stop–Continue evaluation. Phase 3 (2025): Further refinements were implemented with 73 students. The evaluation was repeated to confirm and strengthen the findings.
Results: Five themes emerged in 2023: learning outcomes, prior knowledge, methodology, assessment, and cooperation. Adaptations addressed clearer outcomes, harmonized prior knowledge, structured tasks, consistent assessment, and cultural awareness. In 2024 (58%) and 2025 (95%), students reported improved CR, decision-making, and reflection (mean 70/100; SD ≈ 10). The framework's contribution to lifelong learning and critical thinking was rated 4/5, with higher scores indicating more positive evaluations. Qualitative feedback highlighted the value of interactive group work and real-time instructor support.
Conclusion: TRANSFER strengthened CR and reflective skills by addressing learning barriers and fostering structured, collaborative learning.
Implication: TRANSFER is scalable across curricula. More detailed descriptive data may support further tailoring, and future studies should examine integrating decision-support technologies into CR training.
Funding acknowledgements: None declared.

O0050
LOWER URINARY TRACT SYMPTOMS AND HEALTHCARE-SEEKING BEHAVIOUR IN ADULT MEN: A CROSS-SECTIONAL ONLINE SURVEY
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[2]CESPU

Background: Lower urinary tract symptoms (LUTS) are common among adult men, increase with age, and can affect quality of life. Despite available management strategies, many individuals do not seek professional care.
Purpose: To investigate the presence of LUTS in adult men, explore healthcare-seeking behavior, identify barriers to professional care, and compare outcomes across age groups.
Methods: A cross-sectional study was conducted using an online questionnaire. LUTS were assessed with the International Consultation on Incontinence Questionnaire-Male Lower Urinary Tract Symptoms (ICIQ-MLUTS). Participants were grouped by age (19-40 vs 41-69 years). Differences between groups were analyzed using the Mann–Whitney U test, $p < 0.05$.
Results: Of the 127 responses received, 116 were included in the analysis. Overall, 99 participants (85.3%) reported LUTS, all of mild severity. Regarding bother, 82.8% reported mild and 17.2% moderate bother. Overall, 24.2% reported consulting or considering consulting a healthcare professional. The most frequently reported reasons for not seeking care were perceiving no LUTS and considering such symptoms normal in men. No associations were observed between age group and healthcare-seeking behavior, reasons for not seeking care, or severity and bother scores. While severity scores did not differ between those who sought healthcare and those who did not, bother scores were higher among those who sought care.
Conclusion: LUTS were common but mild, and most participants did not seek professional care. Perceived bother appears to influence healthcare-seeking behavior more than symptom severity or age.
Implications: Improving awareness and health literacy regarding LUTS may support earlier diagnosis and access to care.
Funding acknowledgements: None declared

O0107
CO-CREATING COMMUNITY HEALTH RESOURCES IN PRIMARY CARE: A SERVICE-LEARNING EXPERIENCE FOR PLANETARY HEALTH IN PHYSIOTHERAPY EDUCATION
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University of the Balearic Islands

Background: Opportunities to engage with community health needs remain limited in physiotherapy education. A redesigned primary health care center in Coll d'en Rabassa (Mallorca, Spain) aims to function as a hub for community health promotion through three outdoor areas based on neuroarchitecture and community participation, offering a context for co-creation within education.
Purpose: To describe a service-learning experience in which physiotherapy students co-created community health resources aligned with population needs and the physiotherapy service, through a prospective approach informed by the WHO Global Action Plan on Climate Change and Health.
Methods: A total of 44 second-year physiotherapy students participated by designing innovative health promotion initiatives linked to four community assets associated with the primary health care center: a garden, a physical activity area, a mental health space, and a healthy route. Students analyzed community diagnosis reports, vulnerability assessments, and climate change projections, integrating governance and participation perspectives. The initiatives, as well as the learning experience, were evaluated through a questionnaire and qualitative interviews with students and healthcare professionals.
Results: Students developed a deeper understanding of health as an eco-social process and of the role of physiotherapy in prevention and community resilience. The innovative health promotion initiatives were considered relevant and feasible by the healthcare team, particularly in activating outdoor spaces and strengthening links between the center and the community.
Conclusion: Service-learning is a feasible approach to connect physiotherapy education with community-based primary care transformation.

Implications: This approach may strengthen community-oriented physiotherapy and support more sustainable health promotion strategies.
Funding acknowledgements: Institute for Educational Research and Innovation, Government of the Balearic Islands.

EDUCATION: CLINICAL

O0103

BETWEEN LEARNING, A SENSE OF SAFETY AND INCLUSION: PHYSIOTHERAPY GRADUATES' EXPERIENCES OF CLINICAL PLACEMENTS

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Background: Clinical placements constitute 20% of Danish physiotherapy education and are pivotal for linking academic learning with practice, thereby preparing graduates for increasingly complex healthcare needs associated with demographic change. Yet student-centered knowledge about what shapes placement experiences remains limited.
Purpose: To explore how students describe and interpret what shapes their learning and participation during placements.
Methods: Five semi-structured interviews were conducted with newly graduated physiotherapists (2-9 months post- graduation) focusing on clinical placement experiences. Analysis was inductive and inspired by thematic analysis.
Results: Three interrelated themes were developed through analysis: Learning, A sense of safety, and Inclusion. Perceived learning was described as decisive for the overall evaluation of placements, with the clinical educator positioned as a key actor responsible for facilitating progression, feedback, and "conditional autonomy" in patient work. A sense of safety in the educator-student relationship was described as a prerequisite for taking on challenges, articulating professional weaknesses, and reflecting aloud. Inclusion in the workplace community - socially and professionally - supported belonging, perceived competence, and the placement experience. Across themes, participants described a paradox: a desire to learn co-existing with a need to appear competent.
Conclusion: Placement quality appears shaped by a complex interplay of learning, a sense of safety and inclusion, where relational and social conditions are foundational. A larger qualitative follow-up study is underway (10-15 physiotherapy students across educational stages), with publication anticipated in winter 2026.
Implications: Clinical sites should prioritize a sense of safety and inclusion systematically alongside learning opportunities and strengthen educators' relational and pedagogical competencies.
Funding acknowledgements: None declared.

O0108

VESTIBULAR DISORDERS EDUCATION IN A BLENDED FORMAT: HEALTH PROFESSIONALS' EXPERIENCES

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Background: Dizziness is common and associated with adverse health outcomes and reduced participation. Despite this, training in vestibular rehabilitation remains limited, and clinicians report low confidence and limited access to structured education. Blended learning may offer flexible solutions for continuing professional development, but evidence on how such designs support learning and clinical application in dizziness care is limited.
Purpose: To explore health professionals' experiences of learning processes, feasibility, and clinical relevance in a blended postgraduate course on vestibular disorders.
Methods: We conducted a qualitative study using semi-structured group and individual interviews with six clinicians (physiotherapists, chiropractors, and one nurse) who completed a 10-week postgraduate course. The course combined asynchronous digital materials, synchronous online sessions, discussion forums, and a three-day in-person practical skills lab. Data were analyzed using Systematic Text Condensation.
Results: Four themes emerged: (1) hybrid design as a prerequisite for learning where digital and on-site activities complemented each other over time; (2) active participation and interdisciplinary interaction as key learning mechanisms; (3) practical training and patient application translating learning into clinical confidence; and (4) clear structure and organizational support enabling feasibility and sustained participation alongside full-time work.
Conclusion: The blended course was experienced as feasible and clinically relevant. Learning and clinical application were closely linked to interaction, participation, practical training, and organizational structure, suggesting that outcomes were shaped by course design rather than format alone.
Funding acknowledgements: None declared.

O0019

THE ASSESSMENT OF PHYSIOTHERAPY PRACTICE (APP) SCALE: SYNTHESIS OF THE EVIDENCE ON ITS PSYCHOMETRIC AND EDUMETRIC PROPERTIES

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Background: The "Assessment of Physiotherapy Practice" (APP) is an instrument developed in Australia to assess physiotherapy students (PTSs) in supervised clinical practice (SCP). This scale is composed of 20 items and covers all the essential clinical competency domains identified by World Physiotherapy.
Purpose: To synthesize the existing evidence on the psychometric and edumetric properties of the APP.
Methods: This systematic review was conducted in accordance with the PRISMA 2020 guidelines. The literature search was performed in February 2026 across the following databases: MEDLINE (PubMed), Web of Science, Scopus, and PEDro. Primary sources were included if they used the APP and assessed its psychometric and/or edumetric properties. To evaluate the evidence regarding psychometric properties, the COSMIN framework was adopted, assessing the methodological quality of the studies, the quality of the instrument's measurement properties, and the quality of the evidence.
Results: A total of 151 sources were identified and, after the screening process, 12 studies were included. Four out of nine essential psychometric properties were evaluated for the APP, showing high methodological quality, sufficient measurement properties, and a high quality of evidence. Edumetric properties indicate adequate acceptance and feasibility. The APP was translated and validated in four countries (China, Israel, Turkey, and Spain).
Conclusion: The APP seems to be an adequate instrument to assess physiotherapy students in SCP, with adequate psychometric and edumetric properties.

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Implication: The findings suggest that the APP is a tool that could be used worldwide to assess PTSs in SCP, ensuring homogeneity and standardization.
Funding acknowledgements: This article forms part of a doctoral thesis, and the main author is funded by a national research grant.

O0105
UNDERGRADUATE PHYSIOTHERAPY STUDENTS' CLINICAL PERFORMANCE: AN EXPLORATORY FACTOR ANALYSIS OF A NEW ASSESSMENT TOOL
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Background: Clinical education is fundamental in physiotherapy training and requires valid assessment of students' clinical performance. Assessment tools should capture knowledge, clinical reasoning, technical skills, and professional behaviors to ensure fair evaluation, meaningful feedback, and professional development. In Portugal, no standardized instrument exists for this purpose, and higher education institutions are responsible for developing and validating their own tools.
Purpose: To examine the structural validity and internal consistency of the physiotherapy clinical performance assessment tool used at Santa Maria Health School (Porto, Portugal).
Methods: This retrospective study analyzed undergraduate students' performance during their first final-year clinical placement. The faculty-developed tool, designed to assess six domains of clinical practice, was implemented over six consecutive academic years. The sample included 157 students who completed their placement and graduated between 2019/2020 and 2024/2025. Clinical educators rated students' performance. Exploratory factor analysis was conducted, and internal consistency was assessed using Cronbach's α (95% CI).
Results: Sampling adequacy was meritorious (Kaiser–Meyer–Olkin = 0.897). After testing six models and retaining items with factor loadings >0.300, the 26-item instrument showed a two-factor structure: "Interpersonal and behavioral skills" and "Technical and clinical skills" (provisional names). Two items were identified for exclusion. Internal consistency was good (Cronbach's α = 0.727 and 0.930, respectively).
Conclusion: The assessment tool demonstrates acceptable structural validity but requires refinement.
Implications: These findings highlight the importance of psychometric validation of clinical education tools and may support the development of a standardized Portuguese instrument for assessing physiotherapy students' clinical performance.
Funding acknowledgements: None declared.

O0112
ARTIFICIAL INTELLIGENCE–SUPPORTED FEEDBACK TO ENHANCE REFLECTIVE DIARY LEARNING IN PHYSIOTHERAPY PRACTICUM
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Background: Reflective diaries support the development of critical thinking in physiotherapy education. However, providing high-quality feedback is challenging. Artificial intelligence (AI) may help improve efficiency and structure in feedback processes.
Purpose: To evaluate whether AI-supported tutor feedback enhances the clarity, depth, and perceived usefulness of feedback on reflective diaries of fourth-year physiotherapy students during hospital placements. A secondary aim was to explore students' perceptions of the benefits and limitations of AI-assisted feedback.
Methods: A mixed-methods pilot study was conducted with five students during a two-week intervention following six weeks of traditional feedback. An AI-based assistant analyzed students' reflective diaries and generated structured feedback. Students completed a post-intervention questionnaire combining Likert-scale items and open-ended questions. Quantitative data were analyzed descriptively and qualitative data through thematic content analysis.
Results: Students reported improvements in feedback detail, coherence, and structure. AI-supported feedback helped them organize ideas, identify strengths and weaknesses, and engage in deeper reflection. However, some perceived the feedback as less personal or overly general and expressed preference for a hybrid model combining AI-generated structure with human interpretative nuance to retain contextual meaning.
Conclusion: AI can enhance feedback clarity and consistency, but human interpretation remains essential. A blended tutor–AI model appears most appropriate. Future work should test blended models.
Implications: AI may support physiotherapy educators by improving feedback efficiency while maintaining essential tutor involvement for personalization and professional reasoning.
Funding acknowledgements: None declared.

O0111
EVALUATION OF AN AI-BASED VIRTUAL TUTOR TO SUPPORT PHYSIOTHERAPY PRACTICUM II: A PILOT STUDY
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Background: Clinical placements are a core component of physiotherapy education. Students frequently experience uncertainty related to organizational processes, assessment requirements, and contextual aspects of the clinical environment, particularly at the beginning of placements. Digital tools based on artificial intelligence may provide an innovative approach to offer continuous, standardized support.
Purpose: The primary aim of this pilot study was to explore physiotherapy students' perceptions of usefulness, accessibility, and acceptability of an AI-based virtual tutor implemented to support Physiotherapy Practicum II. A secondary objective was to examine patterns of use and students' intention to recommend the tool to future cohorts.
Methods: A descriptive pilot study was conducted. Fifteen final-year undergraduate physiotherapy students undertaking their clinical placement at a university hospital were provided access to an AI-based virtual tutor developed using the POE.ai platform. Data were collected via an anonymous online questionnaire comprising Likert-scale items, frequency-of-use questions, and open-ended responses.
Results: Most students used the virtual tutor multiple times during the placement. The tool was perceived as highly accessible and useful, particularly for resolving organizational and academic queries. Students reported increased confidence during the initial phase of the placement. Qualitative findings highlighted rapid access to information and support for reflective tasks, alongside occasional limitations in response specificity.
Conclusion: An AI-based virtual tutor appears to be a feasible and valuable complementary support tool during physiotherapy clinical placements. Further research with larger samples and multi-center designs is recommended.
Implications: AI-based virtual tutors may enhance student support, autonomy and preparedness, representing a scalable adjunct to physiotherapy education.
Funding acknowledgements: None declared.

EDUCATION: CONTINUING PROFESSIONAL DEVELOPMENT

O0140

DO PATIENT AND PROFESSIONAL EXPERIENCES ALIGN WITH THE PT-SDM MODEL? A QUALITATIVE NARRATIVE STUDY USING STORYTELLING

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Background: Shared decision-making (SDM) is considered a cornerstone of person-centered physiotherapy care. However, practical implementation remains complex in osteoarthritis care and general physiotherapeutic care. Understanding how people with osteoarthritis (PwOA) and physiotherapists experience and perceive SDM in real-world practice is essential for improving its quality and effectiveness.
Purpose: To explore factors perceived by PwOA and physiotherapists influencing SDM and to examine how these perceptions align with the Moore and Kaplan PT-SDM model for physiotherapy.
Methods: A qualitative storytelling approach was used. Narratives were collected from 10 PwOA and seven physiotherapists, resulting in 144 stories, of which 118 were included for analysis. A multidisciplinary team conducted thematic analysis and mapped identified aspects onto the Moore and Kaplan model.
Results: Six main themes were identified: decision-making as a reciprocal process; influence of patient expectations on decisions; communication and information provision; patients' voice and identity; the patient-physiotherapist relationship; and external contextual factors. Although all aspects could be positioned within the PT-SDM model - twelve aligning with specific stages and five spanning multiple stages – especially power dynamics deserve special attention.
Conclusion: These findings highlight the complex and relational nature of SDM in physiotherapy. Storytelling revealed that power dynamics influence the decision-making process throughout the SDM trajectory.
Implications: Balanced power is essential across all stages of the PT-SDM model. Physiotherapists should be supported in fostering equitable partnerships, while patients require empowerment to participate actively in decision-making. Addressing implicit routines and professional attitudes may enhance implementation of the PT-SDM model in routine person-centered physiotherapy care for patients with osteoarthritis.
Funding acknowledgements: This research was supported by the Dutch Research Council (NWO) [file number 023.021.036].

O0106

Preliminary evaluation of a professional OSCE for physiotherapists in Spain

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Background: Structured Clinical Examinations (OSCEs) are widely used to assess clinical competence in physiotherapy, although most evidence comes from pre-registration education and licensure rather than continuing professional assessment.
Purpose: To evaluate the acceptability and preliminary implementation of a professional OSCE for physiotherapists in Spain.
Methods: A pilot study was conducted in 2025. Twenty-six volunteer registered physiotherapists were recruited through the communication channels of the Professional College of Physiotherapists of Madrid. The OSCE was developed by a four- member test committee and preceded by a small pilot to refine logistics, scripts, and checklists; pilot data were excluded from the main analysis. The OSCE included 10 stations (8 assessment, 2 rest), each lasting 10 minutes, and assessed six competencies: communication, history taking, ethics/professionalism, clinical reasoning, treatment planning, and teamwork. Six stations used simulated patients; one was video-based, and one was written. Performance was assessed by physiotherapists using dichotomous checklists. Outcomes included competence scores (0-10), overall score, and post-event satisfaction using 5-point Likert scales.
Results: Mean scores ranged from 6.92 to 7.64 across competencies, with an overall mean of 7.07/10. Satisfaction data were available for 20 participants. Mean ratings were 4.75/5 for overall experience, 4.60/5 for usefulness in assessing competencies, 4.85/5 for organization, 4.60/5 for realism, 4.50/5 for identifying strengths and improvement needs, 4.65/5 for recommending the experience, and 4.30/5 for willingness to participate again.
Conclusion: A professional OSCE for physiotherapists in Spain showed good acceptability and promising implementation.
Implications: Professional OSCEs may support structured competency assessment and continuing professional development in physiotherapy.
Funding acknowledgements: Funding was provided by the Professional College of Physiotherapists of Madrid.

EDUCATION: METHODS OF TEACHING AND LEARNING

O0109

MOSAICO-simulation in physiotherapy

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Background: Simulation-based education consists of three components: prebriefing, simulation, and debriefing and has broad potential across health disciplines. The MOSAICO simulation method, developed in Spain, was implemented with physiotherapy students at the University of Iceland to strengthen competence in differential diagnosis of post-fracture complications and improve patient safety.
Purpose: To examine students´ experience of participating in MOSAICO simulation.
Methods: Twenty-seven students received learning materials on four post-fracture complications one week before the simulation. The class was divided into two sessions, each with three groups of 4–5 students. Each group was assigned one complication and asked to design a clinical case, which was then used in the simulation. At the beginning and end of the session, students rated their perceived competence in differential diagnosis following bone fracture on a 0–10 scale. They also rated statements on their experience on a 7-point Likert scale.
Results: Self-assessed competence in differential diagnosis increased by 33% (from 5.4 to 7.2). Most students (75%) strongly/completely agreed that the preparatory work supported clinical reasoning. Nearly half (48%) strongly/completely agreed that the case-design process incorporated multiple aspects of the physiotherapy treatment pathway. Most students (75%) reported that observing peers helped them evaluate their own responses, and nearly 80%

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strongly/completely agreed that the debriefing promoted deeper reflection on possible clinical symptoms.
Conclusion: Students were generally satisfied with MOSAICO-simulation and provided constructive suggestions for future improvement.
Implications: MOSAICO-simulation appears to be a promising approach for physiotherapy education for strengthening differential diagnosis after fracture.
Funding acknowledgements: None declared.

GLOBALISATION: HEALTH SYSTEMS, POLICIES AND STRATEGIES

O0186
MEASURING PERFORMANCE OF PHYSICAL REHABILITATION SERVICES IN NATIONAL HEALTH SYSTEMS: A SYSTEMATIC ASSESSMENT OF PROPOSED INDICATORS
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Background: Performance assessment is vital for improving rehabilitation services, yet institutional evaluation capacity often overemphasizes quality of care while neglecting underlying service features. Mapping indicator development in physical rehabilitation is essential for advancing performance measurement.
Purpose: To identify and categorize monitoring indicators of physical rehabilitation services in high-income countries and to describe the approaches used for their development.
Methods: Scoping review (2010-2021) according to the Arksey and O'Malley framework.
Results: From 1,995 potentially eligible references, 23 articles yielded 36 indicator sets comprising 691 indicators. Nearly half covered neurological (28%) and rheumatic/musculoskeletal rehabilitation (19.5%), with spinal cord injury/disease (16.5%) and arthritis-related disorders (14%) most frequently addressed. Over one-third of sets (36%) were non-condition-specific. Inpatient rehabilitation facilities were the most common target setting (47%), followed by physiotherapy practices (16.5%), while indicators spanning the care continuum were scarce (11%). Most indicators captured micro- and meso-level service components: 77% concerned quality of care and 23% addressed organizational/leadership aspects, with macro-level features least represented. Although most studies proposed empirically derived classification frameworks, 37.5% of quality indicators followed Donabedian's model. System-level indicators spanned 19 conceptual dimensions, predominantly governance and policy. Notably absent were indicators of service availability, access, population-level needs, and functional status.
Conclusion: This review identified considerable diversity and gaps in indicators for assessing physical rehabilitation service performance.
Implications: Adapting evaluation frameworks to contextual parameters may help policymakers derive actionable insights from the plethora of available indicators, driving improvements in the quality and sustainability of rehabilitation services.
Funding acknowledgements: None declared.

HEALTH PROMOTION AND WELLBEING/HEALTHY AGEING/PHYSICAL ACTIVITY

O0124
TRAUMA-INFORMED EXERCISE: A FRAMEWORK FOR PHYSIOTHERAPISTS WORKING WITH PEOPLE WHO HAVE EXPERIENCED SEVERE DISADVANTAGE AND TRAUMA
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Background: People who experience severe and multiple disadvantage have poorer health than the general population. Little is known about delivering exercise interventions to target poor physical function and frailty in this distinct population. Considering the complex needs of this population, trauma-informed exercise is proposed.
Purpose: To explore the feasibility of targeted exercise interventions in people with experienced severe and multiple disadvantage. Secondary objectives were to evaluate pre- and post-intervention change in physical function and frailty and to explore perspectives on the intervention.
Methods: Mixed methodologies were utilized. Two sequential exercise interventions took place in Dublin in 2023 and 2024. In consideration of participants' past trauma, the programmes were low-threshold and delivered using a trauma-informed approach. The primary outcome was feasibility, and secondary outcomes measured physical function and frailty. Qualitative interviews explored stakeholders' perspectives.
Results: 76 people (mean 44 years) participated. Baseline results demonstrated poor physical function and high levels of frailty. Feasibility was demonstrated by safety and acceptability, high retention and adherence in sub-groups. Pre-post intervention improvements in gait speed, limb strength, nutritional status, pain, and frailty levels were demonstrated in regular attenders ($p > 0.05$). The qualitative results overwhelmingly endorsed trauma-informed exercise.
Conclusion: These unique interventions were safe, feasible, acceptable, and effective in some domains. Key to success was the trauma-informed approach. Further research evaluating effectiveness and retention-enhancing strategies is warranted.
Implications: This research will enable physiotherapists to develop tailored trauma-informed interventions to optimize outcomes.
Funding acknowledgements: This research was funded by Trinity College Dublin, Merchants Quay Ireland, Ballyfermot Advance Project and the Irish Research Council.

O0123
EXPLORING EXPERIENCES OF HEALTHCARE ACCESS OF VULNERABLE MIGRANT WOMEN IN IRELAND: A QUALITATIVE STUDY
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Background: Migrant women face intersectional disadvantage due to the combined impact of their gender and immigration status. These factors can result in significant barriers to essential services. Healthcare vulnerabilities arise from issues like language barriers, poverty, discrimination, gender-specific needs, and cultural gaps, leading to delayed care and poor health outcomes. This, combined with trauma and displacement, affects access. Limited data exists on the experiences of migrant women accessing healthcare in Ireland.
Purpose: To explore the experiences of migrant women in accessing healthcare in Ireland.
Methods: Qualitative phenomenological study using reflexive thematic analysis of semi-structured interviews. Twenty migrant women living in Ireland of varying ethnic backgrounds and immigration statuses.
Results: Four key themes were identified: (1) community support is vital, (2) poor integration hinders access, (3) lived experiences shape expectations, and (4) navigating the healthcare system is complex.
Conclusion: Access to healthcare for migrant women is affected by accommodation, transportation, cost, and language barriers. This impacts integration. Healthcare services should provide clear information on how to navigate them upon their arrival. Community support plays a pivotal role.

Implications: This study supports a healthcare system that is culturally competent and promotes understanding and trust. Integration is key to access. A gendered approach to policy (one that reflects the impact of gender and immigration status on access) is suggested. One proposed strategy involves developing a culturally informed health promotion programme, led by migrant women, in partnership with healthcare professionals and NGOs.
Funding acknowledgements: None declared.

O0122

GREEN WALKING: DIFFERENCES IN AUTONOMIC RESPONSES ACCORDING TO ENVIRONMENTAL CHARACTERISTICS IN A RANDOMIZED CROSSOVER TRIAL

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Background: Exposure to natural environments is associated with beneficial effects on autonomic regulation. However, less is known about which environmental characteristics modulate these responses. Identifying such attributes may support use of natural resources in healthcare contexts.
Purpose: To compare autonomic responses via Root Mean Square of Successive Differences (RMSSD) and Standard Deviation of NN intervals (SDNN) following walks across natural environments with distinct characteristics in adults over 50.
Methods: A randomized crossover field study with a 72-hour washout was conducted. Sixteen participants completed three self-paced 3 km walks on natural routes (A, B and C). Heart rate variability was continuously recorded (Polar H10; Kubios HRV Scientific) from 5 min pre- to 5 min post-walk. RMSSD and SDNN were analyzed using linear mixed-effects models (REML), with route as a fixed factor and participant as a random intercept, adjusted for time, sex, age, weight, height, and exposure sequence. Tukey-adjusted pairwise comparisons were performed (Kenward–Roger method).
Results: Route C showed higher RMSSD than route A (β7.28 ms; p = 0.043) and route B (β11.96 ms; p = 0.0004); routes A and B did not differ (p = 0.347). SDNN did not differ significantly between routes.
Conclusions: Route C elicited greater RMSSD modulation, suggesting environmental characteristics may influence autonomic regulation. Higher naturalness, native vegetation, lower anthropogenic intervention, and higher visual enclosure may favor enhanced vagal-related responses.
Implications: Identifying environmental attributes that enhance autonomic regulation may facilitate more targeted use of community-based natural resources within physiotherapy and health promotion, contributing to preventive strategies to mitigate stress-related autonomic dysregulation in adults.
Funding acknowledgements: Funded by Plan Social ENCE 2024 and 2025 through the Proxecto EVA and Proxecto SYLVIA2 research projects (Universidade de Vigo).

O0114

COMMUNITY-BASED ADAPTATION OF THE OTAGO EXERCISE PROGRAMME DELIVERED BY PHYSIOTHERAPY STUDENTS FOR OLDER ADULTS AT RISK OF FALLS

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Background: Falls among community-dwelling older adults remain a major cause of morbidity and place a substantial burden on individuals and healthcare systems. Evidence-based exercise programmes, such as the Otago Exercise Programme (OEP), are effective in reducing fall risk. However, access and adherence to these interventions remain limited in current practice.
Purpose: This project aimed to develop and implement a community-based model for delivering the OEP to improve access to falls prevention interventions for community-dwelling older adults.
Methods: A review of existing evidence on modified OEP delivery models and volunteer-supported exercise programmes, such as FITSKILLS, informed the intervention design. The adapted model pairs older adults with trained physiotherapy student volunteers residing in the same community, enabling supervised delivery of the OEP.
Results: This approach addresses key access-related barriers identified in both practice and literature, including lack of family support, transportation difficulties, social isolation, and restrictions in outdoor mobility. Implementation indicates good feasibility and strong participant engagement.
Conclusion: The model has the potential to improve OEP delivery while promoting meaningful intergenerational contact. It helps challenge age-related stereotypes and exposes physiotherapy students to the realities of ageing and community health, providing learning experiences beyond simulation-based training. This interaction may also enhance participants' commitment to exercise programmes aimed at fall prevention.
Implications: Universities with physiotherapy programmes could adopt this model as a low-cost strategy that benefits both community health and student training. Successful implementation should involve recruitment through trusted community contacts to support adherence among older adults.
Funding acknowledgements: None declared.

O0120

PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOR AMONG TEENAGERS: THE STEPS STUDY

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Background: Physical activity (PA) typically declines around ages 12–14; understanding adolescents' activity patterns is crucial for designing future actions and interventions that effectively support their PA.
Purpose: Compare PA and sedentary behavior (SED) during school days and days off among 15-year-old Finnish adolescents using accelerometer-based measures. Distinct daily PA profiles were identified capturing both the amount and timing of PA across different days.
Methods: The study is based on the STEPS study. In the 15-year follow-up, the adolescents used a thigh-worn accelerometer for one week, including both school days and days off (n = 337). Wake time and school days (vs. days off) were determined from diary entries. Differences in PA behavior between school days and days off separately for SED, light physical activity (LPA), and moderate to vigorous physical activity (MVPA) were tested using linear mixed models, adjusted for sensor wear time.
Results: Teenagers slept for 8 hours (SD 62) per day. They accumulated an average of 4 hours (SD 73) of LPA and 35 minutes (SD 19) of MVPA per day. Daily SED was 10 hours (SD 87). School days accumulated 55minutes (95% CI 43-67) less SED than days off, which accumulated over 11 hours of SED. During school days, there were 38 minutes (95% CI 28-49) more LPA and 17 minutes (95% CI 14-20) more MVPA than on days off.
Conclusion: School days accumulated more PA and less SED behavior than days off among teenagers.
Implications: Current measures and recommendations alone do not seem sufficient to get teenagers moving.

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Funding acknowledgements: This work was supported by the Juho Vainio Foundation, the Signe and Ane Gyllenberg Foundation and the Turku University Foundation.

O0113

SUPPORTING RESILIENT HEALTHY AGEING IN A NORTHERN COMMUNITY: HEALTH-PROMOTING HOME VISITS AND PHYSICAL ACTIVITY IN 2013 VS 2020

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Background: While life expectancy in Europe declined in 2019–2021, Iceland was among the few countries with no decrease during the COVID-19 pandemic, highlighting the value of prevention in healthy ageing. In North Iceland, health-promoting home visits for community-dwelling older adults continued throughout 2020 via visits and telephone.
Purpose: To examine physical activity (PA) among community-dwelling older adults receiving health-promoting home visits in North Iceland and compare findings from 2013 and 2020.
Methods: A cross-sectional study, based on data from all clients in 2013 (n = 353; eligibility ≥75 years) and 2020 (n = 200; eligibility ≥80 years after a 2015 eligibility change). PA was assessed with the Physical Activity Scale for the Elderly (PASE), including total, leisure, home, and work-related activity. Covariates were visiting year, age group, gender, marital status, residence, and season.
Results: Mean age was higher in 2020 than in 2013 (85.5 ± 3.9 vs 81.0 ± 4.9 years). In multivariable analyses, male gender was associated with higher scores across all PASE outcomes. Younger age and the October–March season were associated with higher PASE-total and PASE-home; higher PASE-leisure was associated with 2020 and not being married; and higher PASE- work with 2013 and younger.
Conclusion: Despite older age in 2020 and the pandemic, PA was maintained, although the pattern shifted toward more leisure-time and less work-related activity. Differences by age, sex, marital status, season, and residence indicate the need for targeted support.
Implications: For physiotherapy practice and service planning, low-cost preventive home visits may help monitor PA and identify subgroups needing targeted support during societal challenges.
Funding acknowledgements: University of Iceland Research Fund 2015.

O0126

RELATIONSHIP BETWEEN PHYSICAL ACTIVITY, DIABETES KNOWLEDGE, AND DIABETES RISK IN HEALTHY ADULTS: RESULTS OF A DIABETES DAY EVENT

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Background: Diabetes is significant public health problem with an increasing prevalence worldwide.
Purpose: This study aims to examine the relationship between physical activity level, diabetes knowledge level, and diabetes risk in healthy individuals.
Methods: This descriptive cross-sectional study included 141 healthy individuals aged 18–69 who were present at a shopping mall as part of a Diabetes Day event and who voluntarily participated in the study. Participants' physical activity levels were assessed using the International Physical Activity Questionnaire-Short Form, their diabetes knowledge levels using the Adult Diabetes Knowledge Scale, and their diabetes risks using the Finnish Type 2 Diabetes Risk Questionnaire.
Results: A weak negative correlation was found between physical activity level and diabetes risk ($r_s = -0.236$, $p = 0.005$). A significant difference was found in diabetes risk scores between physical activity groups ($H = 9.423$, $p = 0.009$). Post-hoc analyses showed that inactive individuals had significantly higher diabetes risk scores than both minimally active individuals ($p = 0.010$) and highly active individuals ($p = 0.006$). No significant relationship was found between diabetes knowledge level and diabetes risk ($p > 0.05$). In multiple linear regression analysis, age and body mass index were determined to be significant predictors of diabetes risk ($p < 0.001$).
Conclusion: Increasing physical activity is an important strategy for reducing the risk of diabetes. Physical therapists can play an important role in promoting physical activity and preventing diabetes by providing structured exercise guidance to individuals.
Implications: Promoting regular physical activity in the community may contribute to reducing diabetes risk and supporting preventive health strategies.
Funding acknowledgements: None declared.

O0040

WEARABLE SENSORS REVEAL HEAD-STERNUM DISSOCIATION AS A LATENT POSTURAL DEFICIT: A NOVEL 30-SECOND SCREENING TOOL FOR PHYSIOTHERAPISTS

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Background: Traditional mobility tests, like the Timed Up and Go (TUG), show a ceiling effect in active aging populations, failing to detect early neuro-mechanical postural decline.
Purpose: This study introduces the Head-Sternum Dissociation Index (HSDI), a novel dual-IMU metric designed to identify subclinical postural deficits and rigidification strategies before macroscopic functional loss and falls occur.
Methods: 94 healthy participants (young to older adults, including recreational dancers) underwent a 30-second static standing assessment. Synchronized IMUs were placed on the forehead and sternum. We calculated the HSDI (angular displacement difference) and Peak Ratio (PR) to profile sensorimotor strategies. Sex-specific diagnostic thresholds were established utilizing ROC analysis and Youden's Index.
Results: While TUG scores remained normal across active older cohorts, HSDI identified a critical kinematic breakpoint at age 55 ($p < 0.001$). Data revealed distinct sex-specific degradation pathways: aging males adopted a rigid "Stiffness" strategy, whereas females relied on a physiological buffer before transitioning into "Chaotic Instability". Recreational rhythmic training (dance) demonstrated a massive protective effect (Cohen's $d = 2.20$), preserving youthful "Flow" kinematics in middle-aged adults.
Conclusion: The HSDI provides a robust 30-second screening tool for physiotherapists without requiring complex software integration. Categorizing patients into distinct phenotypes allows exceptionally early detection of latent fall risks.
Implications: This enables phenotype-specific, targeted sensorimotor interventions and real-time biofeedback training long before traditional tests indicate functional decline.
Funding acknowledgements: None declared.

O0154

Acute physiological response to eccentrically loaded blood-flow restriction exercise: two randomised crossover trials

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Background: Blood-flow-restricted eccentric-training may concurrently enhance mechanical and metabolic intramuscular stimuli.
Purpose: We investigated acute physiological and perceptual responses to eccentric loading with (E-BFR) and without (ECC) blood-flow-restriction in healthy individuals.
Methods: 48 participants (Study A: mean = 62 (SD = 8), Study B: 32 (7) years) completed a crossover trial with leg-press strength exercise sessions (4 x 12 repetitions, 45sec rest, concentric: 30% of concentric one-repetition maximum(1RM), eccentric: 30% of eccentric 1RM). E-BFR with 70% of arterial occlusion pressure, ECC without occlusion. The primary outcome was minute ventilation (VE). Muscle tissue saturation (SmO_2), breathing effort, and leg exhaustion (NRS; 0-10) were also investigated.
Results: VE was significantly higher in E-BFR from Break2 in Study A (Break2: B = 3.1 95% CI = [0.7,5.5] L/min, Set3: 6.5 [4.1,8.9], Break3: 8.2 [5.7,10.7], Set4: 10.3 [7.7,12.9]) and from Set3 in Study B (Set3: 11.3 [7.7, 15] L/min, Break3: 9.8 [6.2, 13.4], Set4: 16.6 [13, 20.3]). SmO2 was significantly lower in E-BFR from Set1 in Study A (Set1: -6.4 [-8.1, -4.7] %, Break1: -10.3 [-11.9, -8.6]; Set2: -7.5 [-9.2, -5.9], Break2: -11.5 [-13.2, -9.8], Set3: -9.4 [-11.1, -7.7], Break3: -13.5 [-15.3, -11.7], Set4: -10.6 [-12.4, -8.7]) and from Break1 in Study B (Break1: -9.4 [-12, -6.8] %, Set2: -5.2 [-7.8, -2.6], Break2: -11.2 [-13.8, -8.6], Set3: -6.7 [-9.3, -4.1], Break3: -13.2 [-15.9, -10.6], Set4: -7.3 [-10.1, -4.6]). Breathing effort (Study A: mean = 3.4 (SD = 2.0) vs. 1.7 (1.3), Study B: 4.2 (2.5) vs. 2.3 (1.3)) and leg exhaustion (Study A: 6.4 (2.7) vs. 3.1 (2.3), Study B: 7.3 (1.5) vs. 4.5 (1.8)) were significantly higher with E-BFR.
Conclusion: E-BFR produces acute physiological stimuli and perceptual responses compared to ECC.
Implications: E-BFR is feasible in a wide age range and may suit chronic disease rehabilitation.
Funding acknowledgements: DK was supported by the Swiss National Science Foundation (P5R5PM_221980). This study was supported by the University of Zurich with a GRC_Career_Grant (2024_Q1_CG_003).

O0127

Promoting musculoskeletal health in an academic community through a tailored exercise and behaviour change intervention

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Background: Musculoskeletal disorders are major contributors to disability1,2, underscoring the need for effective strategies that promote healthy lifestyles3,4. Academic communities are frequently exposed to sedentary behaviors, making them a priority group for musculoskeletal health promotion.
Purpose: To pilot-test a personalized exercise and behavior-change programme designed to enhance musculoskeletal health in the Polytechnic Institute of Setúbal community.
Methods: An exploratory pre–post study, without a control group, was conducted. Assessments occurred at baseline, 6 weeks, and 12 weeks. The 12-week intervention integrated personalized exercise prescription and behavior-change strategies. Outcome measures included physical activity levels (GPAQ2), quality of life (WHOQOL-Bref), behavioral regulation for exercise (BREQ4), perceived health change (PGIC), and physical capacity assessments: 6-Minute Walk Test (6MWT), Functional Movement Screen (FMS), Trunk Flexor Test (TFT), Biering–Sørensen Test (BST), 60-Second Sit-to-Stand Test (60sSTS), and Sit-and-Reach Test (SRT). Participants attending ≥75% of sessions were analysed.
Results: Eighteen participants met the adherence criterion. Statistically significant improvements were observed across all physical capacity indicators (6MWT, FMS, TFT, BST, 60sSTS and SRT) and five BREQ4 dimensions ($p<0.05$). No changes were observed in perceived health status ($p=0.257$) or physical activity levels ($p = 0.486$).
Conclusion: The M-SHAPe programme showed significant improvements in physical capacity and exercise-related behavioral regulation within an academic population.
Implications: Despite the exploratory design and its limitations, these findings highlight the contribution of physiotherapy in leading personalized interventions to promote musculoskeletal health, supporting further refinement and evaluation of the M-SHAPe programme.
Funding acknowledgements: None declared.

O0118

ACCOMPANYING EVALUATION OF THE PROGRAM TO PROMOTE PHYSICAL ACTIVITY IN THE DAYCARE CENTER 'I MAY BE SMALL, BUT I NEED TO MOVE!'

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Background: Physical activity programs in the kindergarten environment have been shown to have a lasting positive effect on cognitive and motor development in children and should therefore be an integral part of childcare.
Purpose: The objective of the study was to evaluate whether the program to promote physical activity, 'I may be small, but I need to move!', leads to an improvement in the gross motor skills of children aged 3 to 6 years.
Methods: In a before-and-after design, the physical activity promotion program was evaluated between September 2025 and February 2026. Measurements were taken before and after the 10-week intervention period, with the intervention taking place once a week for 30 minutes. The primary outcome was changes in gross motor function. The collected data was evaluated descriptively, and the before-and-after comparison was performed using appropriate statistical methods.
Results: Four daycare centers were involved in the evaluation with N = 255 eligible children. Of these, the measurements of the gross motor skills were available for n = 101 children. The mean level in the gross motor battery at baseline was M = 100.07; after treatment, it was M = 103.64 (possible range of values from 70 to 130), with between-group differences reaching statistical significance.
Conclusion: The program to promote physical activity appears to improve gross motor skills of children in daycare in a before-and-after comparison.

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Implications: The implementation and evaluation of physical activity promotion programs in the living environments of the respective target group represent an important physiotherapeutic task.
Funding acknowledgements: The work was funded by the Gifhorn District Health Office, Germany.

O0128

COMMUNITY-BASED PHYSICAL ACTIVITY EVENTS: CROSS-SECTIONAL FINDINGS FROM THE MIOLI STUDY

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Background: Adherence to regular physical activity is essential for maintaining the functional capacity of older adults with multimorbidity. Present activity habits and objectively measured performance are starting points for lifestyle modifications.
Purpose: To examine physical activity habits and perceived importance and sufficiency of physical activity among community-dwelling older adults with chronic conditions using cross-sectional MIOLI study data.
Methods: Data were collected at eight open-call-based physical activity events in 2024. Participants completed a questionnaire covering physical activity habits, the perceived importance of activity, health status, and functional capacity. Cardiorespiratory fitness was assessed using the Six-Minute Walk Test (6MWT).
Results: Participants [n = 105, 74% women, mean age 72 (SD 7.8) years] reported an average of four (SD 1.9) physician-diagnosed chronic conditions, most commonly respiratory (68%), musculoskeletal (54%), and cardiovascular (30%) diseases. Most (84%) considered physical activity very important but less than half (42%) felt themselves insufficiently active. 6MWT was completed by 95 participants (24 men, 71 women), with a mean distance of 471 (SD 94) m. Men walked slightly farther (484 m) than women (466 m). Participants with 6MWT results above average fitness were younger than participants with average or below-average fitness.
Conclusion: Although participants valued physical activity and its role in maintaining health and functioning, many reported insufficient activity. This highlights the importance of facilitating older adults' engagement in regular physical activity.
Implications: Brief, community-based physical activity events may serve physiotherapists in identifying early decline and tailoring activity guidance for older adults.
Funding acknowledgements: The author(s) received funding from Kuopio Area Respiratory Foundation (Finland) and OLVI-Foundation (Finland).

O0119

SVAS (AIFI®), A PREVENTION PROJECT FOR PRIMARY SCHOOLS: EXPLORING OPINIONS AND SATISFACTION OF TEACHERS INVOLVED IN THE PROJECT

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Background: 'La schiena va a scuola' (SVAS ®) is an Italian physiotherapist-led project designed to promote spinal health in primary school children. The programme includes two classroom sessions for pupils and an online training course for parents and teachers. Each project is supervised by a teacher responsible for its implementation.
Purpose: To explore teachers' opinions of the project and their perceptions of changes in students' and parents' behavior.
Methods: In 2025, all supervising teachers were invited to complete an ad hoc questionnaire. Data were collected anonymously through a QR code linking to the survey form and analyzed descriptively. Responses to open questions were coded prior to analysis.
Results: A total of 257 teachers from 14 Italian regions completed the questionnaire. Most respondents were very satisfied with the project (70% rated it 5/5), describing it as useful and engaging for pupils. Methods and timing of the project were deemed appropriate to its contents and to the school's teaching and organizational needs. Approximately 20% of classes carried out the project activities regularly, while nearly 60% did so occasionally. Most teachers observed an improvement in pupils' habits (73.1%), whereas changes in parents' habits (46.3%) were reported less frequently. Teachers suggested increasing the number of sessions and practical parts, and providing information leaflets and in-person training for parents. All respondents stated they would recommend the project to other classes.
Conclusion: The project received positive feedback and appeared to be effective in improving children's habits.
Implications: Spine health promotion can be successfully implemented in primary school.
Funding acknowledgements: None declared.

O0121

EFFECTS OF A 5A MODEL-BASED PHYSICAL ACTIVITY PROGRAM ON PHYSICAL AND PSYCHOSOCIAL HEALTH IN SCHOOL-AGE CHILDREN

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Background: Physical inactivity in children is a global health problem. This study evaluates the effectiveness of a 5A Model- based intervention aimed at improving the physical and psychosocial health of middle school children who are at risk of being physically inactive.
Purpose: To investigate the impact of implementing a physical activity behavior modification programme based on the 5A Model on the physical and psychosocial health of school-aged children.
Methods: This pre-test-post-test prospective study included secondary school students with low levels of physical activity. The experimental group (n = 24) received an 8-week, 5A Model-based behavior modification programme, while the control group (n = 25) received no intervention. Physical activity, physical health and psychosocial parameters were assessed at baseline, immediately after the intervention and at the follow-up.
Results: A significant increase in physical activity was observed in the experimental group after eight weeks ($p < 0.05$), and this increase was maintained at the 28-week follow-up. No significant change was observed in the control group. Significant improvements in cognitive flexibility and executive functions were observed in the experimental group ($p < 0.05$), while no significant changes were observed in physical health parameters ($p > 0.05$).
Conclusion: The 5A Model effectively promotes sustainable physical activity behavior and improves neurocognitive skills in children. However, its effect on physical health parameters appears limited, indicating the need for further research.
Implications: These findings provide physiotherapists and health educators with evidence-based strategies for implementing behavior change programmes in schools and communities to support child health improvement and contribute to policy- making.
Funding acknowledgements: This study was funded by the Scientific Research Unit of İnönü University as part of project TDK-2023-3292.

O0115

THE EFFECT OF PHYSICAL ACTIVITY LEVELS ON FUNCTIONAL CAPACITY AND COGNITIVE FUNCTION IN RURAL AND URBAN OLDER ADULTS: A PILOT STUDY

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Background: The study discusses how an individual's place of residence significantly influences their physical health, functional abilities, and cognitive functions as they age. It highlights the importance of past lifestyles in shaping these aspects of well-being in later life.
Purpose: This study aims to investigate how variations in physical activity levels among older adults residing in rural versus urban environments influence their functional capacity and cognitive status.
Methods: Twenty-eight residents aged 65 and above from a residential care facility participated in this study. Participants were categorized according to their previous living environments: rural setting (RS, n = 14) and urban setting (US, n = 14). Assessments included the Mini-Mental State Examination (MMSE), Short Physical Performance Battery (SPPB), Physical Activity Scale for the Elderly (PASE), the Turkish version of the CASP-19 Quality of Life Scale (CASP-13), and the Timed Up and Go Test (TUG). Grip strength was evaluated with a dynamometer.
Results: MMSE scores were significantly higher in the US group than in the RS group ($p < 0.05$). In contrast, RS participants demonstrated significantly better performance on the SPPB walking speed, SPPB 5 Times Sit-to-Stand, and TUG tests (shorter times; $p < 0.05$), and had higher PASE scores than the US group ($p < 0.05$).
Conclusion: A rural lifestyle is associated with superior physical activity, physical performance, handgrip strength, and quality of life in older age, whereas an urban lifestyle appears to confer advantages in cognitive function.
Implications: The findings indicate that prior rural or urban residence influences physical activity and cognitive function in later life.
Funding acknowledgements: This study was supported by the Scientific Research Projects Unit (BAP) of Inönü University under project ID TSA-2026-5140.

O0116

Handgrip strength as a predictor of functional recovery in older adults

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Background: Functional recovery in geriatric rehabilitation varies widely and depends on multiple clinical factors. Identifying simple predictors may improve prognostic stratification and rehabilitation planning. Handgrip strength has been proposed as a marker of global muscle strength, frailty, and physiological reserve in older adults, but its role in predicting functional recovery remains insufficiently explored.
Purpose: To evaluate the association between handgrip strength at admission and functional recovery in older adults admitted to a rehabilitation unit.
Methods: A retrospective observational study including patients older than 70 years admitted to a geriatric rehabilitation unit with an average stay of 6–8 weeks. Handgrip strength was measured at admission using dynamometry, selecting the maximum value between both hands. Patients were classified into tertiles according to baseline handgrip strength. Functional recovery was defined as an improvement of ≥20 points in the Barthel Index between admission and discharge. Comparative analysis between tertiles was performed.
Results: A total of 979 patients were analyzed. The proportion of patients achieving clinically meaningful functional improvement increased across handgrip strength tertiles: 57.9% in the lowest tertile, 63% in the intermediate tertile, and 68.9% in the highest tertile. Patients in the highest tertile showed a greater likelihood of recovery compared to the lowest tertile (RR 1.19; 95% CI 1.04–1.36; $p = 0.01$).
Conclusion: Higher handgrip strength at admission is associated with greater functional recovery in geriatric rehabilitation.
Implications: Handgrip strength may be a simple tool for prognostic stratification and rehabilitation planning.
Funding acknowledgements: None declared.

O0117

GRIP STRENGTH AS A PREDICTOR OF FUNCTIONAL RECOVERY IN PATIENTS WITH COGNITIVE IMPAIRMENT IN GERIATRIC REHABILITATION

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Background: Cognitive impairment is common among older adults undergoing rehabilitation and is associated with poorer functional outcomes. However, the influence of baseline physical status on recovery in patients with moderate-to-severe cognitive impairment remains unclear. Handgrip strength has emerged as a simple biomarker of physical reserve and prognosis.
Purpose: To analyze the association between admission handgrip strength and functional recovery in patients with moderate-to-severe cognitive impairment admitted to a geriatric rehabilitation unit.
Methods: Retrospective observational study including patients aged ≥65 years admitted to a functional recovery unit (mean stay 6–8 weeks). Handgrip strength, Barthel Index, and cognitive status assessed using the Pfeiffer test were recorded at admission and discharge. Grip strength was measured using dynamometry, selecting the highest value between both hands. Patients were categorized into tertiles according to baseline grip strength. Moderate-to-severe cognitive impairment was defined as ≥5 errors on the Pfeiffer test. The primary outcome was clinically meaningful functional recovery, defined as an improvement ≥20 points in the Barthel Index.
Results: The proportion of patients achieving clinically meaningful recovery increased across grip strength tertiles: 51% in the lowest tertile, 63% in the middle tertile, and 77% in the highest tertile. Patients in the highest tertile showed a greater likelihood of recovery compared with the lowest tertile (RR 1.51; 95% CI 1.12–2.04; $p = 0.008$).
Conclusion: Higher admission grip strength is associated with greater probability of functional recovery in patients with moderate-to-severe cognitive impairment.
Implications: Grip strength may serve as a simple prognostic tool in geriatric rehabilitation.
Funding acknowledgements: None declared.

INNOVATIVE TECHNOLOGY: INFORMATION MANAGEMENT, BIG DATA AND ARTIFICIAL INTELLIGENCE

O0037

CONCURRENT VALIDITY OF TWO METHODS TO ASSESS STEP COUNTS DURING THE TIMED UP AND GO TEST AND THE 360° TIMED TURN TEST

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Background: Step count is a key measure of mobility in clinical practice and research. Validity of wearable step detection may vary across tasks.
Purpose: Assessment of the concurrent validity of smart insoles versus human video-based observed step count during the Timed Up and Go (TUG) test and the 360° Timed Turn Test (360°).
Methods: Ten healthy young adults performed the TUG and 360° tests three times each, producing 60 paired video and insole datasets. Agreement was evaluated using intraclass correlation coefficients (ICC) and 95% confidence intervals (CI) for single measures and Bland–Altman analysis.
Results: For the 360° turn, the ICC was 0.599 (95% CI: -0.051 to 0.883). For the TUG, the ICC was 0.999 (95% CI: 0.998 to 1.000). For TUG, the mean bias (video minus insole) was -0.14 steps, with limits of agreement (LoA) ranging from -2.00 to 1.73. For the 360°, the mean bias (video minus insole) was 2.07 steps, with LoA ranging from 0.62 to 3.52, indicating a systematic bias of two steps.
Conclusion: Concurrent validity was excellent for TUG but only moderate for the 360°. The systematic bias of approximately two steps in the 360° likely reflects task-specific movement patterns that challenge step detection with insoles, such as a reduced weight shift during the first and last step during the 360°.
Implications: Task-specific movement characteristics can introduce systematic bias. This should be considered when comparing step counts across measurement methods and mobility tasks.
Funding acknowledgements: Funding through the NÖ Gesundheits- und Sozialfonds via a Dissertation Call at IMC Krems. The funding recipient is the first author.

O0033
DIGITAL HEALTH INTERVENTIONS FOR MUSCULOSKELETAL DISORDERS IN PORTUGAL: USE AND ACCEPTABILITY OF PHYSIOTHERAPISTS AND PATIENTS
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Background: Digital health interventions (DHI) have the potential to improve access to timely, appropriate care for musculoskeletal disorders (MSD); however, doubts remain about their capacity to meet the needs of physiotherapists and individuals with MSD.
Purpose: To determine and characterize the use and acceptability of DHI and identify barriers and facilitators to their use among physiotherapists and individuals with MSD.
Methods: A cross-sectional observational study was conducted with 166 Portuguese physiotherapists (January-November 2024) and 102 individuals with MSD (May-September 2025). An online survey was used to collect data on sociodemographic and clinical characteristics, DHI use and acceptability, and perceived barriers and facilitators. Descriptive statistics were applied to analyze the data.
Results: Among physiotherapists, DHI were mainly used for clinical documentation (52.4%) and, to a lesser extent, to assist in treatment (24.1%). High acceptability was reported for functions such as recording clinical information (97.6%) and session scheduling (n = 159, 95.8%). Among individuals with MSD, use was limited, although access to health records (86.3%) and personalized reminders (81.4%) showed high acceptability. Barriers included patient characteristics (i.e., low digital literacy) and technical issues, whereas facilitators included the potential of DHI to improve service quality and costs.
Conclusion: Despite high perceived acceptability, the use of DHI in MSD physiotherapy is limited in Portugal.
Implications: Future development of DHI should be user-centered, contextually adapted, and co-designed with clinicians and patients. Such an approach may help fulfil a key promise of DHI: to improve access, sustainability, and efficiency of care for MSD.
Funding acknowledgements: None declared.

O0030
PHYSIOTHERAPISTS' PERSPECTIVES ON AI-BASED TOOLS FOR FUTURE PRACTICE: A THEMATIC ANALYSIS
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Background: Artificial intelligence (AI) as a work tool is transforming the traditional role, expertise, and operational culture of physiotherapy.
Purpose: The aim of this study is to examine how Finnish physiotherapy experts would like to use AI-based tools in their future work.
Methods: A mixed-method survey was conducted among Finnish physiotherapy experts between October and December 2025. The open-ended question "If you could have any superpowers with the help of artificial intelligence that would support you in your work as a physiotherapy expert, what would they be?" was answered by 141 experts (n = 141; 77% women; mean age 47.7 years). The dataset comprised 1,407 words of transcribed text. The data were analysed using inductive thematic analysis.
Results: A total of 214 meaning units were identified. The analysis yielded five overarching themes with 12 subthemes: (1) AI for physiotherapists (clinical expertise, evidence-based decision-making, holistic understanding); (2) AI in clinical work (agency, motivation, personalized rehabilitation, accessible physiotherapy services); (3) AI in administrative work (core tasks, documentation, efficiency); (4) AI in research and development (evidence, effectiveness-based practices); and (5) AI in education (professional learning, AI literacy).
Conclusion: In the future, AI is expected to serve as a versatile support tool in physiotherapy, strengthening clinical expertise, promoting evidence-based and individualized rehabilitation, enhancing service accessibility, and improving efficiency in administrative, development, and educational activities.
Implications: The findings suggest that the effective implementation of AI in physiotherapy requires targeted skill development, structured guidance, and collaborative practices to fully realize its potential.
Funding acknowledgements: Finnish Work Environment Fund, "The Use of Artificial Intelligence and Future Opportunities in Physiotherapy – From Evidence-Based Knowledge to National Recommendations".

O0029
PHYSIOTHERAPISTS' PERCEPTIONS OF THE SUITABILITY OF ARTIFICIAL INTELLIGENCE, RELATED GUIDELINES, AND COMPETENCE NEEDS: A SURVEY STUDY
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Background: The growing demand for rehabilitation combined with limited resources is increasing pressure to develop physiotherapists' expert work through digital technologies and artificial intelligence (AI). However, national surveys indicate that the use of technology and AI among Finnish physiotherapists remains relatively limited.
Purpose: This study examined physiotherapists' perceptions of the suitability of AI in physiotherapy practice. It also explored the

availability of AI-related guidelines for physiotherapists' work, as well as physiotherapists' AI competence and perceived training needs.
Methods: A cross-sectional survey targeting Finnish physiotherapy experts was conducted between October and December 2025. A total of 141 experts responded (77% women; mean age 47.7 years, SD 13.8). The questionnaire included Likert-scale (1–7) items, multiple-choice questions, and open-ended questions. Quantitative data were analysed using descriptive statistics.
Results: Approximately half of respondents considered AI suitable for client work (53%), supervisory roles (50%), and sector-level management (53%). AI was perceived to offer the greatest added value in facilitating access to physiotherapy and improving service accessibility, productivity, and effectiveness. Most respondents were unaware of AI-related guidelines in their wellbeing services county (66%) or whether rehabilitation (72%) or physiotherapy (73%) were addressed. Participation in AI-related training during the previous two years was evenly divided (50% vs. 50%), and most respondents reported that no AI training had been provided by wellbeing services counties (84%). The largest competence gaps related to EU-level regulation and information security issues.
Conclusion: The responsible integration of AI in physiotherapy requires national and regional guidelines and systematic training addressing rehabilitation and professional competence requirements.
Funding acknowledgements: Finnish Work Environment Fund, "The Use of Artificial Intelligence and Future Opportunities in Physiotherapy – From Evidence-Based Knowledge to National Recommendations".

O0036

TELEREHABILITATION STRENGTH TRAINING EFFECTS ON BIOMECHANICAL CHARACTERISTICS AND FUNCTIONAL OUTCOMES IN OLDER ADULTS WITH SARCOPENIA

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Background: Sarcopenia increases the risk of falls, disability, and mortality. Resistance training helps preserve muscle function and affects biomechanical characteristics. Automated, objective measures support data-driven optimization of telerehabilitation programs.
Purpose: To evaluate the biomechanical and functional impact of a telerehabilitation program in older adults with sarcopenia.
Design: Prospective observational study.
Methods: Adults aged ≥65 years diagnosed with sarcopenia according to EWGSOP2 criteria were included. The intervention consisted of an individualized eight-week remote strength training program with a PRE–POST evaluation. Clinical variables included handgrip strength (MCID ≥5%), quadriceps isometric strength (MCID ≥10%), and the SPPB total score (MCID ≥1 point). Additional patient-reported outcomes included health-related quality of life (EQ-5D and SARQOL-SF). Biomechanical assessments were performed using the Ephion Health system with three inertial sensors. PRE–POST paired comparisons used FDR-corrected Wilcoxon signed-rank tests, with Cohen's d quantifying effect sizes.
Results: Twenty-nine patients were included (mean age 75.5 years; 54% male). Significant differences were observed in EQ-5D, SARQOL-SF, SPPB total score, and 5STS time, with 15 participants achieving at least one criterion for clinically meaningful improvement. Biomechanically, no gait-related features reached statistical significance, although trunk, hip, and knee motion variables showed trends ($p<0.1$) alongside large effect sizes. Features from balance (semi) and 5STS tests demonstrated significant changes with large effect sizes.
Conclusion: The results suggest that a telerehabilitation-based strength training program in older adults with sarcopenia positively affects clinical and biomechanical outcomes.
Implications: Wearable-based biomechanical assessment proved sensitive to functional changes, suggesting its potential as an objective monitoring tool in clinical and telehealth settings.
Funding acknowledgements: This work was supported by the RETECH programme (PRTR), funded by NextGenerationEU and supported by the Generalitat de Catalunya.

O0031

ARTIFICIAL INTELLIGENCE CLASSIFICATION OF KNEE OSTEOARTHRITIS USING MOTION CAPTURE KINEMATICS IN OLDER ADULTS

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Background: Knee osteoarthritis (KOA) is a chronic condition with substantial physical, psychological, and socioeconomic burden worldwide. Emerging evidence highlights the contribution of biomechanical risk factors to KOA onset and progression. A biokinetic approach combining advanced kinematic analysis with artificial intelligence (AI) may identify movement-profile subgroups, supporting early prognosis and personalized interventions across phenotypes.
Purpose: To develop a supervised learning classifier capable of distinguishing adults > 60 years with KOA from healthy controls, and of identifying clinically relevant KOA subgroups using motion capture-derived biomechanical variables.
Methods: 180 real recordings (30 KOA patients × 3 recordings; 30 Not-KOA patients × 3 recordings) were processed with OpenSim, yielding 44 kinematic features. Random Forest, XGBoost, and SVM models were trained to enable feature importance analysis and identify the most relevant biomechanical variables for KOA detection.
Results: Preliminary analysis using Random Forest achieved an accuracy of 0.852 and an F1-score of 0.862. Class-specific metrics indicated higher recall for KOA (0.926) and higher precision for Not-KOA (0.913). Feature importance analysis highlighted mean knee valgus, subtalar angle, knee flexion angle, and pelvis rotation as the most discriminative variables. Univariate analysis confirmed significant between-group differences for these features (all $p < 0.05$).
Conclusion: Knee valgus, subtalar angle, knee flexion angle, and pelvic rotation emerged as key biomechanical features associated with KOA and may represent potential biomarkers for training predictive models for KOA detection.
Implications: Identifying biomechanical subgroups in KOA may support stratified physical therapy approaches and improve clinical decision-making through AI-assisted motion analysis.
Funding acknowledgements: None declared.

O0035

INTEGRATING TELEREHABILITATION IN ANTERIOR KNEE PAIN: A PILOT FEASIBILITY STUDY IN REAL-WORLD PHYSIOTHERAPY PRACTICE

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Background: Anterior knee pain requires long-term management, yet continuity of care is limited within current healthcare systems. Telerehabilitation may support adherence and extend follow-up, but its integration into routine physiotherapy practice remains unclear.
Purpose: To evaluate the feasibility of integrating a mobile telerehabilitation platform into real-world physiotherapy care and explore early implementation barriers.
Methods: A multi-centre pragmatic cohort study was conducted across physiotherapy settings in Belgium and France. A multi-modal implementation strategy included professional networks, hospital collaborations, and clinic outreach. Physiotherapists attended one to two training sessions. Patients received usual care supported by a mobile application enabling exercise prescription, monitoring, education, and communication. Feasibility was assessed through recruitment, uptake, and patient engagement, alongside outcomes measured at baseline and 6 weeks. Data were analysed descriptively.
Results: Sixty physiotherapists were approached; 34 agreed to participate. Only 4 implemented the intervention in their practice, recruiting 15 patients, of whom 5 demonstrated meaningful engagement. A substantial gap between interest and implementation was observed. Key barriers included lack of reimbursement, a prevailing perception that physiotherapists' role is confined to short-term care, and variability in digital health literacy. Maintaining therapeutic alliance in a digital context was emphasised.
Conclusion: Implementation appears limited, with systemic and professional barriers affecting uptake. Further research should explore determinants such as digital health literacy, professional roles, and strategies supporting integration into clinical workflows.
Implications: Despite initial interest, real-world implementation remains limited, highlighting the need to address reimbursement barriers, clarify physiotherapists' role in long-term care, and support digital competencies while preserving therapeutic alliance.
Funding acknowledgements: This work was supported by Innoviris Brussels.

O0034
OHDSI REHABILITATION: MAKING BETTER USE OF OBSERVATIONAL PHYSIOTHERAPY DATA
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Background: Physiotherapy and rehabilitation care generate large amounts of routinely collected data on a person's functioning within rehabilitation. However, these data are often heterogeneous, poorly standardized, and difficult to combine across institutions, limiting their use for large-scale research. Observational Health Data Sciences and Informatics (OHDSI) is an international collaborative that enables large-scale observational health research through standardized data models.
Purpose: The aim of OHDSI Rehabilitation is to promote better rehabilitation care by leveraging the OHDSI collaborative to enable large-scale observational rehabilitation research.
Methods: OHDSI Rehabilitation brings together an international, multidisciplinary community to address methodological and data challenges specific to data on physiotherapy and rehabilitation. Activities include: (1) developing approaches to map rehabilitation interventions and outcomes to the OMOP Common Data Model; (2) expanding standardized vocabularies to represent data on functioning; (3) facilitating collaborative network studies using federated observational data across institutions and countries.
Results: The working group has brought together >50 international experts. We have identified a lack of standardized vocabularies and CDM domains for many physiotherapy and rehabilitation-specific concepts, like functional outcome measures and treatment characteristics. Together, we have mapped >100 concepts specific to physiotherapy and rehabilitation care to standardized vocabularies and the OMOP CDM.
Conclusion: OHDSI Rehabilitation provides an infrastructure to transform routinely collected physiotherapy data into actionable evidence. By helping to standardize data, the initiative supports more robust, transparent, and reproducible research in physiotherapy.
Implications: Leveraging observational physiotherapy data at scale can accelerate the generation of real-world evidence on personalized physiotherapy.
Funding acknowledgements: None declared.

O0027
ARTIFICIAL INTELLIGENCE GUIDELINES IN PHYSIOTHERAPY: A DOCUMENT ANALYSIS
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In physiotherapy, evidence-based practice also applies to technology and artificial intelligence, whose implementation should be grounded in up-to-date research evidence as well as national and international guidelines. The aim of the study was to identify the themes guiding the use of artificial intelligence in international physiotherapy guidelines and to assess the evidence base of these guidelines. The study material was collected from the grey literature using the Google search engine on 28 October 2025. The search strategy applied combinations of the keywords "physiotherapy," "physical therapy," "artificial intelligence," "statement," "principles," and "guidelines." The inclusion criteria comprised English-language publications and guidelines guiding the use of artificial intelligence in physiotherapy. No time restrictions were applied. The data were analyzed using inductive thematic synthesis. The guidelines encompassed a total of 31 subthemes related to the use of artificial intelligence. These were synthesized into eight overarching themes: consent, non-discrimination, shared decision-making, accountability, compliance, safety, competence, and collaboration. Only two recommendations referred to scientific research, one of which originated from the field of physiotherapy. None of the recommendations were developed based on research evidence. The evidence base of international recommendations, as well as the specific characteristics of physiotherapy as a scientific discipline, have not been sufficiently considered in previous artificial intelligence–related guidelines. To address these gaps, forthcoming research conducted as part of the University of Jyväskylä (Finland) project "The Use of Artificial Intelligence and Future Opportunities in Physiotherapy – From Research Evidence to National Guidelines and Policy
Funding acknowledgements: Finnish Work Environment Fund, "The Use of Artificial Intelligence and Future Opportunities in Physiotherapy – From Evidence-Based Knowledge to National Recommendations.

O0028
KEY THEMES GUIDING THE USE OF ARTIFICIAL INTELLIGENCE IN PHYSIOTHERAPY CLINICAL PRACTICE GUIDELINES
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The evidence base of international recommendations, as well as the specific characteristics of physiotherapy as a scientific discipline, have not been sufficiently taken into account in previous artificial intelligence (AI)–related guidelines. The aim of this study

was to develop evidence-based, context-sensitive national physiotherapy guidelines for the use of AI within the Finnish physiotherapy context. Data was collected through four sub-studies, including a systematic review, a professional survey, expert and student interviews, and a Delphi expert panel during the 2025–2026 period. Themes related to the use of AI in physiotherapy were analyzed using inductive thematic synthesis. An inductive preliminary thematic analysis identified thirteen overarching themes related to the use of artificial intelligence in physiotherapy clinical practice guidelines: transparency; rehabilitees' autonomy; informed consent; ethical use of artificial intelligence; a rehabilitee-centered approach; inclusive and comprehensible communication; critical evaluation of AI; value added by AI; governance of AI use; intellectual property rights; data security and data protection; risk assessment and risk management; and documentation. Based on the study findings, national physiotherapy AI guidelines will be developed and reviewed by expert panels prior to publication. The resulting AI–related guidelines will be openly available to support clinical practice and practice development across organizations and among individual physiotherapists.
Funding acknowledgements: Finnish Work Environment Fund, "The Use of Artificial Intelligence and Future Opportunities in Physiotherapy – From Evidence-Based Knowledge to National Recommendations".

INNOVATIVE TECHNOLOGY: ROBOTICS

O0041
EFFECT OF A STRESSFUL VIRTUAL REALITY ENVIRONMENT ON CLINICAL BALANCE AND MOBILITY TESTS: A PILOT FEASIBILITY STUDY
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Background: Conventional balance assessments are performed in environments that may not reflect real-world attentional demands. Immersive virtual reality (VR) may provide a safe, standardized way to embed real-world complexity during testing.
Purpose: This pilot study examined the feasibility of administering balance assessments in a stressful VR environment and explored performance changes and user experience.
Methods: Healthy adults (n = 11) performed the Mini-BESTest, TUG (single-task and dual-task), and 10MWT (slow&fast) in non-virtual (noVR) and VR conditions. The VR environment simulated a train station with visual and auditory stimuli. Participants completed the Virtual Reality Sickness Questionnaire (VRSQ) and iGroup Presence Questionnaire (IPQ).
Results: All participants completed the protocol in both conditions as planned without adverse events. Feasibility was shown with the VRSQ indicating minimal physical discomfort (0.43 ± 0.43, 0.35 ± 0.48) and the IPQ showing moderate-to-high presence in VR (highest score: spatial presence = 4.95 ± 0.65). Mini-BESTest was near ceiling in both conditions, with lower scores and higher variability in VR (noVR = 27.55 ± 0.52, VR = 26.45 ± 1.57). Compared to TUG single-task-noVR, all other TUG conditions showed increased time (single-task-VR +1.32s (95% CI, 0.69–1.90), dual-task-noVR +1.33s (95% CI, 0.34–2.57), dual-task-VR +1.55s (95% CI, 0.91–2.52)). 10MWT gait-speed decreased in VR for slow (−0.22 m/s; 95% CI,−0.34−0.11) and fast (−0.29m/s; 95% CI, −0.46−0.13).
Conclusion: Administering balance assessments within VR was feasible in healthy adults and was associated with lower mobility and balance performance.
Implications: These findings support the safe integration of VR into physiotherapy assessments to simulate real-world challenges. This may improve psychometrics of balance evaluations by incorporating everyday attentional and environmental demands.
Funding acknowledgements: None declared.

MENTAL HEALTH

O0008
COGNITIVE PERFORMANCE DURING DUAL-TASK WALKING IS ASSOCIATED WITH GLOBAL COGNITION: LONGITUDINAL FINDINGS FROM A COMMUNITY-BASED STUDY
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Background: Daily mobility requires simultaneous motor and cognitive processing. Dual-task walking assessments, such as the Timed Up and Go cognitive test (TUG-DT), provide a valid approach to evaluate cognitive–motor interaction.
Purpose: To analyze longitudinal changes in dual-task walking and examine associations between dual-task indicators and global cognition in community-dwelling adults.
Methods: This longitudinal observational study included participants from the FERA project and was assessed across five time points. Participants performed TUG, TUG-DT (animal naming), and the Montreal Cognitive Assessment (MoCA). DTC% was calculated as the percentage difference between TUG and TUG-DT. Cognitive performance during dual-task walking was expressed as animals per 10 seconds. Mixed-effects models were used to adjust for age, sex, education, and intervention group.
Results: A total of 235 assessments from 142 participants were included (mean age 57.8 ± 11.4 years; 66.5% women). Mean TUG was 5.9 ± 0.8 s and TUG-DT 6.7 ± 1.1 s. Median DTC% was 12.0% (IQR 3.7–20.4), and mean cognitive performance was 11.1 ± 5.4 animals/10 s. Predicted DTC% increased from 10.07 to 14.89 over time. Verbal fluency during dual-task walking was associated with MoCA (β = 0.18, p = 0.001), whereas DTC% was not (β = 0.01, p = 0.594). MoCA improved at the final time point (β = 1.51, p = 0.014).
Conclusion: Cognitive performance during dual-task walking was strongly associated with global cognition rather than DTC%.
Implications: Incorporating cognitive output into mobility assessments, such as the TUG-DT, may improve detection of cognitive changes.
Funding acknowledgements: None declared.

O0175
MIND AND MOVEMENT IN BREAST CANCER: DETERMINANTS OF COGNITIVE STATUS AND EXERCISE BEHAVIOR
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Background: It is known that cognitive functions are impaired in individuals with breast cancer, and exercise methods are important in rehabilitation.
Purpose: The aim of this study was to examine cognitive functions together with physical and psychological symptoms in individuals with breast cancer and to investigate the effects of these variables on exercise attitudes.
Methods: Cognitive functions were assessed using the computer-based CogniPlus program; physical activity level with the International Physical Activity Questionnaire–Short Form; fatigue severity

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with the Fatigue Severity Scale; mood states with the Depression Anxiety Stress Scale; quality of life with the EORTC QLQ-C30 Quality of Life Questionnaire; and exercise attitudes with the Exercise Benefits/Barriers Scale.
Results: Forty-four women with breast cancer between stages I and IIIC were included in the study. The mean age of the participants was 49.19 ± 10.65 years. Cancer duration and fatigue severity negatively affected exercise attitudes, whereas radiotherapy, alcohol use, longer duration of education, and having an existing exercise habit positively affected exercise attitudes. In addition, increasing age and lower education level negatively affected executive functions; decreased physical activity level and depressive mood negatively affected memory, and an increased number of medications used negatively affected attention.
Conclusion: Exercise attitudes and cognitive functions in breast cancer are influenced by many sociodemographic, clinical, psychological, and physical factors, suggesting that a holistic approach is required in assessment and interventions.
Implications: Since exercise attitudes and rehabilitation methods for breast cancer patients are influenced by multifaceted factors, holistic and multidisciplinary approaches should be adopted in health policies.
Funding acknowledgements: This research was supported by Hacettepe University, Scientific Research Projects Coordination Unit, under the rapid support project code THD-2023-20797.

MUSCULOSKELETAL

O0079
Beyond gait velocity: integrating non-linear dynamics as a clinically relevant add-on in the 6-minute walk test
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Background: While gait variability is established as a robust predictor for fall risk, impaired joint perception, and characteristics of gait - especially its quality - standardized assessments like the 6MWT often reduce gait to a purely quantitative distance measure. This study proposes a smartphone-based methodological expansion to the 6MWT utilizing non-linear dynamics to evaluate gait stability and rhythmic organization in musculoskeletal rehabilitation.
Methods: In a cross-sectional study (n = 18), data were collected via the Phyphox app using built-in smartphone triaxial inertial sensors. We implemented the Largest Lyapunov Exponent (LLE) for perturbation tolerance and the Hurst Exponent (H) to capture motor control during a 6MWT on a flat plane.
Results: Statistical analysis for key perturbation tolerance and motor control parameters showed a significant negative correlation between LLE and H ($r = -0.273$, $p = 0.046$). Furthermore, these metrics are able to distinguish between specific motor control phenotypes: highly stable individuals (LLE < 5.0; H ~ 0.70), intermediate profiles, and vulnerable phenotypes exhibiting significant local instability (LLE > 15.0) combined with a loss of rhythmic consistency in gait cycles (H ~ 0.5).
Conclusion and Implications: LLE primarily reflects stability and perturbation tolerance, while H is sensitive to coordinative asymmetries and changes in rhythmizing during a standardized gait task. As a low-threshold, software-based addition using Phyphox, this approach allows therapists to objectively monitor gait quality without increasing clinical workload, facilitating data-driven intervention steering in both clinical and home-based settings.
Funding acknowledgements: None declared.

O0054
DOES STRUCTURED AEROBIC EXERCISE IMPROVE PAIN AND DISABILITY IN CHRONIC LOW BACK PAIN? A SYSTEMATIC REVIEW AND META-ANALYSIS
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[2]Ben-Gurion University

Background: Chronic non-specific low back pain is a leading cause of disability worldwide. Although exercise is recommended in physiotherapy guidelines, the specific value of structured aerobic exercise remains unclear.
Purpose: To evaluate the effects of structured aerobic exercise on pain intensity and disability in adults with chronic non- specific low back pain.
Methods: A systematic review and meta-analysis of randomized controlled trials was conducted. PubMed/MEDLINE, PEDro, CENTRAL, CINAHL, Scopus, and Web of Science were searched for English-language studies published between 2020 and 2025. The final search was performed on 5 January 2026. Random-effects meta-analyses were undertaken for pain intensity post-intervention, disability post-intervention, and disability at long follow-up (≥6 months).
Results: Seven randomized controlled trials met the inclusion criteria. Post-intervention pain analysis showed no statistically significant pooled effect favoring structured aerobic exercise (SMD −0.56, 95% CI −1.16 to 0.03), with substantial heterogeneity. In contrast, disability improved significantly post-intervention (SMD −0.56, 95% CI −0.91 to −0.21), with no observed heterogeneity. Long follow-up analysis also favored structured aerobic exercise for disability reduction (SMD −0.34, 95% CI −0.49 to −0.18).
Conclusion: Structured aerobic exercise appears to improve disability in chronic non-specific low back pain, while effects on pain are less consistent.
Implications: Aerobic exercise may be a practical component of physiotherapy rehabilitation for chronic low back pain, particularly for improving functional outcomes over time.
Funding acknowledgements: None declared.

O0052
LOW BACK PAIN DURING CLINICAL TRAINING: PREVALENCE, PREDICTORS, AND IMPLICATIONS FOR EARLY MUSCULOSKELETAL PREVENTION
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Background: Low back pain is a common musculoskeletal problem and a major cause of disability in healthcare settings. Students entering clinical training may be exposed early to physical and psychosocial risk factors, including patient handling, prolonged standing, repetitive tasks, and training-related stress. Despite this, preventive strategies are not always introduced during training.
Purpose: To examine the prevalence, progression, and predictors of low back pain among nursing students before and during hospital-based clinical training.
Methods: A comparative cross-sectional online survey was conducted among 194 third- and fourth-year nursing students undertaking hospital clinical placements. Data included low back pain prevalence before nursing school, during the previous year, and during the past month, together with pain intensity, disability, stress, and pain in other body regions. Logistic regression was used to identify predictors of back pain-related disability, defined as Oswestry Disability Index ≥12.

Results: Low back pain prevalence increased significantly from 40.7% before nursing school to 75.3% during the past month of clinical training. Pain intensity worsened during lifting, walking, sitting, standing, and sleeping. Independent predictors of disability were clinical training-related stress (OR 1.765, p = 0.003) and neck/shoulder pain (OR 3.049, p = 0.014).
Conclusion: Clinical training was associated with a substantial increase in low back pain burden and disability among students.
Implications: These findings highlight the need for early prevention during clinical training, including musculoskeletal screening, ergonomic education, safe patient handling training, and stress-management support.
Funding acknowledgements: None declared.

O0072
EFFECTIVENESS OF MANUAL THERAPY FOR CERVICAL RADICULOPATHY: A SYSTEMATIC REVIEW
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Background: Cervical radiculopathy results from compression or irritation of a cervical nerve root and presents with radiating pain and possible sensory or motor deficits1. Clinical guidelines recommend an initial conservative and multimodal approach.
Objective: This review aims to evaluate the effectiveness of manual therapy in the conservative management of cervical radiculopathy in adults, focusing on disability.
Methods: This systematic review was conducted according to PRISMA guidelines and included randomized controlled trials (RCTs) involving adults with cervical radiculopathy. Authors searched for English articles published in the electronic databases PubMed, PEDro, and CINAHL. Interventions consisted of manual therapy techniques, excluding neurodynamic mobilization, applied alone or in combination with other treatments and compared with placebo/sham or other interventions. Disability, assessed using validated disability outcome measures, was the primary outcome. Study selection, data extraction, and methodological quality assessment were performed independently by two reviewers, and results were synthesized qualitatively.
Results: Eleven RCTs were included, of which only two were classified as high quality. Manual therapy demonstrated greater short-term reductions in disability compared with placebo and conventional rehabilitation, showing early advantages over other conservative interventions.
Conclusion: Manual therapy may reduce short-term disability in cervical radiculopathy, particularly as a complementary component within multimodal rehabilitation. However, heterogeneity, small samples, short follow-ups, and limited methodological quality warrant caution.
Implications: Manual therapy can be considered a useful adjunct within conservative, multimodal management of cervical radiculopathy to enhance short-term disability outcomes. Clinicians should integrate manual therapy alongside exercise and education, while individualizing treatment decisions.
Funding acknowledgements: None declared.

O0071
A CROSS-SECTIONAL ANALYSIS OF PAIN, NECK DISABILITY, FUNCTIONAL PERFORMANCE, AND QUALITY OF LIFE IN PATIENTS WITH CERVICAL SPONDYLOSIS
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Cervical spondylosis is a cause of recurrent neck pain, disability, and poor quality of life (QoL). This study aimed to examine the relationships among pain intensity, neck disability, functional performance, body mass index, and quality of life in individuals with cervical spondylosis. The study was conducted as a cross-sectional study on 111 participants (33 males and 78 females). Data were collected using different assessment tools such as Neck Disability Index (NDI), Numeric Rating Scale (NPRS) for pain, Patient-Specific Functional Scale (PSFS), and McGill Quality of Life Questionnaire (Part A). Independent t- tests and ANOVA assessed group differences, whereas correlations and multiple linear regression examined the association of QoL and function. No significant gender- or activity-based differences were observed for pain, disability, function, or QoL ($p > 0.05$). However, negative correlations were found to be significant between NDI and both PSFS ($r = -0.41$, $p < 0.001$) and QoL ($r = -0.52$, $p < 0.001$). Regression analysis identified NDI, pain intensity, BMI, and PSFS as significant independent correlates of QoL (Adj. $R^2 = 0.426$, $p < 0.001$), although BMI alone was associated with functional ability (Adj. $R^2 = 0.141$, $p = 0.008$). Higher neck disability, pain, and BMI were associated with poorer functional and QoL outcomes. Functional ability was a positive determinant of QoL. Conclusions: These results highlight the need for integrated management focusing on pain reduction, functional rehabilitation, and weight optimization to improve quality of life in patients with cervical spondylosis.
Funding acknowledgements: None declared.

O0066
WORKPLACE EXERCISE FOR WORK-RELATED MUSCULOSKELETAL DISORDERS: A NON-RANDOMIZED COMPARISON TRIAL COMPARING STRENGTH VS. STRETCHING
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Background: Work-related Musculoskeletal Disorders (WMSDs) reduce workability. While traditional stretching is common, its clinical efficacy is debated.
Objective: To evaluate the clinical effectiveness and feasibility of a targeted, workstation-based strength training protocol compared to a traditional mobility and stretching routine in active workers.
Methods: This non-randomized comparison trial evaluated employees performing physical group-based interventions directly at their workstations. 112 participants were divided into two exposure groups: a mobility and stretching group and a strength training group following an innovative strength protocol (bodyweight and elastic band resistance exercises at moderate-to-high intensity for 1 minute), both lasting less than 5 minutes per day. The intervention lasted 8 weeks. Objective physical performance was assessed pre- and post-intervention using the 30-second Sit-to-Stand test, hand dynamometry, and isometric shoulder dynamometry. Subjective occupational outcomes were evaluated with the Senior Working Life Questionnaire.
Results: The strength training group achieved improvements in bilateral isometric shoulder abduction strength ($p < 0.05$), whereas the stretching group showed no improvement. Functionally, the strength protocol compared to stretching yielded superior lower limb capacity ($p < 0.05$). Finally, only the strength group reported significant reductions in upper extremity pain ($p < 0.05$) and pain-related work limitations ($p < 0.05$).

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Conclusion: Workstation-based strength training provides superior objective muscle strength, functional capacity, and pain reduction compared to traditional stretching.
Implications: These findings position in-company strength training as a feasible, time-efficient, and highly effective short- term strategy for WMSD management.
Funding acknowledgements: None declared.

O0100
EFFECTS OF MINIMAL INTERVENTION OF PATIENT EDUCATION ON PSYCHOSOCIAL OUTCOMES FOR PATIENTS WITH LOW BACK PAIN: A SYSTEMATIC REVIEW
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Background: The early provision of a minimal intervention of patient education (MIPE) for low back pain (LBP) has been suggested as an efficient, low-cost intervention that can be implemented without compromising patient outcomes. However, its effects on psychosocial outcomes remain unclear.
Purpose: To evaluate the effects of MIPE, compared with no or alternative interventions, on psychosocial outcomes in individuals with LBP.
Methods: A systematic review comparing MIPE, defined as a single session of patient education, to no intervention or other interventions in individuals with LBP was conducted. Searches were performed in MEDLINE, Embase, CENTRAL, CINAHL, and PsycINFO from inception to November 2024. Risk of bias was assessed using the revised Cochrane risk-of-bias tool, and certainty of evidence using the GRADE framework. The selection and data collection process and risk of bias assessment were performed by independent reviewers. A narrative synthesis using vote counting was undertaken.
Results: Nine trials were included. Compared with no intervention (2 studies) or other passive interventions (3 studies), MIPE showed no differences for bothersomeness, anxiety, depression, fear-avoidance, pain catastrophizing, or pain self-efficacy. Results were inconclusive for the comparison with other active interventions (5 studies) for bothersomeness, and no differences were found for effects on back-related beliefs. Overall certainty of the evidence was mostly very low.
Conclusion: Current evidence on the effects of MIPE on psychosocial outcomes is highly uncertain.
Implications: Delivering MIPE as a one-size-fits-all, stand-alone intervention appears to have limited clinical value. Future research should prioritize adequately high-quality, powered trials using validated outcome measures.
Funding acknowledgements: None declared.

O0064
ROLE OF THORACOLUMBAR FASCIA STIFFNESS IN THROWING PERFORMANCE AND UPPER EXTREMITY DYNAMIC STABILITY IN COLLEGIATE HANDBALL ATHLETES
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Background: The thoracolumbar fascia (TLF) is a central hub for force transmission. In overhead sports, the kinetic chain relies on efficient energy transfer between extremities. Understanding TLF dynamic stiffness is crucial, as its resistance to deforming forces may dictate athletic performance and stability.
Purpose: To investigate the relationship between segmental TLF dynamic stiffness and throwing performance and dynamic stability in collegiate handball athletes.
Methods: Twenty-five male, right-dominant handball athletes (years) were evaluated. Dynamic stiffness and elasticity of the TLF were measured bilaterally at L1 and L3 levels via myotonometry. Functional assessments included throwing performance and the Upper Quarter Y-Balance Test (UQYBT). Spearman's correlation was used for analysis.
Results: Analysis revealed level-specific functional differentiation. Left-side L1 TLF stiffness positively correlated with throwing performance ($r = 0.418$, $p = 0.037$). Conversely, bilateral L3 stiffness showed moderate positive correlations with upper extremity dynamic stability ($r = 0.552$, $p = 0.012$; $r = 0.521$, $p = 0.018$). No significant correlations were found between the biomechanical properties of the TLF at L1 and L3 levels and core endurance, upper extremity balance, and performance.
Conclusion: TLF biomechanical properties are functionally distinct; the upper lumbar level (L1) relates to power transmission, while the lower level (L3) is fundamental for stability. Future work should explore these properties across a competitive season.
Implications: Clinical myofascial interventions should be level-specific. Clinicians may target L1 tension to optimize throwing velocity and L3 stability to improve dynamic balance, refining sports-specific conditioning and injury prevention. TLF as a functional core component, suggesting level-specific myofascial interventions: L1 stiffness for throwing velocity and L3 for dynamic stability.
Funding acknowledgements: This study was supported by the Technology Transfer Office (ARGEDA-TTO) of Atılım University.

O0070
CHARACTERIZATION OF PATIENTS WITH SKIN FLAP POST-TRAUMA ACCIDENT: RETROSPECTIVE OBSERVATIONAL STUDY IN THE HOSPITAL DEL TRABAJADOR
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Hospital del Trabajador

Background: Work-related trauma is one of the main causes of disability in the active adult population. This generates increased demand for reconstructive procedures, especially skin flaps, to manage complex wound closure. There is little evidence in the literature about clinical characteristics, intrahospital rehabilitation, and complications.
Purpose: Clinical characterization and intrahospital rehabilitation of patients with skin flap reconstruction after trauma.
Methods: Observational retrospective study of patients with skin flap procedures between May 2023 and December 2024 in the Hospital del Trabajador. Socio-demographic, clinical, and skin flap surgical characteristics were analyzed.
Results: 106 patients with skin flaps, 83% male, average age of 45.5 years. The most frequent mechanism was crush injury. The most relevant diagnosis was lower extremity exposed fracture. The main type of skin flap used was microsurgical flap 42,5%. The mean number of days hospitalized was 49 days, with variations. 63,7% of patients had intrahospital physiotherapy rehabilitation prior to skin flap, and 93,4% of patients had intrahospital physiotherapy rehabilitation post skin flap, with a mean of 9 days. Skin flap failure was observed in 6.6% of cases; the main cause was vascular complications.
Conclusion: Patients with skin flap reconstruction are clinically complex, with long hospitalizations and a need for early rehabilitation. The characterization of these patients allows us to identify how to manage patterns, associated factors, and complications.
Implications: This contributes to developing new alignments of intrahospital rehabilitation based on the local reality. This can orient

us to standardize physical therapy protocols, optimize functional results, and facilitate the reintegration of the patient in a more efficient way.
Funding acknowledgements: None declared.

O0073

CHARACTERIZATION OF THE EFFECTS OF BIORESONANCE THERAPY IN CHRONIC NON-SPECIFIC NECK PAIN: A SMALL-SCALE OBSERVATIONAL STUDY

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Background: Despite the growing prevalence of Bioresonance Therapy (BT) in clinical practice, fundamental therapeutic mechanisms governing this low-intensity electromagnetic treatment have yet to be elucidated. Its integration into rehabilitation protocols currently outpaces the available evidence regarding its effects.
Purpose: This study involves a retrospective observational analysis of clinical data from a small cohort of female patients diagnosed with Chronic Non-Specific Neck Pain (CNSNP). The objective is to delineate the most significant therapeutic outcomes associated with BT in CNSNP.
Methods: The clinical progression of a cohort comprising 13 women (mean age 50.5 ± 14.8 years) diagnosed with CNSNP was monitored following a regimen of 8 BT sessions. Evaluations were based on a multi-dimensional assessment battery, including the Numeric Pain Rating Scale (NPRS), the Neck Disability Index (NDI), the Bio-Postural Questionnaire (BPQ) for general health status, and the baropodometric Postural Biometric Index (PBI).
Results: The therapeutic intervention with BT was associated with statistically significant improvements across all evaluated parameters (NPRS = -51.1%; NDI = -64.1%; BPQ = -41.8%; PBI = -36.8%). Granular analysis of the BPQ domains revealed the most pronounced enhancements in Body Fluid Balance (-75.7%), Pain (-59.5%), Psycho-Emotional Disorders (- 45.6%), and Neuro-Somato-Visceral Dysfunctions (-41.8%), respectively.
Conclusion: BT shows promise as a multi-modal treatment for CNSNP, yielding significant improvements in pain threshold, fluid dynamics, psycho-emotional well-being, and perceived disability in the small population studied.
Implications: BT demonstrates significant promise in managing musculoskeletal pathologies involving pain, body fluid imbalance, and perceived disability. Further in-depth studies on the topic are encouraged.
Funding acknowledgements: None declared.

O0080

BEYOND BIOMECHANICS: THE ROLE OF NERVOUS SYSTEM REACTIVITY IN PHYSIOTHERAPY PRACTICE

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Background: Variability in patient presentation remains a common challenge in physiotherapy, particularly in musculoskeletal conditions where symptoms, movement patterns, and responses to intervention do not align with structural findings. Traditional biomechanical models often fail to fully explain these inconsistencies.
Purpose: The aim of this work is to introduce nervous system reactivity as a clinically relevant framework for understanding variability in patient presentation and to explore its implications for physiotherapy practice.
Methods: This work is based on clinical observation integrated with current theoretical knowledge, including central sensitization, neurovisceral integration, and interoceptive processing. Patterns of patient presentation were analyzed in relation to changes in physiological arousal and system responsiveness.
Results: Consistent patterns were identified in clinical presentation, including variability in muscle tone, breathing patterns, sensory responsiveness, and movement behavior. These patterns appeared to reflect changes in system state rather than isolated structural dysfunctions.
Conclusions: Nervous system reactivity provides a useful framework for understanding variability in patient presentation. It offers an alternative perspective that complements traditional biomechanical models.
Implications: This framework may support more precise clinical assessment and more individualized therapeutic strategies, emphasizing regulation and system state rather than isolated structural findings.
Funding acknowledgements: None declared.

O0069

EFFECTS OF SQUAT EXERCISE ON MUSCLE OXYGENATION, BODY COMPOSITION, AND BONE HEALTH IN OBESE OLDER ADULTS: A PROSPECTIVE CASE SERIES

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Background: Obesity is a chronic systemic condition associated with sarcopenia and reduced bone mineral density, contributing to functional decline in older adults. Resistance exercises such as squats may offer an accessible intervention; however, evidence on their combined effects on muscle oxygenation and bone health remains limited.
Purpose: This study aimed to investigate the effects of a long-term squat exercise program on muscle oxygenation, body composition, and bone mineral density in obese older adults.
Methods: A prospective case series study included nine participants (mean age 68.22 ± 3.86 years; BMI 32.34 ± 4.89 kg/m2) who performed supervised squat exercises three times per week for 24 weeks. Body composition and bone mineral density were assessed using dual-energy X-ray absorptiometry (DXA) at baseline and post-intervention. Muscle oxygenation (SmO2) was measured via near-infrared spectroscopy on the vastus lateralis and biceps femoris.
Results: BMI (−0.88 kg/m2), body weight (−2000 g), and fat mass (−1498 g) decreased, while skeletal muscle index increased (+0.04 kg/m2). Bone mineral density improved, with increases of +8.7% in the trochanter, +21.3% in the femoral shaft, and +10.0% overall. Muscle oxygenation increased (+0.80%).
Conclusion: Squat exercise improved body composition, muscle oxygenation, and bone health, suggesting a potential osteogenic effect.
Implications: Simple resistance exercises may enhance musculoskeletal health and should be considered in physiotherapy and primary health care settings.
Funding acknowledgements: None declared.

O0094

PAIN AND FUNCTIONAL PARAMETERS ARE MORE CLOSELY ASSOCIATED THAN MUSCLE STIFFNESS IN BRUXISM

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Background: Bruxism is associated with orofacial pain and functional limitations; however, the relationship between pain, muscle stiffness, and jaw function remains unclear.
Purpose: To investigate relationships between pain, functional status, and muscle stiffness in young adults with bruxism.
Methods: This descriptive correlational study included 26 individuals with bruxism (18–30 years) and orofacial pain >3 months, diagnosed via clinical examination (tooth wear, muscle hypertrophy, patient-reported symptoms). Pain intensity (VAS), masseter pressure pain threshold (PPT; digital algometer), muscle stiffness (MyotonPro), jaw function (JFLS-20: mastication, vertical mobility, verbal/emotional expression [VEX]), pain-free (PFO), and maximum mouth opening (MMO; caliper) were assessed. Spearman correlation was applied.
Results: Mean age was 25.04 ± 2.79 years. Masseter PPT showed moderate positive correlations with MMO ($r = 0.550$, $p = 0.004$) and PFO ($r = 0.425$, $p = 0.030$). Pain during eating was moderately associated with JFLS-20 global score ($r = 0.561$, $p = 0.003$), mastication ($r = 0.519$, $p = 0.007$), and vertical jaw mobility ($r = 0.602$, $p = 0.001$). Waking pain correlated moderately with VEX ($r = 0.419$, $p = 0.033$). Night pain showed a moderate negative correlation with MMO ($r = −0.656$, $p < 0.001$) and positive correlations with JFLS-20 global score ($r = 0.393$, $p = 0.047$) and mastication ($r = 0.402$, $p = 0.042$). Stiffness showed no significant associations with any parameter ($p > 0.05$).
Conclusion: Pain and PPT were associated with jaw function and mobility, whereas stiffness showed no significant association, although caution is warranted due to the limited sample size.
Implications: Pain-related variables may contribute more to functional limitations than muscle stiffness in bruxism, suggesting the value of routine pain assessment. The absence of stiffness associations may reflect surface measurement limitations, highlighting the need for advanced imaging in future studies.
Funding acknowledgements: None declared.

O0096

TARGETED PHYSIOTHERAPY RESOLVES SEVERE BRUXISM IN AN ELDERLY PATIENT WITHOUT TMJ PATHOLOGY

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Background: Bruxism is increasingly conceptualized as a centrally mediated neuromuscular disorder and chronic musculoskeletal overload syndrome rather than a simple dental parafunction. In older adults, sustained masticatory muscle hyperactivity may lead to pain, functional limitation, and soft tissue overload, often mimicking degenerative temporomandibular joint (TMJ) pathology. This overlap may obscure the underlying myofascial origin and delay physiotherapy-led management. Evidence describing bruxism as a functional musculoskeletal phenotype without structural TMJ pathology remains limited.
Purpose: To present a clinically significant case of severe bruxism manifesting as a myofascial overload syndrome without structural TMJ involvement, and to highlight the role of targeted non-pharmacological physiotherapy.
Methods: An 81-year-old male with recurrent maxillary denture fractures and chronic bruxism underwent comprehensive clinical and radiological assessment, excluding intra-articular TMJ pathology. After transient relief with botulinum toxin, a structured 12-session osteopathic manipulative treatment programme was applied, targeting craniofacial, cervical and thoracic regions, neuromuscular modulation and postural integration.
Results: Masseter hypertrophy, widespread myofascial tenderness, and restricted mandibular mobility were identified without structural abnormalities. Post-intervention, significant improvements were observed in pain and function. Long-term follow-up showed sustained symptom resolution and no further prosthetic failure.
Conclusion: Severe bruxism may present as a functional musculoskeletal disorder independent of structural TMJ pathology. Recognition of myofascial and neuromuscular factors is essential.
Implications: Multimodal, physiotherapy-driven non-pharmacological strategies may improve outcomes. Multidisciplinary collaboration remains essential.
Funding acknowledgements: None declared.

O0076

MUSCULOSKELETAL AND SENSORIMOTOR HEALTH PROFILE OF UNIVERSITY STUDENTS: A CROSS-SECTIONAL DESCRIPTIVE STUDY

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Background: University students represent a vulnerable population for musculoskeletal problems due to prolonged sedentary behavior and high smartphone use.
Purpose: This study aimed to describe the musculoskeletal and sensorimotor health profile of university students, including neck pain prevalence, smartphone addiction risk, cervical endurance, head posture, and cervical sensorimotor lateralization.
Methods: A total of 345 university students (mean age 20.2 ± 1.9 years; 20.9% female) participated in this cross-sectional study. Neck pain was assessed by self-report. Smartphone addiction risk was evaluated using the Smartphone Addiction Scale (SAS). Cervical flexor endurance was measured with the deep cervical flexor endurance test. Head posture was assessed using PostureScreen Mobile. Cervical sensorimotor lateralization was quantified via the Inverse Efficiency Score (IES).
Results: Neck pain was reported by 28.4% of students, with a mean pain intensity of 5.0 ± 1.6 (VAS). Nearly half of participants (43.8%) were at high risk for smartphone addiction (SAS ≥ 31; mean score 30.1 ± 10.3). Mean cervical flexor endurance was 11.1 ± 8.7 seconds. Head posture assessment revealed a mean lateral tilt of 10.88 ± 6.17° and anterior shift of 0.63 ± 0.80 cm. Mean cervical IES was 2.48 ± 1.03, indicating measurable lateralization in sensorimotor processing.
Conclusion: University students demonstrate a concerning health profile characterized by high rates of neck pain, low physical activity, significant smartphone addiction risk, poor cervical endurance, and measurable sensorimotor lateralization. These findings underscore the need for preventive physiotherapy programmes targeting this population during a critical period of health behavior formation.
Funding acknowledgements: This study was supported by TUBITAK within the scope of TUBITAK-2209-A University Students Research Projects Support Program.

O0077

CLINICAL SENSORY TESTS: A WEB-BASED SURVEY ON AWARENESS AND CHALLENGES AMONG ITALIAN PHYSICIANS AND PHYSIOTHERAPISTS

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Background: Clinical Sensory Tests (CST) are pragmatic, low-cost tools used to assess somatosensory function, but their uptake in Italy remains unclear. Understanding their use is important to identify potential gaps between clinical relevance and routine implementation.
Purpose: This study aimed to investigate awareness, current use, and perceived barriers to CST among Italian physicians and physiotherapists. A secondary aim was to explore views on the relevance of small-fiber assessment and the tools most commonly used in practice.
Methods: A national, cross-sectional, web-based survey was conducted between January and August 2025 and disseminated through professional networks and social media. Eligible respondents were licensed physicians or physiotherapists practicing in Italy. The questionnaire collected data on demographics, CST knowledge and use, perceived importance of small-fiber assessment, and barriers to implementation. Descriptive statistics were used to summarize profession-specific findings.
Results: A total of 496 clinicians participated, including 105 physicians and 391 physiotherapists. Limited time was the most frequently reported barrier (85.7% of physicians; 77.2% of physiotherapists). Agreement with a pragmatic definition of CST as a low-cost screening approach was common (65.7% and 71.6%, respectively). Small-fiber assessment was most often rated as fairly important within the neurological examination. Reported CST tools were mainly simple, low-cost implements, with some profession-specific differences in preferred modalities.
Conclusion: Italian clinicians appear to recognize the value of CST, but their implementation is heterogeneous and time- constrained.
Implications: Concise protocols and targeted training may support more consistent CST uptake in physiotherapy and broader clinical practice.
Funding acknowledgements: None declared.

MUSCULOSKELETAL: LOWER LIMB

O0013
ASSOCIATIONS OF CALF MUSCLE CONTRACTILE PROPERTIES WITH STATIC BALANCE AMONG OLDER ADULTS
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Skeletal muscle aging is characterized by declines in muscle mass, strength, and contractile properties, which negatively affect balance and increase fall risk. Most previous studies have focused on muscle strength or mass, while detailed muscle contractile characteristics remain less explored. It is still unclear whether these properties are related to balance during different standing postural strategies. This study aimed to examine whether contractile characteristics of calf skeletal muscles are associated with postural fluctuations during quiet standing in older men. Sixty-one healthy older men participated. Tensiomyography (TMG) was used to assess the tibialis anterior (TA), gastrocnemius lateralis (GL), and gastrocnemius medialis (GM). Muscle displacement (Dm), contraction time (Tc), and delay time (Td) were measured. Postural control was evaluated using a force plate during Romberg stance conditions: eyes open and closed, and tandem stance (25 s). Anterior-posterior (AP) and medial-lateral (ML) sway were analyzed. Our analysis demonstrated that GL and GM Td had a strong relationship with greater static balance alterations (p=0.037), especially in the AP direction (p = 0.037). During tandem stance, longer Td was associated with a lower balance fluctuation (p = 0.007). The Dm and Tc of calf muscles do not affect the sway fluctuations (p = 0.216; p = 0.151). Gastrocnemius Td may play an important role in maintaining postural stability. Preserving calf muscle contractile function could be a promising strategy for improving balance and reducing fall risk in older adults, though further research is needed.
Funding acknowledgements: This work was supported by the Research Council of Lithuania, No. S-MIP-22-12.

O0087
EFFECT OF STATIC VS. DYNAMIC STRETCHING ON VERTICAL JUMP, BALANCE, AND RANGE OF MOTION IN ADOLESCENT BASKETBALL PLAYERS: RCT
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Background: Basketball requires high lower-limb power, particularly for vertical jumping, but intensive practice increases injury risk. Stretching is widely used to enhance performance and prevent injuries, yet the comparative effects of static versus dynamic stretching remain unclear in adolescent athletes.
Purpose: This study aimed to compare the effects of static and dynamic stretching on vertical jump performance, flexibility, and balance in young basketball players.
Methods: A randomized experimental study was conducted on 75 basketball players aged 13–18 years, divided into three groups: static stretching, dynamic stretching, and control. Interventions were applied over 12 sessions. Outcomes included vertical jump height (MyJump2 app), hamstring and quadriceps flexibility (goniometer), and balance (KINVENT platforms). Assessments were performed at baseline, mid-intervention, and post-intervention. Data were analyzed using ANOVA.
Results: Dynamic stretching significantly improved vertical jump height compared to static stretching and control. Both stretching methods increased flexibility, with slightly greater gains observed in the static group. Balance improved in both intervention groups, particularly with reduced center-of-pressure oscillation, while no significant changes were found in the control group.
Conclusion: Dynamic stretching appears more effective for enhancing explosive performance and balance, whereas static stretching is beneficial for improving flexibility. The choice of stretching method should depend on the targeted outcome.
Implications: Incorporating dynamic stretching in warm-up routines may optimize performance in adolescent basketball players, while static stretching remains relevant for flexibility training and injury prevention strategies.
Funding acknowledgements: None declared.

O0060
PATIENTS' EXPERIENCES OF VIDEO-BASED ASSESSMENT OF THE KNEE IN CONTRAST TO CONVENTIONAL FACE-TO-FACE ASSESSMENT: A FOCUS GROUP STUDY
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Background: Virtual health is evolving rapidly, yet knowledge regarding patients' experiences of video-based knee assessment remains limited.

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Purpose: To explore patients' experiences and perceptions of video-based assessment of the knee in contrast to conventional face-to-face assessment.
Methods: A qualitative focus group study was conducted with sixteen participants ≥ 45 years with non-traumatic knee pain, recruited from a previous study comparing video-based physiotherapy assessment with conventional face-to-face assessment of potential knee osteoarthritis among patients with non-traumatic knee pain. Participants were divided into four groups of four to seven. Group discussions lasted 35–40 minutes, were audio-recorded, transcribed verbatim, and analyzed inductively using qualitative content analysis as described by Krueger and Casey.
Results: The analysis resulted in four categories with two to three subcategories each, under the overarching theme, Another road to diagnosis. Categories were: clear and adequate communication, a different personal contact, increased patient responsibility, and confidence in being adequately assessed.
Conclusion: Main findings underscore the essential role of trust in the diagnostic process and suggest that the experience and nature of assessment may take another form in the video-based context in relation to conventional face-to-face assessment. Findings suggest video-based assessment can be perceived as a feasible alternative to face-to-face assessment by patients, particularly those who trust the physiotherapist, can perform their part of the assessment, and require location flexibility.
Implications: Physiotherapists need structured approaches to support the establishment of trust in the assessment process, as trust in the physiotherapists' competence appears central to patient confidence and engagement.
Funding acknowledgements: Funded by Research and Development Primary Health Care Gothenburg and South Bohuslän, not involved in any part of the study.

O0059

VIDEO-BASED PHYSIOTHERAPY ASSESSMENT OF KNEE OSTEOARTHRITIS IN PATIENTS WITH KNEE PAIN: A VALIDITY AND RELIABILITY PILOT STUDY

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Background: Digital health technologies are advancing rapidly. Osteoarthritis affects 595 million individuals worldwide, with 62% involving the knee. However, evidence regarding the validity and reliability of video-based physiotherapy assessments for knee osteoarthritis (KOA) remains scarce.
Purpose: To explore the feasibility of video-based physiotherapy assessment of KOA in patients with knee pain and to provide preliminary data on its concurrent validity and interrater reliability compared with conventional face-to-face assessment.
Methods: A cross-sectional validity and reliability pilot study was conducted. Participants aged ≥45 years with knee pain were recruited through advertisements. Participants underwent both a real-time video-based physiotherapy assessment and a face-to-face assessment. Video assessments were recorded. Concurrent validity was examined by determining exact or potential agreement between video-based and face-to-face assessments, and interrater reliability by comparing live and recorded video-based assessments.
Results: For concurrent validity, exact agreement was observed in 28 of 35 cases (80%; κ = 0.35), indicating fair agreement. Potential agreement was achieved in 33 of 35 cases (94%; κ = 0.64), indicating substantial agreement. Interrater reliability demonstrated exact agreement in 25 of 29 cases (86%; κ = 0.52), corresponding to moderate agreement. Potential agreement for interrater reliability was observed in 27 of 29 cases (93%; κ = 0.63), corresponding to substantial agreement.
Conclusion: Video-based physiotherapy assessment appears feasible and may provide preliminary indications of validity for diagnosing KOA in individuals with nontraumatic knee pain.
Implications: Video-based assessment might be a feasible method for physiotherapists evaluating KOA in patients ≥ 45 years with nontraumatic knee pain.
Funding acknowledgements: Study funding: Local Research and Development Council Gothenburg and Södra Bohuslän (VGFOUGSB–1004674). Open access: University of Gothenburg.

O0056

MECHANICAL PAIN SENSITIVITY IN PATELLOFEMORAL PAIN SYNDROME: ASSOCIATIONS WITH PAIN INTENSITY AND LOWER EXTREMITY FUNCTION

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Background: Patellofemoral pain syndrome (PFPS) is associated with persistent anterior knee pain and functional limitations. Alterations in pain processing mechanisms may contribute to symptom severity and functional impairment.
Purpose: To investigate local and widespread mechanical pain sensitivity and their association with pain intensity and lower extremity function in individuals with PFPS.
Methods: Participants with PFPS (n = 28), with symptomatic and asymptomatic knees, were assessed, while the dominant limb was evaluated in controls (n = 26). Mechanical pain sensitivity was measured using pressure pain threshold (PPT) at the patella (local) and lateral epicondyle (remote) with a handheld algometer (JTECH, N/cm2). Pain intensity was assessed using the Visual Analogue Scale (VAS), and function was assessed using the Kujala score. Non-parametric tests were used ($p < 0.05$).
Results: In PFPS, patellar PPT was lower in the painful knee compared to the non-painful knee (median: 22.5 vs 33.2 N/cm^2; $p < 0.001$) and controls (22.5 vs 44.0 N/cm^2; $p < 0.001$). Remote PPT was also lower in PFPS (7.1 vs 20.5 N/cm^2; $p < 0.001$). Kujala scores were reduced in PFPS (61.0 vs 95.5; $p < 0.001$). In PFPS, lower patellar PPT was associated with higher pain during prolonged sitting ($r = -0.41$, $p = 0.029$) and lower Kujala scores ($r = 0.43$, $p = 0.022$).
Conclusion: Changes in PPT at local and remote sites suggest possible modulation within the nociceptive system and findings consistent with altered pain processing mechanisms, and appear related to pain intensity and functional status.
Implications: Assessment of local and generalized mechanical pain sensitivity may be considered in physiotherapy, interpreted alongside altered pain processing, and supported by quantitative sensory testing.
Funding acknowledgements: None declared.

O0058

ASSOCIATION BETWEEN DIAPHRAGM THICKENING FRACTION AND POSTURAL CONTROL IN INDIVIDUALS WITH PES PLANUS

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Background: Pes planus is a common deformity characterized by a decreased medial longitudinal arch, affecting lower extremity biomechanics and postural control. Recent evidence suggests that postural stability is influenced not only by peripheral structures but also by respiratory muscle activity. However, the relationship between diaphragm function and postural control in individuals with pes planus remains unclear.
Purpose: The aim of this study was to investigate the relationship between diaphragm thickening fraction and postural control parameters in individuals with pes planus.
Methods: Twenty individuals with pes planus aged 18–30 years were included in this cross-sectional study. Diaphragm thickness and thickening fraction were assessed using ultrasonography. Postural control was evaluated using the NeuroCom Balance Master system through the Limits of Stability (LOS) and modified Clinical Test of Sensory Interaction on Balance (mCTSIB). Relationships between variables were analyzed using Spearman correlation analysis.
Results: Significant associations were found between diaphragm thickening fraction and postural control parameters. The left diaphragm thickening fraction showed a moderate positive correlation with endpoint excursion ($r = 0.531$, $p < 0.05$) and maximum excursion ($r = 0.517$, $p < 0.05$). Additionally, a moderate negative correlation was observed between left diaphragm thickening fraction and postural sway velocity under the eyes-open condition ($r = -0.444$, $p < 0.05$). No significant associations were found for the right diaphragm ($p > 0.05$).
Conclusion: Diaphragm thickening fraction is significantly associated with both static and dynamic postural control in individuals with pes planus.
Implications: Targeting diaphragm function, alongside foot-focused interventions, may help improve postural control.
Funding acknowledgements: None declared.

MUSCULOSKELETAL: SPINE

O0051

ATTITUDES AND BELIEFS TOWARDS LOW BACK PAIN AMONG AUSTRIAN PHYSIOTHERAPISTS AND HEALTHCARE STUDENTS: A CROSS-SECTIONAL STUDY

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Background: Healthcare practitioners' beliefs and attitudes toward low back pain (LBP) influence patients' perceptions, pain experience, clinical course, and treatment outcomes. Little is known about how physiotherapists (PTs) in Austria conceptualize LBP compared to healthcare students.
Purpose: This study assessed the beliefs, attitudes, and conceptual understanding of LBP among practicing PTs in Austria and compared them with first-semester healthcare students. A secondary aim was to examine the influence of age, education, and professional experience on these beliefs.
Methods: A cross-sectional online survey was conducted from May to November 2025. Participants included 391 PTs and 99 first-semester students from healthcare programs at two Austrian universities. Beliefs were assessed with the Back Beliefs Questionnaire and the Health Care Providers' Pain and Impairment Relationship Scale. ANCOVA was used to adjust for covariates.
Results: PTs scored higher on the BBQ and lower on HC-PAIRS than students, indicating more positive, evidence-based beliefs. Differences remained after adjusting for age, education, and experience. Greater professional experience was associated with more negative, disability-oriented, and biomedical beliefs. Overall, both groups still demonstrated predominantly pain- implies-disability attitudes.
Conclusion: PTs hold more positive beliefs than students, but experience may paradoxically reinforce negative, disability-oriented perspectives. Misconceptions persist even among trained practitioners.
Implications: Educational strategies emphasizing evidence-based pain science are needed throughout professional training. Continuous professional development may counteract the drift toward biomedical, pain-implies-disability beliefs with increasing clinical experience.
Funding acknowledgements: None declared.

O0053

Boredom proneness and low back pain disability in university students: the mediating role of anxiety

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Low back pain (LBP) is common among university students and may affect functional capacity and academic participation. Psychological factors are increasingly recognized as contributors to musculoskeletal pain outcomes. However, the role of boredom proneness as a psychological vulnerability factor in LBP-related disability has received limited attention. This study examined the relationship between boredom proneness and LBP-related disability in university students and investigated whether anxiety mediates this relationship. A cross-sectional analysis was conducted on a symptomatic subgroup of 249 university students reporting low back pain. Participants completed the Boredom Proneness Scale, the Generalized Anxiety Disorder scale, and the Oswestry Disability Index. Pearson correlations examined associations between variables, and independent-samples t-tests compared psychological scores across disability levels. Mediation analysis was performed using the PROCESS macro (Model 4). Boredom proneness was positively correlated with anxiety ($r = 0.495$, $p < 0.001$) and disability ($r = 0.294$, $p < 0.001$). Anxiety was also associated with disability ($r = 0.373$, $p < 0.001$). Students with moderate to severe disability reported significantly higher boredom and anxiety scores than those with minimal disability ($p < 0.001$). Mediation analysis revealed a significant indirect effect of boredom on disability through anxiety ($B = 0.4401$, 95% CI [0.2371, 0.6800]). The direct effect remained significant ($B = 0.4719$, $p = 0.026$), indicating partial mediation. Anxiety partially mediates the relationship between boredom proneness and perceived disability in university students with LBP. Physiotherapy management of students with LBP should incorporate psychological screening and biopsychosocial approaches alongside physical rehabilitation strategies.
Funding acknowledgements: None declared.

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O0075

PATIENT PERSPECTIVES ON AN INTERNET-BASED REHABILITATION PROGRAM FOR CHRONIC WHIPLASH-ASSOCIATED DISORDERS

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Background: There is a rapid development of digital interventions in healthcare, and incorporating patients' perspectives is essential. However, experiences of internet-based exercise programs for chronic whiplash-associated disorders (WAD) remain unexplored.
Purpose: The purpose of this study was to explore and describe experiences of an internet-based rehabilitation program combined with four physiotherapy visits for individuals with chronic WAD from a quality-of-care perspective.
Methods: Qualitative exploratory and descriptive design. Individual semi-structured interviews were conducted with 13 individuals with chronic WAD. Data were analyzed using deductive qualitative content analysis based on Donabedian's model of quality of care (structure, process, and outcome).
Results: The analysis resulted in three categories: appraisal of the content and technical structure of the internet-supported program (structure); patient actions during the rehabilitation process with or without interaction with the internet-supported program (process); and description of valuable outcomes from the patient's perspective (outcomes). Each category was supported by 3–5 sub-categories reflecting the different aspects of patients' experiences within each domain.
Conclusion: The informants experienced positive health outcomes. The digital format was appreciated, but a more user-friendly format would have been preferred. The digital support program was considered a good complement to the visits at the physiotherapy clinic. Further work could focus on how to combine physiotherapy visits with user-friendly digital support to empower individuals with persistent WAD and individuals with chronic pain.
Implications: Physiotherapy clinics may consider implementing a digital support program to complement visits. The results of this study will guide development of more user-friendly digital support.
Funding acknowledgements: Swedish Research Council; Sweden's Innovation Agency; Medical Research Council, Southeast Sweden; Centre for Clinical Research Sörmland, Uppsala University; Regional Research Council, Mid-Sweden.

O0055

MULTISENSORY TRAINING REDUCES LOW BACK PAIN AND IMPROVES POSTURAL CONTROL

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Introduction: If asymmetric forces act on the body for a long time and muscles cannot balance these forces, maladaptation will occur, which might result in chronic musculoskeletal problems like spine deformities later. All forces maintaining normal posture must be balanced.
Purpose: This study investigated the relationship between body posture quality (static/dynamic balance) and back pain syndromes and multisensory exercise effectiveness on pain and postural control.
Methods: 53 patients (30 male, 23 female; 18-50 years) with back pain had baseline ODI and MFT-S3-Check (TST GmbH, Austria) assessments. Re-evaluation followed 12 weeks of multisensory training (3x/week, 40 min/session). Analyzed via SPSS.
Results: Oswestry Disability Index (ODI) significantly decreased ($p < 0.000$) following 12 weeks of therapeutic exercise intervention, demonstrating that the severity of pain and disability was significantly lower following exercise treatment. Initially, 40 clients were enrolled in ODI stage 2 (79.8%) and 13 in ODI stage 3 (20.2%), respectively. Following the exercise intervention, 41 patients (82.1%) improved to stage 1 according to ODI, 9 (10.9%) improved to ODI stage 2, and only 3 patients (7%) did not improve and remained in stage 3 according to ODI. Body stability and functional movement symmetry characteristics both improved significantly ($p < 0.01$).
Conclusion: Multisensory exercises relieve low back pain and disability, as well as improve postural control for daily living.
Implications: The results advocate the use of multisensory training as a non-invasive intervention for chronic low back pain in physiotherapy, aiding faster rehabilitation, decreasing disability, and preventing postural deformities.
Funding acknowledgements: None declared.

O0078

IMPROVING THORACIC KYPHOSIS ASSESSMENT: VALIDATION OF A MATLAB- BASED APPROACH FOR CLINICAL USE

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Background: Excessive thoracic kyphosis is associated with musculoskeletal pain, postural dysfunction, and altered upper limb mechanics. The Flexicurve is widely used in clinical settings due to its simplicity and low cost1,2. The Kyphosis Index (KI) is commonly used; however, it relies on the identification of a single apex point. Digital image processing methods may improve measurement accuracy, reproducibility, and traceability.
Purpose: To evaluate the concurrent validity and reliability of a MATLAB-based method for calculating the KI compared to the traditional direct method in an orthostatic posture.
Methods: Thirty participants were assessed in an upright standing position using a Flexicurve molded from C7 to T12. KI was calculated using a traditional graph paper method and a MATLAB-based digital method applied to images of the Flexicurve tracings. In the MATLAB approach, the kyphosis apex was defined as the point of maximum perpendicular distance to the C7–T12 reference line and the Flexicurve contour. Concurrent validity was assessed using Pearson's correlation coefficient, agreement using Bland–Altman analysis, and reliability using the ICC coefficient. Standard error of measurement (SEM) and minimal detectable change (MDC) were also calculated.
Results: Both methods showed strong correlation ($r = 0.96$). Bland–Altman analysis showed minimal bias (0.13) with narrow limits of agreement (−1.27 to 1.53). Reliability was excellent (ICC = 0.96). SEM = 0.51; MDC = 1.41.
Conclusions: The MATLAB-based method is a valid and reliable alternative for assessing thoracic kyphosis using the KI in standing posture.
Implications: This approach enhances measurement objectivity and enables digital storage with retrospective verification, supporting clinical assessment and monitoring.
Funding acknowledgements: None declared.

MUSCULOSKELETAL: UPPER LIMB

O0061

TRANSLATION OF THE SHOULDER PAIN AND DISABILITY INDEX (SPADI) AND PSYCHOMETRIC EVALUATION OF THE SWEDISH VERSION

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Background: The Shoulder Pain and Disability Index (SPADI) is a widely used shoulder-specific patient-reported outcome measure. This study aimed to translate and adapt SPADI into Swedish, to evaluate psychometric properties and determine the Minimal Important Change (MIC) in patients with subacromial pain.
Methods: This study was conducted in two phases; one involved translation and adaptation to Swedish using forward-backward translation and patients' feedback. In phase two, 158 patients with shoulder pain and disability due to subacromial pain were recruited to evaluate validity, reliability, responsiveness, and MIC.
Results: There were no disagreements during the translation process, and patients found the questions relevant and comprehensible. The SPADI and DASH7 scores showed a high correlation (0,86). Internal consistency was assessed with Cronbach's alpha of 0.93 (n = 158). Test-retest reliability was ICC = 0.87 (n = 60). The Standard Error of Measurement (SEM) was 3.8, and the Minimal Detectable Change (MDC) was 10.5 in the total score. Responsiveness had an Area Under the Curve (AUC) of 0.92 (95% CI 0.9 to 1), generating a Minimal Important Change (MIC) of 11, with sensitivity at 92% and specificity at 75% (n = 107).
Conclusion: The SPADI was successfully translated and adapted into Swedish and demonstrated excellent psychometric properties in patients with subacromial pain. Additionally, MIC values have been established to identify clinically meaningful changes, useful in both research and clinical practice. These findings support its use in this population, while further research should confirm validity for other shoulder conditions.
Implications: Swedish SPADI offers reliable assessment and detects meaningful improvement, enhancing clinical evaluation of subacromial pain.
Funding acknowledgements: Anna Petersson; grants from Region Östergötland, Sweden. Grants: RÖ-9911952023-06-01; Hanna Björnsson Hallgren; ALF Grant, Region Östergötland: ALF: RÖ-960513.

O0063
SCAPULAR KINEMATICS UNDER ELASTIC RESISTANCE: GENDER DIFFERENCES DURING FUNCTIONAL UPPER LIMB MOVEMENT
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Background: Elastic resistance (Theraband) is commonly used in physiotherapy to load the upper limb and promote functional integration of the kinetic chain, in which the scapula plays a central role. However, it remains unclear whether scapular kinematics differs between genders under varying resistance conditions.
Purpose: To compare scapular kinematics between genders under two resistance conditions during a functional upper limb task in asymptomatic adults. Methods. Eighteen healthy adults (men and women) were classified into two groups according to elastic band resistance (low vs. high). Scapular kinematics were assessed using 3D motion analysis under two conditions: no resistance (R00) and whole-body elastic resistance (R-WB). Gender and resistance effects were examined using Statistical Parametric Mapping with a three-way mixed ANOVA.
Results. Males showed greater scapular external rotation (0–100%, $p < 0.001$, $\eta^2_p = 0.93$) and scapular posterior tilt (46–100%, $p = 0.024$, $\eta^2_p = 0.49$). Whole-body resistance increased scapular external rotation (40–100%, $p = 0.017$, $\eta^2_p = 0.57$) and scapular upward rotation (0–77%, $p = 0.005$, $\eta^2_p = 0.78$), while no resistance was associated with greater scapular anterior tilt (0–43%, $p = 0.031$, $\eta^2_p = 0.58$).
Conclusion: Scapular kinematics are both gender-dependent and resistance-sensitive. Whole-body elastic resistance promotes movement patterns associated with improved scapular control.
Implications: Elastic resistance (Theraband), particularly with whole-body integration, enhances kinetic chain function, with the scapula as a key link. This supports the use of progressive, functionally integrated exercises to improve scapular control and shoulder function.
Funding acknowledgements: None declared.

NEUROLOGY

O0038
VALIDITY AND RELIABILITY OF THE ONLINE DUAL-TASK ASSESSMENT IN HEALTHY ADULTS
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Background: Dual-task can be defined as performing two different tasks simultaneously. The Walking and Remembering Test (WART) is a valid and reliable performance measurement tool that assesses single- and dual-task performance through cognitive and motor tasks. As technology has advanced, remote assessment methods have begun to be integrated into routine healthcare settings. This has made research into the reliability and validity of these tests in remote assessments increasingly important.
Purpose: The aim of this study is to investigate the validity and reliability of the WART in healthy adults using the tele- assessment method.
Methods: Thirty healthy young adults were included in the study. Initial assessments were conducted face-to-face in accordance with the WART protocol. The second assessment was implemented as a tele-assessment. The test-retest reliability was assessed using intraclass correlation coefficients.
Results: The mean age of the participants was 23.03 ± 2.20 years. ICC values ranged from 0.70 to 0.86. The correlation between both measurements was significant ($p < 0.001$) and very strong ($r = 0.838$) for the single-task walking speed parameter and strong ($r = 0.615$) for the walking speed parameter; a good level of correlation was observed for the Digit Span Test as a single task ($r = 0.589$) and the Digit Span Test under the dual task ($r = 0.562$).
Conclusion: WART tele-assessment is a valid and reliable method and can be used clinically where face-to-face assessment is not possible.
Implications: When face-to-face assessment of healthy adults is not possible, remote dual-task assessment can be a practical option in physiotherapy and rehabilitation settings.
Funding acknowledgements: None declared.

O0010
REROUTING SOMATOSENSORY INPUT: CAN HAND TACTILE STIMULATION REDUCE BODY SWAY AMONG OLDER ADULTS WITH DIABETES?
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Background: Body balance deteriorates as humans advance in age due to the aging process and high incidence of diseases. Somatosensory input plays a major role in body balance. 30% of the elderly suffer from Diabetes. Diabetes affects body balance due to neurological

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changes such as diabetic neuropathy. Increased body sway is associated with fall risk in the elderly. It is still unknown what the effect of hand tactile stimulation (HTS) is on body sway among elderly with diabetes (EWD).
Purpose: The purpose of this study was to examine the effect of tactile stimulation applied to the hands on body sway among EWD.
Methods: Fifteen participants were recruited for this study. Participants were included if they were between 65 and 90 years old, had been diagnosed with diabetes for at least 2 years, and had an A1C between 6 and 9. A quasi-experimental pretest-posttest design was utilized. A balance platform was used to measure body sway without hand tactile stimulation and with tactile hand stimulation in CTSIB-M conditions. Tennis balls were used to provide tactile input.
Results: There was a significant reduction in mean body sway in condition 2 while standing on the balance platform with eyes closed and HTS (1.2 ± 0.42 vs. 2.1 ± 0.7, $p < 0.01$) and in condition 4 while standing on the foam with eyes closed and HTS (1.7 ± 0.61 vs. 2.6 ± 0.85, $p < 0.05$).
Conclusion: Hand tactile stimulation was helpful in controlling body sway among elderly people who suffer from diabetes.
Implications: Hand tactile stimulation can be utilized in clinical settings to enhance postural stability among EWD.
Funding acknowledgements: None declared.

O0006
"MEETING THE PERSON WHERE THEY ARE": UNDERSTANDING THE EXPERIENCES OF PEOPLE WITH DEMENTIA, THEIR CARE PARTNERS AND PHYSIOTHERAPISTS

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Background: Physiotherapy can play a key role in many aspects of dementia care, including the maintenance of mobility and balance, falls risk reduction, strength training, and overall functional ability. While the evidence supports what physiotherapy can achieve, the qualitative experience of those receiving and providing this care remains underexplored.
Purpose: To understand the lived experiences of individuals with dementia, their care partners and physiotherapists regarding the provision and receipt of physiotherapy in dementia care.
Methods: An inductive qualitative approach based on constructivist assumptions was employed. A targeted purposive sampling strategy was used to recruit physiotherapists working in dementia care, people with dementia with experience of physiotherapy, and their relative care partners. The data was analyzed using Braun and Clarke's reflexive thematic analysis.
Results: In total, 18 participants were included: eleven physiotherapists, three people living with dementia, and four care partners. Three themes and seven subthemes were identified. Firstly, a tailored, personable, and functional approach to physiotherapy is favored by all parties. Secondly, there is a delicate balance in the care partner's valuable role in supporting rehabilitation while avoiding excessive demand on them. Lastly, physiotherapists' attitudes towards the rehabilitation of people living with dementia appear to be more positive, but respondents cited some lingering stigma.
Conclusion: The findings confirm that successful physiotherapy and rehabilitation rely on synergizing the science of dementia-specific exercise programmes with the art of building a meaningful therapeutic relationship.
Implications: The findings have the potential to inform and strengthen future clinical practice guidelines for physiotherapy in dementia care.
Funding acknowledgements: None declared.

O0139
The relationship between health literacy and quality of life in cervical dystonia, a rare movement disorder: preliminary results

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Background: Cervical dystonia (CD) demands that the patient take an active role in managing the disease. Health literacy (HL) is a key factor in achieving positive health outcomes and ensuring adherence to treatment.
Purpose: The aim of this study is to determine the relationship between quality of life (QoL) and HL level in individuals with CD.
Methods: 9 individuals with CD followed up at the clinic were included in the study. The Toronto Western Spasmodic Torticollis Rating Scale (TWTRS-2) for disease severity, the Craniocervical Dystonia Questionnaire-24 (CDQ-24) for QoL, and the Turkish Adaptation of the European Health Literacy Scale for HL were used.
Results: The HL scores of participants were 44.4±5.16, the total TWTRS-2 scores of the participants were 30.6 ± 12.5, and the CDQ-24 scores were 30.7 ± 27.9. 6 participants had an excellent HL level, while 3 had an adequate level. A strong, significant correlation was found between disease severity and QoL ($p < 0.05$; rs:0.807), while no significant correlations were found between HL, QoL ($p > 0.05$; rs: 0.118), and disease severity ($p > 0.05$; rs: -0.109).
Conclusion: Our study included participants with relatively low disease severity; therefore, the impact on QoL was limited, and HL levels were good. Although these results are expected, given the disease severity, future studies with larger samples and more detailed analyses would be beneficial.
Implications: Although the study results don't show a direct relationship, a high level of HL can be considered an important factor that may increase the effectiveness of healthcare services.
Funding acknowledgements: None declared

O0145
MEASURE LESS TO MEASURE BETTER: DEVELOPMENT OF THE SHORT FORMS FOR THE UNIFIED BALANCE SCALE (UBS) CALIBRATED WITH RASCH ANALYSIS

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Background: Unified Balance Scale (UBS)is a 27-item scale developed using Rasch analysis (RA) merging three balance instruments (Berg Balance Scale, Tinetti Scale, Fullerton Advanced Balance Scale) within neurorehabilitation settings.
Purpose: To develop two UBS short forms (SFs) of increasing difficulty to reduce administrative and patient's burden.
Methods: A 16-item UBS was calibrated using the original UBS dataset and was administered to 502 patients with balance disorders due to different neurological etiologies. RA was used to examine internal construct validity (ICV: invariance, monotonicity, one-dimensionality, local independence, DIF) and reliability. After achieving adequate ICV, two SFs (UBS-SF1 and UBS-SF2) of increasing difficulty were co-calibrated with the UBS, and an algorithm was developed to choose the more targeted SF according to the patient's ability.

Results: Base RA revealed a misfit to the model and violations of ICV requirements. After rescoring disordered items and creating subtests accounting for local dependence, the data showed adequate fit to the model, local independence, one-dimensionality, absence of DIF, and adequate reliability for single-subject measurements. Both an easier (UBS-SF1: 9 items) and a more difficult SF (UBS-SF2: 7 items) were co-calibrated with the UBS. The administration of three items (TB06, TB07, and BBS09) predicted with an accuracy >80% the most appropriate SF to be administered. A score ≥14 on UBS-SF1 indicated the switch to UBS-SF2.
Conclusion: Two UBS-SFs, satisfying Rasch model requirements, were devised, reducing the administrative burden.
Implications: A simple algorithm can guide clinicians to choose the more targeted SF according to the patient's ability.
Funding acknowledgements: None declared.

O0042
AUGMENTED REALITY COGNITIVE TRAINING WITH VESTIBULAR REHABILITATION IN UNCOMPENSATED VESTIBULAR DISORDERS
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Background: Vestibular pathologies disrupt vestibular-cognitive function, especially visuospatial abilities, spatial memory, and processing1,2. Could the integration of cognitive training with vestibular rehabilitation provide additional benefit in balance and cognition?
Purpose: This assessor-blinded, randomized, controlled clinical trial examined the effect of twice-weekly, gamified, Augmented Reality cognitive exercises3 alongside eight weeks of standard, home-based vestibular rehabilitation therapy4 for people with uncompensated vestibular disorders.
Methods: The inclusion criteria were: i) uncompensated vestibular dysfunction, ii) age: 40 - 80 years, iii) adequate cognitive function (Montreal Cognitive Assessment Scale [MoCA]>22/30). Central vestibular disorders were excluded. Participants were randomly allocated to two groups (control and intervention). Outcome measures investigated balance (Functional Gait Assessment- FGA5, miniBESTest6), balance confidence (Activities-specific Balance Confidence Scale7), symptoms (Dizziness Handicap Inventory8, Vestibular Rehabilitation Benefit Questionnaire9), and cognition (MoCA10, auditory Stroop Test11, Digit Symbol Substitution Test-DSST12). Assessment: baseline and post-intervention. The intention-to-treat analysis was conducted using suitable tests in SPSS 29.0, performing both within-group and between-group analyses.
Results: Statistically significant improvements ($p < 0.05$) were found in both groups [intervention: 13/18 females, mean age: 57.89, 95% CI: (53.55-62.43); control: 15/21 females, mean age: 56.52, 95% CI: (51.09-61.95)] for all outcome measures except the auditory Stroop Test ($p = 0.77$). Between-group analysis indicated greater improvement favoring the intervention for the FGA [mean difference: 1.86, 95% CI: (0.67-3.66), $p < 0.05$], and the DSST [mean difference: 3.75, 95%CI: (0.59-7.44), $p < 0.05$].
Conclusion: Integrating Augmented Reality cognitive exercises into vestibular rehabilitation improves functional gait and processing speed in people with uncompensated vestibular disorders.
Implications: Vestibular rehabilitation should include digital cognitive training to facilitate comprehensive recovery.
Funding acknowledgements: The clinical trial was funded by the European Union's HORIZON 2020 Research and Innovation program (Grant Agreement No: 769574).

NEUROLOGY: MULTIPLE SCLEROSIS

O0138
Action observation combined with motor imagery of the upper extremities for people with multiple sclerosis
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Background: Combined action observation (AO) and motor imagery (AOMI) has not yet been examined in people with multiple sclerosis (MS).
Purpose: This mixed-methods study investigated the immediate effects of AOMI on MI abilities and upper limb motor function, compared with a non-interventional pre-baseline phase in people with MS and moderate-to-severe disability. It also explored participants' experiences of feasibility and acceptability and gathered suggestions for improvement.
Methods: This study included a 7–9-day pre-baseline phase with repeated assessments of hand and arm motor function and MI abilities (T0, T1). Following familiarization, participants completed two observed 45-minute AOMI sessions. Post- intervention assessment (T2) repeated the assessment battery and included semi-structured interviews (thematic analysis). Methodological triangulation of quantitative and qualitative results compared findings across data sources.
Results: Thirty-three participants (22 women; mean age 56.8±9.4 years; median Expanded Disability Status Scale 6.0, range 4.0–7.5) were included. Five interacting themes emerged, highlighting factors influencing feasibility, multisensory engagement, attentional regulation, refinement of movement execution, and motivation. Observations indicated high engagement, but performance was context- and fatigue-dependent. Except for hand function, no relevant changes were observed in motor function and MI abilities. Triangulation showed early intervention-related changes were primarily experiential and learning-related, captured more sensitively by qualitative data than by standardized outcomes. The intervention was feasible, though longer duration and greater individualization appear necessary.
Conclusion: While immediate quantitative effects were limited, AOMI elicited meaningful early-stage learning processes**.**
Implications: AOMI may initially influence internal action representation and engagement, supporting its further development prior to larger efficacy trials.
Funding acknowledgements: This work was funded by the Austrian Multiple Sclerosis Research Society, Vienna, Austria.

NEUROLOGY: PARKINSON'S DISEASE

O0150
TELEREHABILITATION-BASED DUAL-TASK TRAINING IN PARKINSON'S: WHICH COMBINATION BEST IMPROVES GAIT AND COGNITION?
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Background: Although there is growing interest in dual-task interventions in people with Parkinson's disease, limited evidence exists about the optimum combinations of motor and cognitive tasks for telerehabilitation.

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Purpose: To investigate the effects of synchronous telerehabilitation programs integrating different dual-task (DT) paradigms on balance, gait, and cognition in PD.
Methods: Thirty individuals with idiopathic PD were randomly allocated to cognitive–motor (CM-DT), motor–motor (MM-DT), or combined (Mix-DT) dual-task telerehabilitation groups. Interventions were administered synchronously via Zoom, three times weekly for four weeks. Evaluations were performed at baseline, immediately after the intervention, and at three-month follow-up. The primary outcome was Mini-BESTest; secondary outcomes included gait, cognition, and participation.
Results: No significant group×time interaction effects were observed between the groups. All groups showed significant within-group improvements in balance and gait ($p < 0.05$). Gait speed improved modestly, particularly in the Mix-DT group. Cognitive outcomes improved across groups, with greater MoCA gains in CM-DT ($p < 0.01$) and improvements in verbal fluency and working memory in CM-DT and Mix-DT. PDQ-39 scores decreased significantly in CM-DT and MM-DT ($p < 0.01$).
Conclusion: Cognitive–motor DT training conferred the most substantial cognitive gains, while mixed DT training led to more marked improvements in gait. Future studies with larger samples and more objective assessments are needed to extend these results.
Implications: The findings of this study indicate that synchronous telerehabilitation-based dual-task training has the potential to positively impact not only balance and gait outcomes, but also cognitive functioning.
Funding acknowledgements: None declared.

O0039
COMPARING THE INTERNATIONAL PHYSICAL ACTIVITY QUESTIONNAIRE SHORT FORM WITH ACCELEROMETER-MEASURED ACTIVITY IN PARKINSON'S DISEASE
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Background: Accurate assessment of physical activity is essential in physiotherapy for people living with Parkinson's disease (PwPD). Previous research has shown limited and inconsistent agreement between self-reported and accelerometer-derived physical activity, and the validity of the International Physical Activity Questionnaire Short Form (IPAQ-S) in this population remains uncertain.
Purpose: To examine the concurrent validity of the IPAQ-S compared with accelerometer-derived moderate-to-vigorous physical activity (MVPA) and sedentary time in PwPD.
Methods: In this cross-sectional study, 77 PwPD completed the IPAQ-S and wore an accelerometer for seven days. MVPA and sedentary time were calculated for both methods. Agreement was evaluated using Bland–Altman analysis; correlations were reported descriptively but not interpreted as measures of agreement.
Results: Participants reported 145.7 min/week of MVPA, whereas accelerometers recorded 364.0 min/week. Bland–Altman analysis showed a mean difference of –79.97 min/week with wide limits of agreement, indicating substantial individual variability. Accelerometer-derived sedentary time averaged 6214 min/week compared with 2975 min/week of self-reported sitting, with poor agreement. Correlations between methods were low and did not indicate meaningful concordance.
Conclusion: The IPAQ-S tended to underestimate MVPA and overestimate sedentary behavior relative to accelerometry, with substantial individual variability. These findings indicate that the IPAQ-S does not provide an accurate estimate of the behaviors captured by accelerometers in PwPD.
Implications: The IPAQ-S may be useful for ranking individuals by relative activity level but should not be used to quantify absolute MVPA or sedentary time in clinical decision-making.
Funding acknowledgements: This work was supported by The Swedish Neuro Foundation and the Rune and Ulla Amlöv Foundation for Neurological Research.

NEUROLOGY: SPINAL CORD INJURY

O0141
PERCEIVED EFFECTS OF AQUATIC PHYSIOTHERAPY IN SPINAL CORD INJURY: A QUALITATIVE STUDY OF PATIENTS AND HEALTHCARE PROFESSIONALS
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Background: Aquatic Physiotherapy (AP) is used in neurological rehabilitation; however, its application in spinal cord injury (SCI) remains limited due to clinical, organizational, and accessibility factors. In Spain, little is known about patients' and healthcare professionals' perceptions of the effects of AP in SCI rehabilitation. Understanding these perceptions may support implementation of this approach and contribute to rehabilitation strategies.
Purpose: The aim of this study was to explore patients' and healthcare professionals' perceptions of the physical effects of AP in SCI rehabilitation.
Methods: A qualitative study with a phenomenological approach was conducted at the National Hospital for Paraplegics in Toledo (Spain). Data were collected through semi-structured interviews with healthcare professionals and focus groups with patients with SCI. Interviews and discussions were audio-recorded, transcribed verbatim, and analyzed using thematic analysis supported by ATLAS. ti 8 software.
Results: Both professionals and patients perceived physical benefits associated with AP, including improvements in spasticity, balance, and muscle strength. Most effects described were linked to functional improvements, including mobility and gait. Some perceptions were shared by both groups, while others differed between groups; patients particularly emphasized relaxation, whereas professionals highlighted respiratory effects.
Conclusion: Findings suggest that both patients and healthcare professionals perceive relevant physical benefits of AP in SCI rehabilitation. The convergence of perceptions highlights its perceived therapeutic value and supports its role as a complementary intervention in SCI rehabilitation.
Implications: Strengthening training, resources and organizational support may facilitate the integration of aquatic physiotherapy into SCI rehabilitation programmes.
Funding acknowledgements: "Ayudas para la realización de proyectos de investigación, plan propio de investigación UCLM", co-financed by the European- Regional-Development-Fund (2022-GRIN-34428).

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O0143

IMPACT AND FEASIBILITY OF A GROUP-BASED THERAPEUTIC EXERCISE PROGRAM IN HOSPITALIZED PATIENTS WITH SPINAL CORD INJURY

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Background: Spinal cord injury (SCI) severely impairs mobility, strength, and aerobic capacity. Standard inpatient rehabilitation often lacks structured, group-based physical training.
Objective: To evaluate the effectiveness and feasibility of a 12-week group-based therapeutic exercise program on muscular strength, aerobic capacity, adherence, and satisfaction in hospitalized patients with SCI.
Methods: A quasi-experimental, single-group pre–post study was conducted at Miguel Servet University Hospital (Zaragoza, Spain) with 57 adults. Participants were stratified by trunk control for aerobic and strength training. Outcomes included muscular strength (MRC), aerobic capacity (6MWT/6MPT), adherence, satisfaction, and safety. Statistical analysis utilized regression models informed by Directed Acyclic Graphs (DAGs) and permutation-based robustness checks.
Results: Significant post-intervention improvements were observed in upper-limb strength (MD +3.7; 95% CI 2.5–4.9; d = 0.62) and functional endurance (MD +87.5 m; 95% CI 68–108; d = 0.55). Effects were most pronounced in AIS C injuries of infectious-vascular origin. Adherence and satisfaction were high, with no adverse events reported.
Conclusion: A stratified group-based program is feasible, safe, and associated with improvements in strength and endurance during inpatient SCI recovery.
Implications: Future randomized controlled trials should compare group-based protocols plus usual care versus individualized therapy, evaluating long-term cost-effectiveness.
Funding acknowledgements: None declared.

O0142

CHANGES IN BALANCE FOLLOWING AQUATIC PHYSIOTHERAPY IN INDIVIDUALS WITH INCOMPLETE SPINAL CORD INJURY

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Background: Following an incomplete spinal cord injury, impaired balance is a determinant for achieving functional ambulation. In early stages, aquatic physiotherapy (AP) may facilitate postural control training in a safe environment.
Purpose: To evaluate the effect of an AP program on static balance, assessed by the Berg Balance Scale (BBS) and posturography, in individuals with incomplete spinal cord injury of less than 6 months' duration.
Methods: A quasi-experimental study was conducted at the National Hospital for Paraplegics (Spain). Eleven participants (AIS C/D) with <6 months since injury completed an AP program (18 sessions over 6 weeks). Balance was assessed using BBS and static posturography (NedSVE/IBV) under Romberg conditions: eyes open (EO), eyes closed (EC), eyes open on foam (EOF), and eyes closed on foam (ECF). Outcomes included sway area, anteroposterior and mediolateral displacement, and maximum forces (three 30-second trials).
Results: Mean BBS increased by 6.27 (95% CI: 2.72–9.81). Improvements were most notable in EOF, with a mean reduction in sway area of 101.92 (95% CI: 17.63–169.21) and mediolateral displacement of 9.73 (95% CI: 3.35–16.12).
Conclusion: After 6 weeks of aquatic physiotherapy, improvements in postural control were observed under challenging somatosensory conditions (foam surface), suggesting a clinically relevant benefit in stability on unstable surfaces during the early stages of incomplete spinal cord injury.
Implications: Aquatic physiotherapy may be incorporated as an early adjunct intervention to train balance strategies in a safe environment, facilitating subsequent transfer to land-based contexts and potentially reducing instability on uneven surfaces.
Funding acknowledgements: This study was funded by the Regional Government of Castilla-La Mancha and co-funded by the European Regional Development Fund, SBPLY/19/180501/000250.

NEUROLOGY: STROKE

O0132

SITTING LESS, MOVING MORE: THE RISE INTERVENTION REBALANCED THE 24-HOUR MOVEMENT BEHAVIOUR AFTER STROKE

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Background: A healthy balance in 24-hour movement behavior is associated with a lower risk of major cardiovascular events or mortality (MACE). This study evaluated the effectiveness of the blended behavioral RISE intervention provided by primary care physiotherapists on changes in 24-hour movement behavior in community-dwelling people with first-ever stroke and a high-risk sedentary profile, compared with usual care.
Methods: In this randomized controlled trial, participants were randomly allocated to the experimental (RISE intervention + usual care) or control (usual care) group. The primary outcome was change in 24-hour movement behavior (short sedentary bouts <30 min, prolonged sedentary bouts ≥30 min, light physical activity (LPA), moderate-to-vigorous physical activity (MVPA), and sleep), measured with ActivPAL at baseline and four months post-randomization. Compositional Data Analysis and Multivariate Analysis of Variance were used.
Results: 106 participants were included (47 intervention; 59 control). A significant between-group effect was observed (Pillai's trace = 0.105, F (4,101) = 2.96, p = 0.023). Post-hoc analyses showed the experimental group significantly reduced sedentary time (short and prolonged bouts) relative to other 24-hour components compared with control (p = 0.001). Between-group differences favored the experimental group for prolonged sedentary time (-50.2 min/day [-84.6; -15.7]), LPA (40.0 min/day [5.9; 74.2]), and MVPA (8.8 min/day [1.5; 16.1]), with minimal differences for short sedentary bouts (4.1 min/day [-14.0; 22.2]) or sleep (-2.8 min/day [-38.7; 33.2]).
Conclusion: The RISE intervention improved 24-hour movement behavior in people with first-ever stroke, holding promise for secondary prevention of MACE.
Funding acknowledgements: Dutch Research Council (NWO), Nationaal Regieorgaan Praktijkgericht Onderzoek SIA (RAAK-PRO04.093) - Care Research Netherlands and Medical Sciences ZonMW (0930012310010).

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O0146

CONTENT VALIDATION OF THE SPANISH THERAPEUTIC ALLIANCE IN NEUROLOGICAL PHYSIOTHERAPY QUESTIONNAIRE (CAF-NP) FOR PEOPLE WITH STROKE

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Background: The therapeutic alliance between therapist and patient is a key relational factor potentially influencing adherence and outcomes in stroke rehabilitation. A simple assessment of this construct would allow for better decision- making and targeted intervention strategies.

Purpose: To develop a Spanish adaptation of the Therapeutic Alliance in Physiotherapy Questionnaire-Patients (CAF-P) for people with stroke and to evaluate its content validity.

Methods: After the adaptation of the questionnaire, a two-round online Delphi study involved a multidisciplinary panel of Spanish experts in stroke rehabilitation (physiotherapists, occupational therapists, neurologists). Experts rated item relevance on a 4-point Likert scale and provided qualitative feedback. The Content Validity Index for items (I-CVI) and scale (S-CVI) and internal consistency (Cronbach's α) were calculated. Secondly, a pilot study with people with subacute stroke evaluated the questionnaire's clarity and feasibility.

Results: 165 experts completed both Delphi rounds. After the first round, four items were reworded based on expert consensus (≥20% agreement). The final version demonstrated excellent content validity (I-CVI > 0.78; S-CVI = 0.96) and good internal consistency (α = 0.81). In the pilot study, all 12 participants found the questionnaire clear and easy to complete, without reporting fatigue. The CAF-NP was obtained.

Conclusion: The Spanish CAF-NP is a valid, comprehensible, and feasible tool for assessing therapeutic alliance from the perspective of people with subacute stroke in Spanish-speaking contexts.

Implications: This instrument provides clinicians and researchers with a brief, patient-reported measure to evaluate a key psychosocial factor. Its implementation may facilitate identification of relational factors that enhance engagement and optimize neurorehabilitation outcomes after stroke.

Funding acknowledgements: Project funded by the 5th Research Grant Call (2024) from the Official College of Physiotherapists of the Community of Madrid.

O0147

CONTENT VALIDATION OF ADHERENCE TO TREATMENT OF NEUROLOGICAL PHYSIOTHERAPY SCALE (ADT-NEUROPHYSIO) FOR SPANISH PEOPLE WITH STROKE

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Background: Low adherence to post-stroke rehabilitation programmes is a common issue that hinders functional recovery. Existing patient-reported outcome measures often overlook key aspects such as personal and contextual factors that may influence adherence.

Purpose: This study aimed to develop a Spanish adaptation of the Adherence to Treatment of Physiotherapy Scale (AdT- Physio) for people with stroke and to assess the content validity of the AdT-NeuroPhysio.

Methods: After the adaptation of the scale, a two-round Delphi study was conducted involving 165 Spanish experts in stroke rehabilitation, including physiotherapists, occupational therapists, and neurologists. Participants evaluated item relevance using a four-point Likert scale and provided qualitative comments. Item-level (I-CVI) and scale-level (S-CVI) content validity indices were calculated, along with Cronbach's α for internal consistency. A subsequent pilot test with 12 individuals with subacute stroke assessed comprehensibility and feasibility.

Results: Following two Delphi rounds, all items met the threshold for content validity (I-CVI > 0.78), with an excellent scale- level index (S-CVI = 0.90) and good internal consistency (α = 0.82). Based on expert feedback (≥20% agreement), two open- ended sections were added to capture environmental barriers and facilitators. In the pilot study, all participants rated the questionnaire as highly comprehensible and easy to complete.

Conclusion: The AdT-NeuroPhysio shows strong content validity, internal consistency, and comprehensibility, making it a valuable instrument for assessing adherence in stroke populations.

Implications: This tool enables clinicians and researchers to gain insight into the personal and environmental factors affecting adherence to neurorehabilitation. Its use supports the development of patient-centered interventions to improve engagement and optimize recovery after stroke.

Funding acknowledgements: Project funded by the 5th Research Grant Call (2024) from the Official College of Physiotherapists of the Community of Madrid.

O0130

DEVELOPING A POST-STROKE SHOULDER PAIN PREDICTION MODEL FOR THE ACUTE STROKE PHASE: A PROSPECTIVE OBSERVATIONAL STUDY.

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Background: Post-stroke shoulder Pain (PSSP) is a common medical complication in stroke survivors. The effectiveness of the treatment modalities was unclear, suggesting the development of early detection strategies to improve the therapeutic approach.

Objective: To identify clinical parameters associated with PSSP during the acute stroke phase and develop a risk assessment model.

Methods: A prospective observational study was conducted in one complete health area (4 hospitals, 4 specialty centers, 56 health centers, and 13 primary care centers). Study patients were followed up over one year. Socio-demographic data, previous shoulder clinical events, depression, and acute stroke parameters were collected. Multivariate logistic regression identified factors independently related to PSSP occurrence, and the receiver operating characteristic (ROC) curve evaluated the ability of this model to correctly discriminate PSSP.

Results: A total of 576 patients (age 73 ± 15, 52% male) with stroke were finally included. Shoulder muscular dysfunction and right hemisphere lesion (OR > 4) were the main risk parameters for PSSP onset over the acute stroke phase. Medical history of shoulder complex arthropathy (OR = 2.9) and presence of sensory impairment (OR = 2.4) were also identified as risk factors for PSSP onset. Increasing age was identified as a protective parameter (OR < 1) with regard to PSSP appearance. ROC curve analysis of the risk assessment model determined a predictive ability of 81% (AUC = 0.809).

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Conclusions: The prognostic model seems to be useful and transferable to clinical practice for estimating the risk of developing PSSP during the acute period.
Implications: This could allow patients to be stratified, initiating treatment directly or planning future therapeutic approaches.
Funding acknowledgements: None declared.

O0131
REJUVENATION OF STROKE AND THE POTENTIAL ROLE OF HIGH-INTENSITY INTERVAL TRAINING IN EARLY NEUROREHABILITATION
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Stroke is a cause of disability worldwide. In recent years, an increasing number of stroke cases have been observed in younger individuals, which changes the profile of patients undergoing rehabilitation. Younger patients often have better cardiorespiratory reserve and higher functional capacity, which may allow the application of more intensive rehabilitation strategies. The aim of this study was to analyze the potential role of high-intensity interval training (HIIT) in improving cardiorespiratory endurance and functional recovery in younger patients after stroke. A structured literature review was conducted to examine the use of HIIT in stroke rehabilitation. Databases including PubMed, Scopus, and Google Scholar were searched for publications from the last ten years using the keywords stroke, high- intensity interval training, and rehabilitation. Clinical studies and review articles examining the effects of exercise intensity on cardiorespiratory capacity and functional recovery were analyzed. The analyzed studies suggest that HIIT may improve cardiorespiratory fitness and functional capacity in selected stroke patients. Reported outcomes include improved aerobic capacity, increased walking distance in the six-minute walk test, and improved gait speed. Increased cardiorespiratory capacity may allow greater training volume and more repetitions during functional and gait training. The findings suggest that the trend toward younger stroke patients creates opportunities for the application of more intensive rehabilitation strategies. HIIT may improve cardiorespiratory endurance and training capacity, potentially supporting functional recovery. These findings highlight the importance of exercise intensity in physiotherapy practice. Future research is needed to determine optimal HIIT protocols and safe implementation strategies for different stroke populations.
Funding acknowledgements: None declared.

O0133
IMMEDIATE EFFECTS OF HAPTIC FEEDBACK ON POST-STROKE GAIT: A CASE REPORT
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Background: After stroke, many individuals experience hemiparesis that affects gait and balance. Within neurological physiotherapy, haptic feedback has emerged as a promising strategy to facilitate motor recovery and improve walking performance.
Purpose: To evaluate the immediate effect of a haptic feedback device on the gait pattern of a person living with stroke.
Methods: A case report was conducted with a male participant (80 years old), 11 days after an ischemic stroke. Spatiotemporal gait parameters (velocity, cadence, step length, step length differential, swing time, and base of support width) were assessed using the GAITRite system. The participant performed four walking trials: two without the haptic feedback system and two with it (with a short rest period between trials). The haptic feedback device used was the Walking Aid ReMoD V5.0, a vest that provides electrical stimulation when the trunk tilts toward the affected side, offering postural feedback. Mean differences and percentage of improvement between the conditions (without and with haptic feedback) were compared.
Results: Most assessed variables improved during the haptic feedback condition. Gait velocity, swing time, and step length of both lower limbs increased. Step length differential and base of support width decreased. Cadence showed minimal change.
Conclusion: Despite the limitations of a case report, in this patient the haptic feedback device appeared safe and produced immediate improvements in several spatiotemporal gait parameters.
Implications: Haptic feedback may be a promising tool for gait recovery in people living with stroke. Further studies with larger samples and more robust designs (e.g., crossover trials) are needed.
Funding acknowledgements: Cofinanciado por UE - Ministerio de Hacienda y Función Pública - Fondos Europeos - Junta de Andalucía – Consejería de Universidad, Investigación e Innovación.

O0129
EARLY POSTURAL CONTROL AS A PREDICTOR OF INDEPENDENT WALKING AFTER STROKE: A PROSPECTIVE LONGITUDINAL STUDY
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Early prognosis and goal setting are central to stroke rehabilitation. Independent walking is a key functional outcome influencing rehabilitation planning and discharge decisions. Identifying early predictors of gait recovery can support clinical decision-making and optimize rehabilitation strategies. This study aimed to evaluate whether early postural control, assessed using the Postural Assessment Stroke Scale (PASS) and Trunk Control Test (TCT) at 5 days post-stroke, predicts independent walking at 3 months. A secondary objective was to determine optimal cut-off values for predicting independent gait. A prospective longitudinal observational study included 42 post-stroke patients who completed a three-month follow-up. Demographic and clinical data, as well as PASS and TCT scores, were collected on day five. Patients were classified as independent walkers (Functional Ambulation Categories ≥4) or dependent walkers (<4). Logistic regression identified predictors of independent walking, and ROC curve analysis assessed predictive accuracy and determined optimal cut-off values at three months; 64.3% of patients achieved independent gait. PASS at day five was the only significant predictor (OR = 0.903; 95% CI: 0.832–0.982). ROC analysis showed an AUC of 0.746. The optimal PASS cut-off was 13.5, with 81.5% sensitivity and 33.3% specificity. Early postural control assessed with PASS is a significant predictor of independent walking; each additional PASS point increases the odds of independent gait by nearly 10%, providing actionable guidance for clinicians. PASS offers a simple, evidence-based tool to help physiotherapists identify patients with high potential for gait recovery, set individualized rehabilitation goals, and support informed discharge planning.
Funding acknowledgements: None declared.

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O0148

FEASIBILITY OF ROBUST: A SENSORIMOTOR UPPER LIMB THERAPY COMBINING ROBOTIC, THERAPIST-LED, AND HOME EXERCISES IN CHRONIC STROKE

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Background: Sensorimotor upper limb function is essential for functionality, yet somatosensory integration is often overlooked in motor rehabilitation post-stroke.
Purpose: The aim of this study was to investigate the feasibility and potential effects of an integrated sensorimotor therapy.
Methods: Individuals with chronic stroke and persistent sensorimotor and functional upper limb deficits were included. For four weeks, participants received standard care (control period), followed by a total of 48 hours of integrated sensorimotor upper limb therapy (ROBUST) over four weeks in addition to their standard care (= intervention period). ROBUST combined robotic, therapist-led, and home exercises. Feasibility was assessed through adherence, motivation, experiences, and adverse events. Potential effects of the intervention were evaluated via multi-modal assessments at baseline (T1), pre-intervention (T2, after control period), and post-intervention (T3), with the Action Research Arm Test (ARAT) as the primary outcome.
Results: Ten participants were included in this study, of whom nine completed the protocol. Therapy session adherence was 100%, and home program adherence was 67%. Motivation remained stable over the intervention period; participants were positive, and no adverse events occurred. Six participants (67%) improved more than the minimal clinically important difference for ARAT, with further relevant improvements in clinical, kinematic, and patient-reported outcomes observed.
Conclusion: ROBUST is feasible and shows promising potential for people after stroke in the chronic stage. A randomized controlled trial is warranted.
Implications: The novel approach of combining robotic, therapist-led, and home-based sensorimotor upper limb exercises may enable more intensive and integrated rehabilitation in chronic stroke.
Funding acknowledgements: Internal C2 and C+ funding of KU Leuven (C2M/23/060; CPLUS/24/012); China Scholarship Council; FWO PhD fellowship (1162826N).

O0144

DEVELOPMENT OF THE UNIFIED TRUNK ASSESSMENT SCALE: A RASCH ANALYSIS STUDY

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Background: Assessment of trunk control (TC) is crucial for planning treatments and monitoring outcomes in patients with acquired brain injury (ABI) and stroke. Several scales are designed to assess TC, but they are ordinal scales and cannot be considered measurement instruments.
Purpose: To develop a new measuring tool for TC in patients with ABI and stroke by merging existing TC scales using Rasch analysis (RA).
Methods: 304 subjects admitted to a neurorehabilitation unit were included. After a first RA, 22 items from the Berg Balance Scale, Fugl-Meyer Assessment, Motor Assessment Scale, Rivermead Motor Assessment, Scale for Contraversive Pushing, Trunk Control Test, Fujiwara's Trunk Impairment Scale, and Verheyden's Trunk Impairment Scale were selected to develop the preliminary version of the Unified Trunk Assessment Scale (UTAS). UTAS was administered prospectively, and its psychometric properties (internal construct validity, reliability) were assessed with RA.
Results: Base RA showed that the UTAS did not fit the model, violating measurement requirements. After rescoring seven items, deleting three misfitting items, and creating four subtests to account for the local dependence, the final RA reported an adequate fit to the model and the satisfaction of model requirements (monotonicity, local independence, one-dimensionality, group invariance), with reliability at the individual level.
Conclusion: The UTAS final version, composed of 19 items (total score: 0-36 points), derived from different TC scales and demonstrated strong psychometric properties.
Implications: UTAS can be used to accurately assess the TC in subjects with ABI and stroke admitted to a neurorehabilitation unit.
Funding acknowledgements: None declared.

O0149

INFLUENCE OF POSTURAL TONE MODULATION ON INTERLIMB COUPLING DURING GAIT: A CASE STUDY AFTER STROKE

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Background: Postural tone, the activity of antigravity muscles necessary to overcome gravity, is essential for voluntary movement and environmental interaction. It results from coordinated activation of flexor and extensor muscles, modulated by vestibular and reticulospinal pathways during gait4-6. During double support, proprioceptive and cutaneous input from the foot contributes to tone modulation via the reticular formation. Central nervous system lesions, such as posterior cerebral artery (PCA) stroke, can impair sensory integration and disrupt postural tone modulation, affecting gait and functional mobility.
Purpose: This case study tested whether manipulation of predominantly proprioceptive input from the foot could influence distal lower limb postural orientation during gait.
Methods: A 58-year-old female PCA stroke survivor, with difficulties walking on irregular surfaces, participated. Gait and sit- to-stand performance were analyzed using Kinovea software, and functional mobility was assessed with the Timed Up and Go (TUG) test. She underwent a six-week intervention focused on manipulation of foot afferent information.
Results: After intervention, dorsiflexion of foot and leg segments increased by 16.3° at initial contact and 10.6° during loading response. TUG performance improved, with a 5-second reduction in completion time.
Conclusion: Manipulation of foot afferent information promoted dorsiflexion of distal lower limb segments during initial contact and loading response, likely through postural tone modulation.
Implications: These findings suggest that targeted manipulation of foot proprioceptive input may improve gait mechanics, reduce fall risk, increase walking speed, and enhance participation in daily activities in PCA stroke survivors with impaired distal postural tone modulation.
Funding acknowledgements: Funded by Fundação para a Ciência e Tecnologia R&D Units funding (UID/5210/2025) (https://doi.org/10.54499/UID/05210/2025).

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NON-COMMUNICABLE DISEASES (NCDS) AND RISK FACTORS

O0125

WAR AS AN ACCELERATOR OF EARLY-ONSET TYPE 2 DIABETES: A STRUCTURAL EQUATION MODELING ANALYSIS OF BIOPSYCHOSOCIAL PATHWAY IN LEBANON

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Background: Beyond genetic predisposition, the early emergence of type 2 diabetes mellitus (T2DM) is linked to psychosocial determinants in crisis contexts. Lebanon serves as a case study to examine how war-related stress, anxiety, internal forced displacement, and economic deprivation induce chronic physiological alterations. This study investigates the structural pathways linking conflict exposure to early glycemic dysregulation, particularly in young Lebanese women.
Methods: This cross-sectional study included 277 displaced individuals in Lebanon. Structural equation modeling (SEM) was employed to map causal pathways by which war-related post-traumatic stress disorder (PTSD) and anxiety elevate cortisol and inflammatory markers (C-reactive protein [CRP], serum amyloid A [SAA]). Validated scales (PCL-5 for PTSD, GAD-7 for anxiety) were administered, alongside biochemical assays measuring cortisol, CRP, SAA, insulin resistance (HOMA-IR), and glycated hemoglobin (HbA1c). Sociodemographic variables and healthcare access timelines were also recorded.
Results: SEM analysis revealed that PTSD and anxiety disrupt cortisol circadian rhythms and elevate low-grade systemic inflammation, directly contributing to insulin resistance (HOMA-IR), the primary driver of elevated HbA1c. Female gender, obesity, genetic predisposition, and delayed healthcare access exacerbated this cascade, leading to early T2DM onset, particularly in young women (mean age: 37.2 ± 5.6 years). The models highlighted anxiety as a central predictor (previously understudied).
Conclusion: War, internal forced displacement, and economic deprivation accelerate T2DM, with PTSD and anxiety triggering hormonal and inflammatory responses that induce insulin resistance. Sociodemographic and environmental factors further compound vulnerability. These findings underscore the urgent need for integrated mental and metabolic health interventions in conflict- affected populations.
Funding acknowledgements: None declared.

OLDER PEOPLE

O0011

MALNUTRITION-SARCOPENIA SYNDROME AFFECTS FUNCTIONAL RECOVERY IN GERIATRIC ORTHOPAEDIC REHABILITATION: A PROSPECTIVE COHORT RESEARCH

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Background: Malnutrition and sarcopenia frequently coexist in older adults, yet the clinical implications of their co- occurrence as Malnutrition-Sarcopenia Syndrome (MSS) remain insufficiently characterized in geriatric rehabilitation.
Purpose: To determine the prevalence of malnutrition, sarcopenia, and MSS in subacute orthopedic geriatric rehabilitation, and compare functional recovery across diagnostic groups.
Methods: A prospective cohort study enrolled 60 older adults (mean age 79.0 ± 7.3 years; 70% women) admitted to a subacute orthopedic geriatric rehabilitation unit. Malnutrition was diagnosed using GLIM criteria; sarcopenia was defined by EWGSOP2 and SDOC thresholds. Motor FIM efficiency was the primary outcome; non-parametric tests were applied ($p < 0.05$).
Results: Malnutrition prevalence was 43%; sarcopenia prevalence was 10% (EWGSOP2) and 30% (SDOC). MSS prevalence ranged from 8.3% (GLIM+EWGSOP2) to 28.3% (GLIM+SDOC); among those meeting sarcopenia criteria, concurrent malnutrition was present in 83–94%. Motor FIM improved significantly across the cohort (36.9 ± 7.1 to 67.5 ± 12.0; $p < 0.001$). Reduced Motor FIM efficiency was observed in the GLIM+SDOC-defined MSS group versus single-condition and non-MSS groups (1.06 ± 0.40 vs. 1.42 ± 0.36 vs. 1.50 ± 0.55; $p < 0.01$).
Conclusion: MSS is highly prevalent in subacute geriatric orthopedic rehabilitation, with estimates strongly dependent on the diagnostic thresholds applied. Functional recovery differences emerged only with the more inclusive SDOC criteria, highlighting the need for standardized MSS definitions in rehabilitation research.
Implications: These findings support routine nutritional and muscle function screening in geriatric rehabilitation. Early MSS identification should prompt coordinated interdisciplinary intervention combining nutritional support and targeted exercise. Standardized diagnostic criteria are essential for informing clinical management, rehabilitation education, and health policy.
Funding acknowledgements: None declared.

O0012

REACTIVA PROJECT: USABILITY OF A TELEREHABILITATION PLATFORM IN OLDER ADULTS WITH SARCOPENIA

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Background: Sarcopenia increases the risk of falls, disability, and mortality, representing a major public health concern. Strength training programs are essential to preserve muscle function and autonomy. The application of telerehabilitation in older adults with sarcopenia remains underexplored.
Objective: To evaluate the feasibility of a muscle strength training program delivered through a telerehabilitation platform (ReHub) in older adults with sarcopenia.
Design: Prospective observational study.
Methods: Participants were adults aged ≥65 years diagnosed with sarcopenia according to the revised criteria of the European Working Group on Sarcopenia in Older People (EWGSOP2). The intervention consisted of an individualized muscle strength training program delivered through the ReHub platform (minimum four sessions per week for eight weeks). Feasibility variables included adherence, exercises per session, mean compliance (ratio of completed to scheduled sessions), and satisfaction, including professional follow-up, usability, perceived benefit, safety, and likelihood of recommendation.
Results: Thirty-seven patients were included (mean age 75.5 years; 54% male), with eight dropouts. Mean session compliance was 74% (average 3.8 sessions per week). The mean number of exercises performed per patient was 7.2 (8–10 prescribed). All participants completed the satisfaction questionnaire, evaluating professional follow-up, usability, perceived benefit, safety, and recommendation. Mean overall satisfaction was 4.8/5.0.

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Conclusion: A telerehabilitation-based strength training program for older adults with sarcopenia was feasible, with good adherence and high satisfaction.
Implications: Telerehabilitation may provide a promising strategy to increase access to structured exercise programs for older adults with sarcopenia. Larger studies including clinical outcome measures are warranted to determine its therapeutic impact.
Funding acknowledgements: This work was supported by the RETECH programme (PRTR), funded by NextGenerationEU and supported by the Generalitat de Catalunya.

O0014
LIFE-SPACE MOBILITY AND OUTDOOR FALLS AMONG OLDER ADULTS IN ARCTIC REGIONS: A CROSS-SECTIONAL SURVEY
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Background: Falls are a major health risk for older adults, especially in Arctic regions where environmental conditions may limit mobility and increase fall risk. Life-space mobility (LSM) reflects functional, environmental, and social factors affecting daily life and can be used to assess current and future mobility in older adults.
Purpose: To examine the association between LSM and outdoor falls among community-dwelling adults aged ≥70 years living in Arctic regions.
Methods: A cross-sectional survey was mailed to older adults in Iceland (n = 400) and northern Finland and Sweden (n = 800 each). LSM was assessed using the Life-Space Assessment–University of Alabama at Birmingham (LSA-UAB; range 0–120, higher scores indicating better LSM). Participants reported outdoor falls in the previous 6 months. Group differences were examined using independent-samples t-tests; multivariable linear regression was used to assess the association between outdoor falls and LSM while adjusting for confounders.
Results: Response rate was 41%, with mean age 77.7 years (±5.9). Overall, 24% reported an outdoor fall in the previous 6 months. The mean LSA-UAB score was 79.9 (±27.4). Participants with falls had a lower LSA-UAB score than those without falls ($p = 0.037$). This association was not significant after adjustment for age, self-rated health, and gender. Older age and poorer self-rated health were strongly associated with lower LSM.
Conclusion: Lower LSM among those reporting outdoor falls seems largely explained by age and self-rated health, not fall status alone.
Implications: Fall prevention strategies for outdoor environments in northern climates should consider broader health and mobility factors.
Funding acknowledgements: Nordic Council of Ministers' Nordic Arctic Programme, administered by NAPA Nordic Institute in Greenland.

O0009
THE EFFECT OF DIFFERENT ATTENTIONAL FOCUS TRAINING ON PHYSICAL PERFORMANCE AND COGNITIVE FUNCTION IN OLDER ADULTS: RCT
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Background: The rapidly growing aging population challenges maintenance of physical and cognitive function in older adults, while the role of attentional focus strategies remains underexplored.
Purpose: This study aimed to examine the effects of different attentional focus training strategies on physical performance and cognitive function in older adults.
Methods: A prospective randomized controlled trial with a pretest–posttest design was conducted with 50 participants (≥65years), randomly assigned to internal focus, external focus, attention-free, or control groups. The intervention groups trained for 12 weeks, twice weekly, focusing on balance, mobility, and walking exercises, using either internal focus, external focus, or without specific attentional instructions. Physical performance was assessed using the One-Leg Stand Test, Berg Balance Test, Short Physical Performance Battery, Stair Climbing, Timed Up and Go, and Kinect V2gait analysis. Cognitive function was evaluated using the CNS Vital Signs neurocognitive battery. Data were analyzed using appropriate parametric and non-parametric tests.
Results: Intervention groups demonstrated improvements in physical performance, whereas the control group showed stability or decline. External focus training achieved the greatest gains($p<0.05$). Cognitive functions were largely maintained across intervention groups, while some decline was observed in the control group. Minor, non-significant improvements were noted in the external focus group($p > 0.05$).
Conclusion: Intervention groups, especially the external focus group, showed improved physical performance in older adults. Cognitive functions in the external focus group showed non-significant positive trends, while the control group experienced significant decline, suggesting a potential protective effect.
Implications: Integrating attentional focus strategies, particularly external focus, into physiotherapy programs may enhance physical function and help maintain cognitive performance in older adults.
Funding acknowledgements: This study was supported by the İnönü University Scientific Research Projects Coordination Unit under the project number TDK-2025-3820.

O0007
NEURAL CORRELATES OF HANDGRIP STRENGTH ASYMMETRY IN NORMAL AGING AND OLDER ADULTS WITH MILD COGNITIVE IMPAIRMENT
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Background: Handgrip strength asymmetry (HGS-A) has emerged as a potential non-invasive biomarker reflecting cognitive and neural vulnerability in older adults, yet the neural mechanisms linking asymmetry with cognitive decline remain incompletely characterized. This study aimed to determine the relationships between HGS-A, cognitive function, and regional cortical thickness in healthy older adults and individuals with mild cognitive impairment (MCI).
Methods: Sixty-eight community-dwelling adults aged 60–85 (42 cognitively healthy, 26 MCI) underwent bilateral handgrip strength assessment using a Jamar dynamometer. Cognitive evaluations included global cognition (MoCA) and domain-specific functions (ANAM4 battery). Structural MRI was performed, and cortical thickness was quantified from T1-weighted images within regions affected in MCI and Alzheimer's disease. Associations between HGS-A, cognitive performance, and cortical thickness were examined using partial correlation analyses adjusted for age and sex.
Results: In cognitively healthy participants, greater handgrip strength asymmetry within normal limits (<15%) significantly correlated with higher global cognitive scores (MoCA; $r = 0.32$, $p = 0.043$) and increased cortical thickness in the left postcentral gyrus ($r = 0.52$, $p < 0.001$; FDR-corrected). Conversely, these relationships were absent in participants with MCI and in those exhibiting high asymmetry levels (≥15%). Domain-specific cognitive tasks showed no significant associations with HGS-A in either group. Exploratory analyses suggested an inverted U-shaped relationship, where both minimal and excessive asymmetry reflect worse cognitive function.

Conclusion: Handgrip strength asymmetry within normal limits (<15%) is linked to better cognition and cortical integrity, whereas both minimal and excessive asymmetry may reflect reduced cognitive function in older adults.
Funding acknowledgements: This work was supported by the Research Council of Lithuania (grant number S-MIP-22–12).

O0016
DEVELOPMENT, VALIDATION AND EVALUATION OF THE FEASIBILITY OF OBSERVATIONAL RISK ASSESSMENT FOR CONTRACTURES: THE ORACLE STUDY
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Background: Joint contractures are a prevalent, debilitating consequence of prolonged immobility in care home residents. Despite high prevalence, no standard evidence-based tool exists to assess contracture risk and guide early intervention.
Purpose: This project aimed to develop and validate ORACLE (Observational Risk Assessment of Contractures: Longitudinal Evaluation), a tool to help care staff identify residents at risk and implement timely preventive measures.
Methods: A multi-phase, sequential mixed-methods design was used, comprising (1) content validation and (2) external validation. Phase one included a systematic review, Delphi survey, and quality improvement study to develop an educational video. Phase two involved psychometric testing and qualitative interviews with care staff to assess usability and implementation.
Results: The systematic review (n = 47) identified risk factors across sociodemographic, physical, and bed-confinement domains. Delphi consensus (70–100%) informed clinical, preventive, and contextual factors in ORACLE. The educational intervention improved care staff knowledge. Psychometric testing showed high inter- and intra-rater reliability and good convergent validity with the Barthel Index. Qualitative interviews highlighted usability, acceptability, and organizational factors affecting implementation.
Conclusion: ORACLE is a reliable, valid, practical tool for assessing contracture risk in care home residents, with potential to enhance preventive care. Successful adoption requires organizational support, ongoing staff training, and integration into routine practice.
Implications: This project has important implications for physiotherapy practice, supporting early risk identification and proactive contracture prevention in care homes. Findings also inform staff education and service delivery. Future research should focus on large-scale implementation, evaluation of outcomes, and integration into policy and care standards.
Funding acknowledgements: This Project was funded by Bournemouth University and Dorset Healthcare University Foundation Trust through a match- funded PhD studentship.

MISCELLANEA

O0023
EARLY POST-COVID-19 SYMPTOMS AND THEIR IMPACT ON QUALITY OF LIFE: IMPLICATIONS FOR PHYSIOTHERAPY ASSESSMENT
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Background: The post-COVID-19 condition presents with persistent, multisystem symptoms that may compromise early functional recovery after hospitalization. Although longer-term outcomes have been reported, limited evidence describes symptom burden and its association with health-related quality of life (HRQoL) during the immediate post-discharge phase.
Purpose: To identify common post-COVID-19 symptoms two to three weeks after hospital discharge and examine their association with HRQoL.
Methods: A cross-sectional study included 39 previously hospitalized adults assessed 2–3 weeks after discharge at a tertiary rehabilitation setting. Post-COVID-19 symptoms were recorded according to the WHO Delphi consensus definition. HRQoL was measured using the EuroQol-5D-5L (EQ-5D-5L). Pearson correlation analysis explored associations between symptoms and EQ-5D-5L domains. Stepwise multiple regression identified predictors of EQ-5D-5L index values and Visual Analogue Scale (VAS) scores.
Results: Excessive tiredness (84.6%) and dyspnea (64.1%) were the most prevalent symptoms. The EQ-5D-5L usual activities domain correlated with excessive tiredness ($r = -0.36$), dizziness ($r = -0.34$), and anxiety/depression ($r = -0.36$). Regression analysis showed that dizziness and joint pain significantly predicted EQ-5D-5L index values ($F(2,36) = 10.73$, $p < 0.001$; $R^2 = 61.1\%$).
Conclusion: Excessive tiredness and dyspnea remain common symptoms two to three weeks after hospital discharge. Dizziness and joint pain appear to be important predictors of reduced HRQoL during early recovery.
Implications: Early identification of symptoms affecting HRQoL is essential for guiding rehabilitation strategies. Comprehensive physiotherapy assessment after hospital discharge and multidimensional rehabilitation pathways may improve recovery and help prevent prolonged disability in post-COVID-19 populations.
Funding acknowledgements: This research was funded by the Ministry of Education, Science, Technology and Innovation of Kosovo (Grant No. 2-814-7).

ONCOLOGY, HIV AND PALLIATIVE CARE

O0173
CLINICAL SPECIALIST MACMILLAN PHYSIOTHERAPIST- A REVIEW AT 1 YEAR
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Background: Cancer rates continue to rise internationally, with functional decline a significant side effect of the disease. Physiotherapy intervention has demonstrated strong benefits in mitigating cancer-related impairments; however, access to cancer rehabilitation remains inconsistent across the UK. James Paget University Hospital (JPUH) introduced a Clinical Specialist Cancer Physiotherapist role through Macmillan funding to address unmet Physiotherapy needs across its hematology–oncology pathways.
Objective: To evaluate the introduction of a Clinical Specialist Cancer Physiotherapist within acute and outpatient oncology services at JPUH.
Methods: A mixed-methods service evaluation compared pre-pilot (2023–2024) and pilot (August 2024–July 2025) data. Quantitative measures included ward-based intervention volume, referral appropriateness, time to physiotherapy review, length of stay (LOS), outpatient MYMOP scores, and three-month unplanned admission rates. Qualitative data included multidisciplinary team (MDT) feedback and anonymized patient comments. Ethical approval was not required as this constituted a service evaluation.
Results: Inpatient physiotherapy activity increased by 108%, with a 134% rise in interventions delivered. Inappropriate referrals decreased from 49% to 2.9%. LOS improved by 0.9 days, outperforming the trust-wide change of 0.1 days. Time from referral to

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review improved from 3.25 days to 0.27 days. Outpatient MYMOP scores improved from 5.18 to 1.37, and unplanned admission rates were 2.5%. Annual savings were estimated at £322,789.
Conclusion: The introduction of a Clinical Specialist Cancer Physiotherapist delivered significant clinical, functional, operational, and economic benefits. Findings align with international evidence supporting early, specialist-led rehabilitation throughout cancer care.
Funding acknowledgements: Macmillan funded the post itself.

O0176

PERCUTANEOUS ELECTRICAL NERVE STIMULATION AS A NON- PHARMACOLOGICAL STRATEGY IN OXALIPLATIN-INDUCED NEUROPATHY

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Introduction: Chemotherapy-induced peripheral neuropathy (CIPN) is a common adverse effect of oxaliplatin-based treatment, significantly reducing quality of life and compromising continuity of oncological therapy.
Purpose: To evaluate the effectiveness of ultrasound-guided PENS in improving quality of life and sensory function in patients with CIPN. Secondary objectives included assessing changes in neurotoxicity grade and cumulative oxaliplatin dose.
Methods: An RCT was conducted with 20 patients with colon cancer undergoing oxaliplatin treatment. Participants were allocated either to an experimental group receiving PENS or to a control group receiving sham stimulation. The intervention consisted of weekly 30-minute stimulation sessions for 12 weeks. Outcomes included quality of life (EORTC QLQ-CIPN20), quantitative sensory testing, neurotoxicity grade (NCI-CTCAE), and cumulative oxaliplatin dose.
Results: After 12 weeks, the experimental group showed significant improvements compared with controls in quality of life (+10.7%; $p = 0.002$), mechanical detection threshold (+0.8 points; $p = 0.013$), vibration threshold (+2.0 points; $p = 0.036$), and warm detection threshold (+1.4 points; $p = 0.031$). Neurotoxicity grade decreased in the experimental group but increased in controls (between-group difference –0.7 points; $p = 0.002$). The cumulative oxaliplatin dose remained stable in the experimental group but was significantly reduced in controls (–21.6%; $p < 0.001$).
Conclusions: PENS helped maintain quality of life and sensory function, preventing the deterioration observed in the control group and supporting the continuation of chemotherapy dosing.
Implications: PENS could represent a promising physiotherapy-based strategy for managing CIPN, offering a minimally invasive approach to improve functional outcomes.
Funding acknowledgements: This project was funded through the 5th Call for Research Grants awarded by the Professional Association of Physiotherapists of Madrid.

O0172

ESTABLISHING CORE COMPETENCIES FOR ENTRY-LEVEL CANCER PHYSIOTHERAPY IN EUROPE: A MODIFIED DELPHI STUDY

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Background: A standardized approach to entry-level cancer education in physiotherapy across Europe is needed to meet the increasing demand for survivorship care.
Purpose: The aim of the study was to establish entry-level cancer competencies for physiotherapy courses in European higher education institutions (HEI).
Methods: A modified, two-round online Delphi survey was delivered to a Europe-wide panel of expert oncology physiotherapists (≥5 years in oncology physiotherapy). Consensus was defined as at least 75% of panelists selecting “agree” or “strongly agree.” A steering committee reviewed and approved the study concept and reports.
Results: Panelists (n = 89) represented 23 European countries, had over 11 years of experience in oncology physiotherapy (57%, n = 51), and worked in public settings, acute hospitals, or academia/research. Sixteen competencies achieved final consensus. The competencies were categorized within 5 domains: 1) foundational knowledge of tumor pathology, staging, grading, and cancer treatments, 2) assessment skills including taking comprehensive histories, identifying emergencies, and evaluating fitness and treatment side effects, 3) prescribing interventions including safe, phase-specific exercise, 4) recognition of the multidisciplinary team in oncology, 5) ability to provide and identify the need for compassionate care and psychosocial support.
Conclusion: This modified Delphi study generated a consensus-based set of entry-level oncology competencies for HEI’s across Europe, addressing a previously underdefined area of professional development.
Implications: By defining a clear, consensus-driven framework of oncology competencies for physiotherapists, European HEI’s can more effectively prepare the workforce to provide safe, high-quality, and well-coordinated care for individuals living with and beyond cancer.
Funding acknowledgements: None declared.

O0177

IMMEDIATE EFFECTS OF DIAPHRAGMATIC BREATHING COMBINED WITH GUIDED IMAGERY ON HEART RATE VARIABILITY IN ADULTS WITH MULTIPLE MYELOMA

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Background: Multiple myeloma (MM) is a hematological malignancy associated with high morbidity and impaired quality of life. Autonomic dysfunction is common in people with cancer and may be reflected in reduced heart rate variability (HRV), which has been associated with poorer prognosis.
Objective: To evaluate the immediate effects of a supervised session of diaphragmatic breathing combined with guided imagery on HRV parameters in people with MM.

Methods: A randomized controlled trial with assessor blinding was conducted. Sixteen participants with MM were allocated to: (1) an experimental group, which received a supervised session of diaphragmatic breathing combined with guided imagery; and (2) a control group, which remained in a wait-and-see condition for the same period. Before and after the intervention, HRV parameters (SDNN, RMSSD, HF), heart rate (HR), and respiratory rate (RR) were assessed.
Results: Compared with the control group, the experimental group showed significant increases in HRV parameters. Significant time × group interactions were observed for SDNN ($p = 0.011$), RMSSD ($p = 0.003$), HF ($p = 0.048$), and RR ($p = 0.038$). No significant differences were found for HR. Effect sizes ranged from moderate to large.
Conclusion: A supervised session of diaphragmatic breathing combined with guided imagery produced favorable immediate changes in HRV parameters in people with MM. These findings are consistent with increased parasympathetic/vagal modulation. Studies with larger samples and longitudinal follow-up are needed to confirm its clinical relevance.
Implications: Physiotherapy interventions based on breathing control may represent a simple, non-pharmacological strategy to support autonomic regulation in people with MM.
Funding acknowledgements: None declared.

PAEDIATRICS

O0166
EFFECTS OF HAVING A BALCONY/GARDEN AT HOME ON MOTOR DEVELOPMENT IN INFANTS

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Purpose: To compare the motor development of infants growing up in homes with a garden and those growing up in homes without a garden or balcony.
Methods: The study included infants aged 6–12 months (n = 23) and 12-18 months (n = 22) living in homes with a garden and infants living in homes without a garden or balcony. Infants' motor development was assessed using the Alberta Infant Motor Scale (AIMS).
Results: The results showed that the AIMS prone position scores of infants aged 6–12 months were significantly higher in those living in homes with a garden (19.9 ± 2.43) compared to those living in homes without a garden or balcony (17 ± 6.06) ($p < 0.001$). For infants aged 12–18 months, the AIMS standing scores were significantly higher in infants living in homes with a garden (15.55 ± 0.93) compared to those living in homes without a garden and balcony (13.18 ± 3.06) ($p < 0.001$). The total AIMS scores were also significantly higher in infants living in homes with a garden (57.55 ± 0.93) compared to those living in homes without (55.18 ± 3.06) ($p < 0.001$).
Conclusion: These findings suggest that the presence of a garden in the home environment may have a positive effect on infants' motor development.
Implications: The home environment is generally considered a non-modifiable environmental factor. Determining whether and to what extent such factors influence infant development is important for informing families and for guiding educational programs focusing on modifiable environmental factors.
Funding acknowledgements: None declared.

O0003
FROM PRACTICE TO HUMANITARIAN CARE: HUNGARIAN PHYSIOTHERAPISTS' MISSION IN UKRAINE

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Background: Children in conflict-affected and socioeconomically disadvantaged regions often have limited access to preventive and rehabilitative healthcare. As a result, motor developmental delays, postural deviations, functional and cardiac impairments may remain undetected, increasing the risk of long-term disability. Physiotherapists play an important role in early identification and prevention, particularly in humanitarian settings with limited resources.
Purpose: This project aimed to evaluate the outcomes of physiotherapist-led pediatric screening during humanitarian medical missions organized by Hungarian Catholic Caritas. It also aimed to assess the feasibility of integrating screening, caregiver education, and basic assistive provision into low-resource cross-border healthcare.
Methods: Fifteen volunteer physiotherapists conducted screenings during multi-day humanitarian missions between November 2024 and December 2025 in Transcarpathia, Ukraine. A total of 618 children (317 girls, 301 boys; aged 1 month–20 years, majority 7–11 years) underwent clinical observation, age-appropriate motor assessments, and functional testing. Data were collected anonymously and analyzed descriptively. Advice, caregiver education, and referrals were provided when needed.
Results: Among the 618 children screened, 288 presented with musculoskeletal conditions, including scoliosis, poor posture, flatfoot, reduced foot arch, ankle instability, or severe disability. Individualized physiotherapy advice and home-based exercise programs were provided, and 144 children received foot orthoses.
Conclusion: Physiotherapist-led pediatric screening within humanitarian medical missions is a feasible and effective strategy for early detection of musculoskeletal and developmental problems in populations with limited healthcare access.
Implications: This low-resource screening model strengthens the preventive and community-based role of physiotherapists and may be transferable to other conflict-affected regions.
Funding acknowledgements: None declared.

O0167
MOTOR DEVELOPMENT THROUGH PHYSIOTHERAPY FOR CHILDREN LIVING IN INSTITUTIONAL CHILD-PROTECTION CARE PILOT STUDY

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Background: Motor development during the first three years of life is critically important for psychomotor abilities. Children raised in institutional care are at increased risk of developmental delay due to early deprivation.
Purpose: The aim of this study was to assess and monitor the development of children under two years of age raised in child- protection care.
Methods: Gross motor development of ten children (n = 10, mean age = 18.9 ± 5.6 months) from an institutional child-care setting was screened using the Sewall Early Educational Development Scale (SEED). Of the ten participants, the five with the lowest SEED scores took part in physiotherapy. They received individual physiotherapy sessions of 30–45 minutes per week for 4 months. The assessment-based individualized intervention focused on vertical trunk

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stabilization, muscle strengthening of the lower extremities, and balance exercises aimed at quality independent walking.
Results: The median SEED score of the ten screened children was 5.3. Following the intervention, SEED scores decreased in all included participants (N = 5). The median score decreased from 7.0 at baseline to 3.0 post-intervention, representing a 57% reduction (min. 14.9% – max. 78.6%) in developmental delay. The change was statistically significant according to the Wilcoxon matched-pairs signed-rank test (p = 0.043).
Conclusion: The findings from this small pilot sample suggest that individualized physiotherapy may support motor development in infants living in institutional care. Further studies with larger samples are needed to confirm these preliminary observations.
Implications: These findings highlight the potential importance of early screening and targeted physiotherapy in infants living in institutional care.
Funding acknowledgements: None declared.

O0168
THE RELATIONSHIP BETWEEN CHILDHOOD OBESITY AND POSTURAL ALTERATIONS: IMPLICATIONS FOR PHYSICAL ACTIVITY AND EXERCISE
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Background: Childhood obesity is a growing public health concern associated with systemic and musculoskeletal complications. Excess body weight alters biomechanical alignment, leading to postural deviations such as increased lumbar lordosis, thoracic kyphosis, and lower limb malalignment. These changes may reduce physical activity participation and negatively affect functional capacity. Early identification and intervention are therefore essential.
Purpose: This study aimed to investigate the relationship between obesity and postural alterations in children aged 7–8 years and to explore the therapeutic role of physical activity and exercise.
Methods: This prospective cohort study included 145 children aged 7–8 years recruited from primary schools. Obesity was classified using body mass index according to age- and sex-specific percentiles. Postural assessment was performed using photographic analysis with Kinovea® software, evaluating spinal alignment and lower extremity positioning. Physical activity levels were assessed using the Children's Physical Activity Questionnaire (CLASS). Children identified as obese and with postural alterations participated in a structured exercise and physical activity education program, with follow-ups at 4, 8, and 12 weeks. Ethical approval was obtained, and parental informed consent was secured.
Results: Children with obesity showed a higher prevalence of postural alterations and lower physical activity levels. Following the intervention, improvements in postural alignment and participation in physical activity were observed.
Conclusion: Childhood obesity is associated with postural dysfunction and reduced physical activity. Exercise-based interventions may improve postural control.
Implications: Integrating posture assessment and exercise programs into physiotherapy and school-based health care may support early prevention and improve long-term outcomes.
Funding acknowledgements: None declared.

O0169
FOOT POSTURE AND GAIT CHARACTERISTICS IN CHILDREN WITH DOWN SYNDROME: A DIERS-BASED ANALYSIS
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Background: Children with Down Syndrome present with muscle hypotonia and ligamentous laxity, affecting foot posture, balance, and gait. These factors contribute to variability in gait characteristics and reduced postural stability.
Purpose: To analyze foot posture and gait characteristics in children with Down Syndrome.
Methods: This cross-sectional study included children assessed in specialized centers in Kosovo. Gait parameters were analyzed using the DIERS 4D Motion Lab system, including step length, step time, stride length, stride time, gait speed, cadence, track width, gait line of progression, foot rotation, and gait phases (stance, swing, double support, load response, single support). Clinical assessments included the Foot Posture Index (FPI), Navicular Drop Test (NDT), Beighton Score, and Pediatric Balance Scale (PBS). Data were analyzed using descriptive statistics and the Shapiro–Wilk test.
Results: Most gait parameters were not normally distributed ($p < 0.05$), indicating high variability. Median step length was 24–25 cm, step time 585–605 ms, gait speed approximately 1.5 km/h, and track width around 8 cm, while cadence was normally distributed (107.3 ± 37.3 steps/min). Clinical findings showed a high prevalence of pronated foot posture (64.8% highly pronated; 22.2% pronated; 13.0% normal). Beighton Score suggested generalized ligamentous laxity. Pediatric Balance Scale results (40.22 ± 11.75) indicated moderate balance performance.
Conclusion: Children with Down syndrome demonstrate variability across multiple gait parameters associated with altered foot posture.
Implications: Findings support comprehensive assessment combining clinical and instrumented gait analysis to guide physiotherapy interventions.
Funding acknowledgements: Funded by the Ministry of Education, Science, Technology and Innovation of Kosovo, led by Professor Samire Beqaj.

O0165
RELIABILITY AND VALIDITY OF LOWER EXTREMITY TRACTION DYNAMOMETRY IN NEUROTYPICAL CHILDREN AND ADOLESCENTS
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Background: Accurate evaluation of lower extremity muscle strength is essential in pediatric clinical practice and research. Although traction dynamometry has shown promise in adults, its measurement properties in children and adolescents are not well established.
Purpose: To evaluate the feasibility, intra-rater and inter-rater reliability, measurement error, and criterion validity of a lower extremity traction dynamometry protocol in neurotypical children and adolescents.
Methods: Lower extremity maximal isometric strength was assessed in 115 neurotypical children and adolescents (age 5-16 years; mean 11.4 ± 2.9) using a standardized traction dynamometry protocol. Intra- and inter-rater reliability were calculated using intraclass correlation coefficients (ICC). Measurement error was examined using standard error of measurement (SEM) and minimal detectable change (MDC). Criterion validity was assessed through comparison with a Biodex dynamometer.
Results: The protocol was successfully completed by all participants. Mean intra- and inter-rater reliability ICC ranged from 0.96 to 0.99. SEM values ranged from 6% to 13%, and mean %MDC was under 20%, with the highest values observed for hip flexors. Criterion validity (Pearson's r) ranged from 0.90 to 0.98, except for plantar flexors, which demonstrated lower correlations (r = 0.88).
Conclusion: Lower extremity traction dynamometry is a feasible, reliable, and valid method for assessing muscle strength in neurotypical pediatric populations.

Implications: Traction dynamometry offers a practical, accessible, and time-efficient method for strength assessment in pediatric clinical settings. Findings support its use for routine evaluation, monitoring of rehabilitation progress, and potential application in pediatric populations with neuromotor disorders.
Funding acknowledgements: None declared.

PAEDIATRICS: CEREBRAL PALSY

O0162
SENSORY GARDEN FOR COMMUNITY-BASED HABILITATION OF CHILDREN WITH CEREBRAL PALSY: A LONGITUDINAL STUDY
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Background: Cerebral Palsy (CP) is the most common cause of motor disability in the paediatric population. A sensory garden provides a conducive environment for the application of physiotherapy that emphasizes organized sensory input for adaptive motor response.
Purpose: This longitudinal study investigates the impact of a sensory garden on activity and participation of children with CP within the International Classification of Functioning, Disability and Health (ICF) framework, which is a knowledge gap.
Methods: In this experimental longitudinal study, 5 children were included after written informed consent from parents. Inclusion criteria included diagnosis of CP, 6-8 years of age, and non-ambulatory children who were not attending school. Exclusion criteria included children with fixed muscle contractures/ deformities and uncontrolled epilepsy. They underwent individualized physiotherapy intervention for 6 months using a sensory garden. Gross Motor Function Measure (GMFM) was used as an outcome measure. Children's participation at school was assessed after 4 years, and the study was approved by the institutional ethics committee.
Results: Post-intervention, the mean improvement in GMFM score was 35%. All children achieved independent ambulation. Long- term follow-up revealed that after 4 years, all children were actively participating in school.
Conclusion: This study showed that physiotherapy intervention undertaken in a sensory garden not only improved gross motor function but also had a long-term positive impact on the participation of children with CP.
Implications: The impact of physiotherapy on participation in society is the ultimate goal of management. This longitudinal study opens an avenue for further investigating the role of sensory gardens for community-based habilitation and inclusion of children with disabilities.
Funding acknowledgements: None declared.

O0161
ADOLESCENTS WITH CP'S EXPERIENCE OF HABITUAL PHYSICAL ACTIVITY
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Background: While several qualitative studies have explored physical activity and fatigue among adolescents with Cerebral Palsy (CP), particularly barriers and facilitators to organized activities, less is known about how adolescents experience habitual physical activity (HPA). HPA includes everyday activities such as play, active transportation, and recreation across family, school, and community contexts. Despite calls for child-centered approaches that foreground young people's voices, much research still relies on surveys.
Purpose: This qualitative study explores how adolescents with CP experience HPA and fatigue in daily life, to support clinicians in understanding everyday challenges and developing tailored interventions.
Methods: Semi-structured interviews with 18 adolescents with CP (GMFCS I–II), 13 boys and 5 girls (mean age 13.7 years; range 10–16). Data was analyzed with reflexive thematic analysis.
Results: Three themes were constructed: 1) Movement as a source of physical wellbeing and enjoyment. 2) Wanting to participate but not always being able to. 3) Physical tiredness and mental exhaustion.
Conclusions: Most participants enjoy physical activity and find organized and recreational participation meaningful and a source of bodily wellbeing. Although they are motivated to take part, practical, physical, and cognitive factors can interfere with participation. Fatigue related to physical activity is common but generally not viewed as problematic; instead, the most challenging and distressing fatigue is linked to school, noise, and social demands.
Implications: Clinicians should recognize the interplay between motivation, fatigue, and everyday demands. Tailored support should address cognitive and school-related fatigue while promoting enjoyable, meaningful HPA.
Funding acknowledgements: None declared.

O0163
DYNAMIC SUPPORTED STANDING IN THE INNOWALK IN CHILDREN WITH CEREBRAL PALSY: FUNCTIONAL OUTCOMES FROM OBSERVATIONAL CLINICAL CASE SERIES
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Background: Children with cerebral palsy (CP) who are non-ambulant or have limited ambulation often have restricted opportunities for whole-body, task-oriented mobility training. Dynamic supported standing enables repetitive, weight-bearing movement and may support improvements in mobility, function, and participation.
Purpose: To evaluate the feasibility and clinical outcomes associated with dynamic supported standing in children with CP across clinical and educational settings.
Methods: An observational clinical case series using prospectively documented clinical data from a specialist rehabilitation clinic and school environments was conducted. Participants were aged 5–16 years and classified at Gross Motor Function Classification System (GMFCS) levels III–V. Dynamic standing therapy was delivered 4–5 sessions per week for 6–12 weeks. Selected post- operative cases were followed for 6 months. Outcomes included mobility (including assisted and independent gait), passive range of motion (PROM), spasticity, bowel function, tolerance to weight bearing, postural stability, and family-reported quality of life and goal attainment.
Results: Clinically meaningful improvements were reported in mobility, PROM, postural stability, bowel function, and tolerance to standing. Improvements were consistent with previous findings, including assisted mobility, bowel function, and reduced abnormal movement patterns. School-based intervention blocks were associated with quality-of-life improvements of approximately 36% and goal attainment improvements of approximately 88%. Early post-operative mobilization was feasible and well tolerated.
Conclusion: Dynamic supported standing appears feasible and associated with clinically meaningful improvements in mobility and participation for children with CP.
Implications: Dynamic standing interventions may expand access to task-oriented mobility training and support physiotherapy-led rehabilitation across clinical and educational settings.
Funding acknowledgements: None declared.

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O0164

PHYSIOTHERAPY PROGRAMME TO IMPROVE GAIT AND PARTICIPATION IN CHILDREN WITH CEREBRAL PALSY: RANDOMIZED CLINICAL TRIAL

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Background: Children and adolescents with cerebral palsy frequently present gait and balance impairments that limit functional mobility and participation in daily activities.
Purpose: To evaluate the effectiveness of a physiotherapy programme combining face-to-face sessions and telehealth to improve gait, balance, and participation in children and adolescents with cerebral palsy.
Methods: A randomized clinical trial included 48 children and adolescents aged 6–17 years with cerebral palsy (GMFCS II–IV). Participants were randomly allocated to an intervention group (n = 24) or control group (n = 24). The intervention group received a six-week programme with 12 face-to-face physiotherapy sessions, including task-specific training and treadmill gait training, combined with six telehealth sessions of an education programme including gait and balance activities using Action Observation Therapy. The control group received the same telehealth programme. Outcomes included participation (Children's Assessment of Participation and Enjoyment), gait speed (10-Meter Walk Test), gait endurance (6-Minute Walk Test), gross motor function (GMFM-88-SP), and balance (Pediatric Balance Scale). Assessments were conducted at baseline, post-intervention (6 weeks), and at a 12-week follow-up.
Results: The intervention group showed significantly greater improvements in gait speed, gait endurance, balance, and gross motor function compared with the control group ($p < 0.05$). No significant between-group differences were found for participation.
Conclusion: The proposed multimodal physiotherapy programme combining face-to-face therapy and telehealth improves gait and balance in children and adolescents with cerebral palsy.
Implications: Multimodal physiotherapy programmes may enhance rehabilitation outcomes and support functional mobility in children and adolescents with cerebral palsy.
Funding acknowledgements: This research was funded by the University of Alcalá and the Ministry of Science and Innovation, Spain, grant number PIUAH21/CCS-005.

O0065

WEFUN-APPS AS A WEARABLE SOLUTION TO PROMOTE UPPER LIMB FUNCTION IN DAILY ROUTINES: PRELIMINARY STUDY

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Background and purpose: Considering the potential of technology to strengthen home-based intervention programs, WeFun-Apps were designed to encourage spontaneous use of both hands during daily routines. The aim of this study was to examine the preliminary effects of WeFun-apps on upper limb function and participation in children with unilateral cerebral palsy (uCP).
Methods: The intervention was conducted with 28 children with uCP, who engaged with the WeFun apps over a one-month daily routine program. Usability was assessed using the System Usability Scale (SUS). Upper extremity use (UEU) was measured at baseline, post-intervention, and follow-up through the Assistant Hand Assessment (AHA) and performance during daily activities. Additional outcomes included the Box and Blocks Test, measures of strength and fatigue, visual attention assessed with the Teddy Bear Cancellation Test, participation measured with the YC-PEM and PEMCY, and quality of life using the PedsQL-CP.
Results: The mean SUS score was 85.58% (SD = 6.62), reflecting high usability. Technology acceptance reached 83.33% (SD = 10.89), while perceived safety was rated at 95.38% (SD = 11.35). Participants used the technology on 78.17% of the intervention days, accumulating between 39 and 365 minutes of practice (M = 160, SD = 101). An increase in UEU was observed following the intervention, aligning with clinically meaningful improvements in AHA scores. Analyses of additional clinical outcomes are ongoing.
Conclusions and implications: WeFun-Apps are feasible, showing relevance and transferability to home interventions. Outcomes support the optimization of technology for subsequent research. All IP rights reserved.
Funding acknowledgements: This work was supported by the grant PID2021-126782OA-I00 funded by MCIN/AEI/10.13039/501100011033, by "ERDF A way of making Europe".

PAIN AND PAIN MANAGEMENT

O0098

PERCEPTION OF MOVEMENT IN PATIENTS WITH FIBROMYALGIA: A QUALITATIVE SYSTEMATIC REVIEW WITH META-SYNTHESIS AND META- SUMMARY

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Background: Exercise and everyday movement are central to fibromyalgia (FM) management, yet sustained engagement is often difficult. Clarifying how people with FM experience and navigate movement can help physiotherapists design more acceptable, person-centered programmes and self-management.
Purpose: To synthesize qualitative evidence on adults' experiences of movement/physical activity/exercise in FM and identify perceived barriers and facilitators.
Methods: Qualitative systematic review with meta-synthesis and meta-summary. Seven databases were searched up to October 2025, plus supplementary searching. Studies including adults (≥18 years) with FM and qualitative data on movement were eligible. Verbatim participant quotations were extracted and synthesized using the Sandelowski & Barroso approach. Methodological quality was appraised and certainty assessed with GRADE-CERQual.
Results: Thirteen studies (N = 213, 204 women; 19–82 years) were included. Four hundred thirty-two statements were extracted, synthesized into 15 categories, and grouped into four themes: (1) past experiences of movement; (2) movement during daily life: strategies, adaptations, and effects; (3) barriers to movement: personal, environmental, and relational; (4) facilitators to movement: peer support, empathic relationships, and personalized guidance. Overall confidence in the findings was moderate.

Conclusion: Movement is perceived as simultaneously valuable and risky. Sustainable engagement appears supported by legitimized pacing, individualized guidance, and supportive relational/contextual conditions.
Implications: Physiotherapists can translate these findings by eliciting an activity biography, co-creating pacing rules and symptom-contingent micro-progressions, and using peer/group formats with empathic continuity, flexible goal-setting, and shared decision-making. Future longitudinal and co-designed work should refine implementable personalized guides.
Funding acknowledgements: None declared.

O0099
THE ROLE OF RELIGIOSITY, SPIRITUALITY, AND PAIN BELIEFS IN FUNCTIONAL OUTCOMES IN FIBROMYALGIA: A MULTIPLE LINEAR REGRESSION ANALYSIS
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[2]Universidad del Atlántico Medio

Background: Fibromyalgia is a chronic condition characterized by persistent pain, fatigue, and functional impairment. Although exercise is a cornerstone, variability in outcomes suggests psychosocial and cultural factors may influence treatment response. Health-related beliefs have been linked to coping and pain perception, yet their association with functional status remains unclear.
Purpose: To analyze the relationship between religiosity, spirituality, and pain-related beliefs and functional capacity in women with Fibromyalgia undergoing therapeutic exercise.
Methods: A cross-sectional study (CHUC_2024_27) included adults with Fibromyalgia (n = 112). Functionality was assessed using the Fibromyalgia Impact Questionnaire-Revised (FIQR). Religiosity was evaluated through participation in religious activities and perceived importance. Spiritual coping was measured with the Spiritual Coping Strategies Scale, while pain beliefs were assessed using the Pain Beliefs Questionnaire and Irrational Beliefs Test. Spirituality was examined with the GES questionnaire. Multiple linear regression analyses identified associations between psychosocial variables and functional outcomes.
Results: Higher positive spiritual coping was associated with lower functional impact ($\beta = -0.34$; $p < 0.001$). Regular religious participation was linked to better functional status (mean FIQR difference = −8.6; $p = 0.012$). Greater pain self-efficacy correlated with improved function ($\beta = -0.29$; $p = 0.002$), whereas irrational beliefs predicted poorer outcomes ($\beta = 0.27$; $p = 0.004$). Psychosocial and spiritual variables explained 41% of the variance in functional status ($R^2 = 0.41$).
Conclusion: Religiosity, spirituality, and health-related beliefs are significantly associated with functional status in Fibromyalgia.
Implications: Evaluating these factors may help physiotherapists tailor exercise programs and improve outcomes.
Funding acknowledgements: None declared.

O0171
CO-DESIGNING A SCHOOL-BASED, PERSON-CENTERED INTERVENTION FOR ADOLESCENTS WITH LONG-LASTING PAIN: THE HEYOUNG INTERVENTION STUDY
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Background: Adolescent long-lasting pain may disrupt school participation and well-being, yet school-based health support is often fragmented and not aligned with adolescents' priorities. Co-design can surface contextual constraints, identify barriers and solutions, and help shape person-centered care meaningful to adolescents.
Purpose: To identify design tensions and implementation barriers to a school-based, person-centered prototype intervention for adolescents with long-lasting pain, and to outline targeted refinements.
Methods: Two co-design workshops were conducted with adolescents (n = 6) and healthcare professionals and teachers (n = 14). The intervention prototype was presented for feedback in the workshops. Data from audio-recorded workshops were analyzed using Reflexive Thematic Analysis.
Results: Across groups, participants emphasized trusting relationships, a clear and validating assessment, and outcomes focused on functioning and participation. Participants proposed targeted refinements without altering the prototype's structure, including optional consent-based parent involvement, youth-friendly questionnaires, and goal-based assessments. Key tensions identified concerned the role and depth of explanatory models, aligning communication with adolescents' priorities (validation, goals, participation), and adolescent autonomy versus parental involvement. Practical considerations included staff training, referral routes, resource planning, and accessibility/inclusion for diverse needs.
Conclusions: Co-design workshops surfaced design tensions and implementation barriers, and generated refinements of the prototype intervention. Optional parent involvement, goal-based assessments, and clearer referral and training requirements will be incorporated into prototype specifications and guide intervention protocol and pilot testing.
Implications: Findings support a school-based intervention that prioritizes functioning and participation and provides early, tailored support, while accounting for school system priorities, resources, and organizational constraints.
Funding acknowledgements: The HEYoung Intervention Study is funded by Stiftelsen DAM (2023/FO426550) and Fysiofondet (215241).

O0101
INTEGRATING ENVIRONMENTAL SUSTAINABILITY INTO CHRONIC SPINAL PAIN CARE: AN INTERNATIONAL MODIFIED DELPHI STUDY
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Background: Chronic spinal pain is a major public health issue with substantial social, financial, and environmental costs. However, environmental sustainability has received limited attention in clinical practice guidelines for chronic spinal pain.
Purpose: To explore physiotherapists' agreement and perceived importance regarding the integration of environmentally sustainable practices into chronic spinal pain management.
Methods: A preparatory review of clinical practice guidelines for chronic spinal pain and literature on sustainable healthcare informed statement development. A modified three-round e-Delphi study was conducted following ACCORD guidelines. An international panel of physiotherapists rated agreement and importance across domains including advocacy, education, research, community engagement, and clinical practices. Consensus was defined as an interquartile range (IQR) ≤ 1.
Results: The preparatory phase informed the development of statements and survey items. Of 150 invited participants, 49 contributed (44 in Round 1, 35 in Round 2, 30 in Round 3). Across rounds, 54 statements were evaluated. Most reached consensus within two rounds, while a third round assessed revised and new statements. By the end, all but two statements achieved consensus, both related to measuring the clinical impact of responsible decisions and integrating environmental considerations into decision-making.
Conclusion: Broad international consensus was achieved on integrating environmentally sustainable practices into chronic spinal

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pain management. Key principles such as self-management, prevention, and responsible resource use provide a foundation to inform future clinical guidelines.
Implications: These findings provide a foundation for integrating environmental sustainability into clinical guidelines, education, and policy in chronic spinal pain, and point to the need for measurement tools.
Funding acknowledgements: Scientific Committee for Health Sciences (Commission Scientifique du Domaine Santé), University of Applied Sciences and Arts Western Switzerland, Delémont, Switzerland.

O0095
EFFECTS OF SOMATOSENSORY AWARENESS TRAINING ON PAIN AND ORAL BEHAVIORS IN AWAKE BRUXISM: A RANDOMIZED PILOT TRIAL
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Background: Awake bruxism is increasingly understood as a multifactorial condition involving not only peripheral motor activity but also altered central sensory processing. Conventional approaches mainly target peripheral mechanisms, whereas somatosensory-based interventions may address cortical reorganization and neuroplasticity.
Purpose: To evaluate the preliminary effectiveness of Somatosensory Awareness Training (SAT) compared with Jaw & Posture Exercise and wait-list control in individuals with awake bruxism.
Methods: This assessor-blinded randomized controlled pilot trial included 18 participants (mean age 29.3 years), predominantly female, randomized into SAT (n = 6), Jaw & Posture Exercise (n = 6), and Wait-list control (n = 6). Outcomes were assessed at baseline and 4 weeks and included craniofacial pain and disability (CF-PDI), oral parafunctional behaviors (OBC), and related clinical measures. Between-group differences in change scores were explored using non-parametric analysis.
Results: After 4 weeks, the SAT group showed a greater reduction in CF-PDI scores, with a mean decrease of 14.2 points, compared with the exercise group (5.4-point reduction). This change exceeded the reported minimal detectable change threshold. The SAT group also demonstrated a stronger reduction in oral parafunctional behaviors (OBC), while the exercise group showed smaller changes. Most participants reported clinical improvement at follow-up.
Conclusion: Preliminary findings suggest that SAT may improve pain-related disability and parafunctional behaviors in awake bruxism.
Implications: Somatosensory-oriented strategies may offer an additional physiotherapy approach in bruxism management and should be investigated in larger trials.
Funding acknowledgements: None declared.

O0021
A EUROPEAN PAIN RESEARCH STRATEGY (PRISE 2025): IMPLICATIONS FOR PHYSIOTHERAPY PRACTICE, RESEARCH AND POLICY
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Background: Pain, across acute and chronic conditions, is the most common reason people seek physiotherapy and represents a major public health challenge across Europe. Despite this, care remains fragmented, and pain research is underfunded, poorly coordinated, and inconsistently translated into practice. To address these challenges, the European Pain Federation (EFIC) developed the Pain Research Strategy for Europe (PRiSE 2025).
Purpose: To present PRiSE 2025 and examine its implications for physiotherapy research, clinical practice, and policy.
Methods: PRiSE 2025 was developed using a multimethod approach, including a stakeholder survey, expert consensus processes, and engagement with multidisciplinary stakeholders.
Results: Five research priorities were identified: improving understanding of pain mechanisms; addressing comorbidities; evaluating treatments, including physiotherapy interventions; developing personalized approaches; and examining societal and economic impacts. Cross-cutting priorities include standardized outcomes, interdisciplinary collaboration, patient involvement, and knowledge translation. Key performance indicators were established to monitor impact, including engagement with policymakers and funders, research outputs, funding alignment, and integration into education and clinical practice.
Conclusion: PRiSE 2025 provides a coordinated European framework to address gaps in pain research and enhance translation into improved outcomes.
Implications: Physiotherapy has a central role in delivering PRiSE priorities through evidence-based, biopsychosocial care, supporting alignment between research, practice, and policy to improve pain management across Europe.
Funding acknowledgements: Funding was received from ERA-NET NEURON (The Networking of European Funding for Neuroscience Research) - Networks on Chronic Pain.

PELVIC, SEXUAL AND REPRODUCTIVE HEALTH

O0046
PELVIC FLOOR DYSFUNCTION (PFD) IN CROSSFIT ATHLETES: SYMPTOMS, COPING STRATEGIES, AWARENESS AND DISCUSSION ABILITY
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Vrije Universiteit Brussel

Background: PFD is an underreported condition among female athletes, particularly in high-impact sports. Despite increasing female participation in CrossFit, PFD remains insufficiently studied in this population.
Objective: To investigate the prevalence of condition-specific PF symptoms in female CrossFit practitioners and examine associations with parity, menopausal status, training intensity, and history of pregnancy-related incontinence. Secondary aims included assessing the impact of PFD on sport participation, QoL, knowledge about and openness to discuss PF-related issues.
Methods: A cross-sectional, self-administered survey was conducted among 150 CrossFit practitioners. The survey included demographic and gynecological variables, training characteristics, and symptom assessment based on the PFDI–20 during ADL and CrossFit. Additional items addressed QoL, PF knowledge, and communication about PFD with coaches and peers.
Results: During training, urinary incontinence was reported by 23.6% of participants, anal incontinence by 36.4%, and vaginal flatulence by 40.0%, predominantly triggered by high-impact, explosive, and heavy lifting movements. Significant associations were found between parity and stress, urge, and mixed urinary incontinence, as well as between pregnancy- related incontinence and stress UI. No significant associations were observed for menopausal status or training intensity. Knowledge of PF function was limited**:** 31.3% of participants and 14.7% of coaches were perceived as sufficiently informed. The comfort level experienced when discussing PF problems varies.

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Conclusion: PFD is common among female CrossFit practitioners and remains under-recognized and insufficiently addressed. Limited knowledge and low openness highlight the need for systematic education, early identification, and targeted preventive strategies within athletic and training environments.
Funding acknowledgements: None declared.

PRIMARY HEALTH CARE

O0102
PHYSIOTHERAPY FOR ADOLESCENTS AND YOUNG ADULTS WITH PERSISTENT PAIN: AN UNDERRECOGNIZED SERVICE?
Jorunn Louise Grong, Berit Østerås, Sylvia Söderström
Norwegian University of Science and Technology

Background: Persistent and recurrent pain is common among adolescents, and early adolescence represents a critical developmental period in which such pain may become established. Persistent pain can affect biological, psychological, and social development, with potential long-term consequences for health, education, and participation in work life.
Objectives: The Primary Pain Project, part II aims to generate new knowledge concerning physiotherapy in primary health care for adolescents experiencing persistent pain. The project addresses a significant knowledge gap and responds to key challenges in pediatric physiotherapy. The research question guiding the study is: How do physiotherapists in primary health care, public health nurses, teachers, and special educators perceive the role and significance of physiotherapy within interdisciplinary collaboration for adolescents aged 13–19 years struggling with persistent pain?
Methods: To explore this question, we employed an inductive qualitative design using group interviews. A total of nine interviews were conducted with 35 participants. The material was analyzed through reflexive thematic analysis, with all authors contributing to the analytical process.
Results: The analysis indicates limited interprofessional collaboration concerning adolescents with long-term pain. One explanation appears to be insufficient knowledge among teachers and school nurses about physiotherapists' competencies and potential contributions. Strengthening interdisciplinary understanding is therefore essential. Physiotherapists must communicate their expertise more explicitly to ensure their skills are appropriately recognized and utilized, ultimately improving support for adolescents living with persistent pain.
Funding acknowledgements: Fund for Continuing and Further Education of Physiotherapists (The Physiotherapy Fund) in Norway.

O0062
INTEGRATED SHOULDER CLINIC WITH DIRECT ACCESS PHYSIOTHERAPY AND ORTHOPAEDICS: A PILOT EVALUATION IN COMMUNITY CARE
Tamir Sade
Maccabi Healthcare Services

Background: Direct access to physiotherapy has been endorsed in Israel since 2018. In 2023, we established an integrated community shoulder clinic, staffed by senior first-line physiotherapists and supported by an orthopedic surgeon for complex cases.
Purpose: To evaluate outcomes of first-line physiotherapy for patients with shoulder complaints who initially seek orthopedic care.
Methods: All patients who attended the integrated shoulder clinic between May 2023 and January 2024 were initially evaluated by a physiotherapist. Comparative outcomes were assessed against matched community orthopedic patients with shoulder complaints and no orthopedic visit in the previous 6 months. Matching was 2:1 by age, sex, and socioeconomic status. Satisfaction was assessed by routine telephone survey.
Results: Overall, 157 people attended the clinic; 80% completed care with physiotherapy alone without needing further orthopedic examination. Within 3 months of follow-up from the last clinic visit, 55% of patients did not seek additional orthopedist care. Compared with controls, clinic participants purchased 70% less pain medication and underwent 57% less imaging. Mean satisfaction was high (5.7/7 overall; 6.1/7 for diagnostic clarity).
Conclusion: First-line physiotherapy within an integrated community shoulder clinic was associated with high satisfaction and a more efficient use of medical resources, compared to usual orthopedic care.
Implications: These findings support expanding the integrated clinic model nationwide and to a broader range of anatomical regions. Concurrently, expanding the scope of practice for first-line physiotherapists to refer to imaging may reduce unnecessary physician visits, shorten the patient journey, and promote efficient utilization of healthcare resources.
Funding acknowledgements: None declared.

PROFESSIONAL ISSUES

O0179
WHY JOIN? MOTIVATIONS OF DUTCH PHYSIOTHERAPISTS WORKING IN CLINICAL SETTINGS ON PROFESSIONAL MEMBERSHIP AND QUALITY REGISTRATION
Rudi Steenbruggen[1], Marjo Maas[1], Thomas Hogeboom[2], Philip van der Wees[1]
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Background: Registration with a professional body and/or quality registry among physiotherapists in Dutch clinical settings is lower than in primary care settings. This raises questions about whether these organizations meet the specific needs of clinical physiotherapists to recruit, retain, and assure professional quality.
Purpose: To explore the motivations of Dutch physiotherapists in clinical settings for joining or not joining a professional body, and for registering or not in a quality register.
Methods: A pilot study at a university hospital identified initial motivations, informing an online survey distributed nationwide in January 2025. Additional interviews were conducted with a subset of respondents. Audio recordings were qualitatively analyzed.
Results: In total, 642 physiotherapists responded: professional body members (n = 369) and non-members (n = 273); registered in a quality register (n = 566) or not (n = 76). Seventeen participated in interviews. Analysis identified four themes: (1) joining is mainly motivated by staying informed about emerging developments; (2) not joining is often due to perceived lack of added value; (3) extrinsic motivation is currently the primary driver; (4) a need exists for professional bodies to engage with specific clinical domains.
Conclusion: Dutch clinical physiotherapists value membership and registration primarily to stay informed. Decisions are influenced by extrinsic motivation and individual cost–benefit considerations. There is a clear desire to better address the clinical domains of members.
Implications: Insights can guide professional bodies and quality registers in developing strategies to better recruit and retain clinical physiotherapists.
Funding acknowledgements: Funding of this study was provided by the Royal Dutch Association for Physiotherapy (KNGF).

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O0181

TASK SHIFTING AND PROFESSIONAL BOUNDARIES IN PRIMARY CARE: REFLECTIONS ON GENERALIST COMPETENCIES AND MUSCULOSKELETAL DISORDERS

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Western Norway University of Applied Sciences

Introduction: This presentation offers a reflective discussion informed by a doctoral thesis examining task shifting for musculoskeletal disorders between GPs and physiotherapists. With aging populations and increasing multimorbidity, traditional primary care models face sustainability challenges. However, questions persist about competency requirements, continuity of care, and professional boundaries.
Aim: To stimulate critical reflection on tensions inherent in task shifting, particularly regarding generalist versus specialist competencies, and implications for managing patients with musculoskeletal disorders as part of complex multimorbidity.
Methods: Drawing on a qualitative interview study with Norwegian GPs and physiotherapists, relevant literature, and the broader thesis examining framework development and workforce training in England, this presentation explores financial and structural barriers to collaboration, perceptions of professional competency, the continuity of care discourse, and generalist competency requirements for physiotherapists in undifferentiated primary care presentations.
Results: The empirical material reveals professionals navigating competing demands as patient advocates, gatekeepers, and economic actors. Both competition and cooperation coexist between professions. Critical questions emerge: To what extent must physiotherapists develop generalist competencies to become safe first-contact practitioners for undifferentiated presentations? Can team-based continuity models serve complex multimorbid patients better than single-provider models? How do we balance evidence-based practice with system constraints and professional interests?
Conclusion and Clinical Implication: Successful task shifting requires moving beyond simplistic competency comparisons toward systemic thinking about team- based care, mandatory professional development, and organizational structures that enable rather than hinder collaboration. The question "should we all become generalists?" opens necessary dialogue about how primary care must evolve to meet contemporary challenges.
Funding acknowledgements: The author was supported by the Western Norway University of Applied Sciences for the doctoral thesis.

O0180

THE JOB SATISFACTION AND RELATED INFLUENCING FACTORS AMONG PHYSIOTHERAPISTS: A SYSTEMATIC REVIEW

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Background: Job satisfaction reflects workers' cognitive and affective evaluation of their job and is linked to well-being, retention, turnover, and quality of care. In physiotherapy, it is receiving increasing attention because clinical and organizational demands may shape professionals' experience at work.
Purpose: To identify the prevalence of job satisfaction among physiotherapists and the main factors associated with it.
Methods: A systematic review was conducted across multiple databases. Eligible studies were published in English or Italian and investigated job satisfaction among physiotherapists working in clinical settings. Two reviewers independently selected studies, with disagreements resolved by a third reviewer. Findings were synthesized narratively, and factors associated with job satisfaction were classified as either hygiene factors or motivators.
Results: Eight cross-sectional studies were included (n = 1.914; sample size 36-581; 79.9% women). Reported job satisfaction ranged from 70.0% to 88.9%, with an overall prevalence of 74.4%. The most frequently reported motivating factors were clinical autonomy, recognition of acquired skills and experience, and opportunities for professional growth. Lower job satisfaction was associated with excessive workload, role ambiguity, overly directive leadership, insufficient workload, and lack of social support.
Conclusion: As in other healthcare professions, physiotherapists' job satisfaction appears to depend not only on salary or working hours, but also on autonomy, recognition, and opportunities for professional growth. Job satisfaction seems to reflect the combined influence of organizational context and professional fulfilment.
Implications: To reduce dysfunctional turnover, healthcare managers should develop soft skills, including emotional intelligence, and organize work environments around factors that positively influence job satisfaction.
Funding acknowledgements: None declared.

O0178

PROFESSIONAL EXPECTATIONS OF PHYSIOTHERAPY STUDENTS

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Background: Improving retention and reducing turnover in the physiotherapy workforce requires organizational strategies that increase job satisfaction, support, and career opportunities. Attracting and retaining physiotherapists, particularly from younger generations, is crucial.
Purpose: To characterize the professional expectations of physiotherapy students in Portugal.
Methods: A nationwide cross-sectional study was conducted with 326 students (78.8% female) from 22 higher education institutions offering accredited physiotherapy bachelor's degrees in the 2022/23 academic year. An online questionnaire explored career motivations, expectations regarding the job market, professional growth prospects, and desired working conditions. Data were analyzed using SPSS (95% CI). Exploratory factor analysis was performed.
Results: Most students preferred working in private practice (32.7%), with adults (38.0%), and in the musculoskeletal field (39.9%). Many were willing to relocate for professional reasons (78.5% within Portugal; 66.2% abroad). Five domains of professional expectations were identified: affective dimension associated with work, instrumental conditions in clinical practice, remuneration and working conditions, social dimension associated with work, and strategic alignment and professional development. The affective dimension and instrumental conditions were more valued by female students ($p = 0.007$; $p = 0.011$) and those in private institutions ($p = 0.015$; $p = 0.049$). Remuneration and working conditions were most valued by Generation Z ($p = 0.044$), private-institution students ($p = 0.038$), and those willing to emigrate ($p = 0.004$). The social dimension was more valued by female students ($p = 0.005$).
Conclusion: New generations' work expectations are complex and require innovative approaches and diverse work-related benefits to attract and retain professionals in health organizations.

Implications: Understanding physiotherapy students' expectations is essential for developing work environments that attract and retain the emerging workforce.
Funding acknowledgements: None declared.

O0182
HEALTH PROMOTION KNOWLEDGE, ATTITUDES AND PRACTICES AMONG PORTUGUESE PHYSIOTHERAPISTS: A NATIONAL SURVEY
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Background: Health promotion is a key pillar of contemporary health systems and an essential component of physiotherapy practice, requiring professionals to address behavioral, social, and environmental determinants of health. However, evidence regarding physiotherapists' knowledge and implementation of health promotion strategies remains limited in several countries, including Portugal.
Purpose: This study aimed to analyze Portuguese physiotherapists' knowledge, attitudes, and practices regarding health promotion following the cross-cultural adaptation and validation of a national survey instrument. A secondary objective was to explore associations between these dimensions and professional experience.
Methods: A two-phase design was adopted. Phase 1 - translation, cultural adaptation, content validation, pre-testing, and reliability assessment of the questionnaire, Health Promotion Knowledge, Attitudes and Practices of Chartered Physiotherapists in Ireland: A national survey, following recognized methodological guidance. Phase 2 - a descriptive cross-sectional study with 134 Portuguese physiotherapists. Data were collected online and analyzed using IBM SPSS Statistics ($p < 0.05$).
Results: The Portuguese version demonstrated acceptable to excellent psychometric properties (Cronbach's alpha 0.681–0.931), with mostly moderate to satisfactory test-retest reliability. All participants considered health promotion fundamental to physiotherapy practice, and 60.4% reported consistently integrating health promotion into care. Significant differences were observed in several items according to professional experience.
Conclusion: Portuguese physiotherapists show generally positive attitudes and good knowledge regarding health promotion, although gaps remain in areas related to broader health determinants and policy engagement.
Implications: Strengthening health promotion competencies in undergraduate education and continuing professional development may enhance physiotherapists' contribution to population health and support more integrated preventive care models.
Funding acknowledgements: None declared.

O0005
FROM IMPAIRMENT TO FUNCTION: A MULTIDISCIPLINARY AND SENSOR-BASED MODEL FOR MEDICO-LEGAL EVALUATION
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Background: Medico-legal evaluation of biological damage traditionally relies on impairment-based models that may not fully reflect functional and multidimensional consequences of trauma. Integrating rehabilitation assessment and objective measurement tools may improve the accuracy and fairness of compensation for future care needs.
Purpose: To develop and validate an integrated multidisciplinary model combining clinical and sensor-based assessment, and to investigate its relationship with functional deficits and compensation estimates.
Methods: A cross-sectional observational study was conducted on individuals with traumatic injuries. Participants underwent a multidisciplinary evaluation involving forensic, physiotherapy, and occupational therapy assessments. Functional impairment was measured using validated outcome measures. Joint range of motion (ROM) was objectively assessed using XClinic wearable sensors. Compensation for future rehabilitation needs was calculated considering functional deficits, life expectancy, and required interventions. Pearson correlation analyses were performed to examine relationships among clinical scales, sensor-derived ROM, and compensation.
Results: Significant correlations were observed between functional impairment, ROM measurements, and multiple functional domains, including mobility, balance, fatigue, and kinesiophobia. Reduced ROM was associated with higher disability and poorer quality of life. Strong positive correlations were found between functional deficits and proposed compensation for rehabilitation interventions, particularly occupational therapy, motor rehabilitation, hydrotherapy, and assistive devices. Sensor-based measurements showed meaningful associations with clinical outcomes, supporting their construct validity.
Conclusion: An integrated approach combining multidisciplinary assessment and sensor-based measurements enhances the evaluation of biological damage and supports more accurate compensation.
Implications: This model promotes a standardized, objective, and patient-centered approach in medico-legal practice, with potential to improve rehabilitation planning and compensation decision-making.
Funding acknowledgements: Italian National Association of Insurance Companies (ANIA), Rome, Italy.

O0183
WHO KNOWS US AND WHO TRUSTS US? BRAND EQUITY ACROSS CITIZENS, PROFESSIONALS AND INSTITUTIONS
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Background: Statutory professional physiotherapy bodies play a key role in regulation, advocacy, and public trust. Yet, no studies have assessed how these organizations are perceived by their multiple stakeholders using brand equity frameworks. Understanding this perception is essential for strategic communication and professional visibility.
Purpose: To evaluate the brand equity of the Professional College of Physiotherapists of the Community of Madrid (CPFCM) among citizens, registered physiotherapists, and partner institutions, and to identify strengths, gaps, and strategic opportunities.
Methods: A sequential exploratory mixed-methods design (QUAL→QUAN) was implemented between December 2024 and July 2025. The qualitative phase comprised focus groups with citizens (n = 12) and physiotherapists (n = 11), and interviews with

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institutional leaders (n = 5). Findings informed three quantitative surveys: citizens (n = 500), registered physiotherapists (n = 179), and institutions (n = 26). A Brand Equity Score (BES) was constructed from eight normalized indicators (0–100 scale).
Results: The BES among citizens was 62.3/100, with high perceived value (importance: 83.8; patient protection: 78.6) but low awareness (prompted recognition: 40.0; communication recall: 14.8). Institutions reported 8.5/10 satisfaction. Physiotherapists scored 6.6/10 satisfaction, with a significant gender gap. Compared to the Medical College, the CPFCM scored higher on accessibility (+19.3 points) and transparency (+29.0 points) but lower on professional advocacy (−18.8).
Conclusion: The CPFCM is a high-value brand. The registration paradox, valued in abstract but poorly understood in regulatory terms, represents the main communication opportunity.
Implications: Results provide an evidence base for strategic communication in statutory physiotherapy organizations and a replicable multi-stakeholder brand assessment framework applicable to other European contexts.
Funding acknowledgements:
This study was funded by the Professional College of Physiotherapists of the Community of Madrid (CPFCM).

O0184
DEFINING THE DIGITAL PHYSIOTHERAPIST SPECIALIST: A EUROPEAN CALL FOR COMPETENCY FRAMEWORKS AND PROFESSIONAL RECOGNITION
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Background: The rapid integration of digital technologies into physiotherapy, including motion analysis, tele-rehabilitation, AI, wearable devices, and robotics, is reshaping clinical practice without a corresponding evolution in professional roles. Currently, across Europe, no unified definition of the specialist physiotherapist in digital technologies exists, highlighting the need for a structured professional discussion.
Purpose: The primary aim of this call is to promote a discussion about the recognition of the specialist physiotherapist in digital technologies by outlining core competencies. Secondary objectives include examining the ethical, technical, and scientific implications of using digital tools in physiotherapy practice.
Methods: A Specialist Interest Network within the Italian Association of Physiotherapists conducted expert consensus meetings and an ongoing exploratory survey (n = 151) among Italian professionals to identify essential competencies and current gaps.
Results: Survey data show a significant training gap: while digital tools are widely used, only 13% of respondents feel "very trained." Furthermore, 42% find their clinical use complex or taxing. Core competencies identified include digital literacy, clinical and cost-effectiveness evidence-based decision-making, ethical guidelines, and patient-centered digital care.
Conclusion: This proposal emphasizes the vital role of formally recognizing the specialist physiotherapist in digital technologies. Establishing clear professional roles, competencies, and guidelines will facilitate the safe and cost-effective integration of digital innovations into clinical practice. Future work should develop educational frameworks addressing the identified gap between tool utility and practitioner training.
Implications: Defining this specialist role in digital technologies has significant implications for physiotherapy practice, education, and policy across Europe, enhancing patient outcomes and ensuring system sustainability through evidence- based technology use.
Funding acknowledgements: None declared.

PROFESSIONALISM & ETHICS

O0001
EXPLORING TYPE AND FREQUENCY OF ETHICAL SITUATIONS ENCOUNTERED BY PHYSIOTHERAPISTS IN SPAIN AND PORTUGAL: A CROSS-SECTIONAL STUDY
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Background: Research on ethical challenges faced by physiotherapists in Spain and Portugal is limited.
Purpose: This study investigated the types and frequency of ethical situations encountered in both countries.
Methods: An online survey in Spanish and Portuguese based on the ESPI-study (2021) was conducted, including 60 items across four scales: (A) physiotherapist-patient interaction, (B) interaction with other health professionals, (C) physiotherapists and the system, and (D) professional and economic issues. Participants rated frequency on a 5-point Likert scale (1 = daily to 5 = never) and provided sociodemographic data.
Results: 303 physiotherapists from Spain (190F, 107M, 3 diverse; mean age 40.78 ± 8.78) and 49 from Portugal (40F, 9M; mean age 36.78 ± 10.61) participated. The most frequent ethical situation was: "Lack of recognition of physiotherapists' role in healthcare" (Spain M = 2.44 ± 1.31; Portugal M = 1.90 ± 1.26; p = 0.075). Ranked second: "Scarcity of resources and time affecting treatment quality" in Spain (M = 2.54 ± 1.33) and "Physiotherapy provided by unqualified personnel" in Portugal (M = 2.14 ± 1.28). Ranked third: "Lack of knowledge about physiotherapy scope by other health professionals" in Spain (M = 2.61 ± 1.24), and "Lack of accreditation infrastructure and policies" (M = 2.19 ± 1.37) and "Physiotherapist pressured to increase productivity or billing" (M = 2.19 ± 1.44) in Portugal. Scale C was most frequently experienced in Spain (M = 3.43 ± 0.81) and Portugal (M = 3.02 ± 0.83), followed by B and A (Spain) or D (Portugal).
Conclusion: Systemic ethical situations were most prevalent, alongside interdisciplinary and economic challenges.
Implications: Physiotherapists require targeted training and support to navigate their everyday ethical challenges.
Funding acknowledgements: None declared.

O0002
ETHICAL DIMENSIONS OF JUSTICE IN DIGITAL TECHNOLOGY-ASSISTED PHYSIOTHERAPY: FOUNDATIONS FOR ETHICS EDUCATION IN PHYSIOTHERAPY
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Background: Digital health technologies (DHT) such as telerehabilitation, robotics, immersive technologies, wearables, and artificial intelligence are increasingly integrated into physiotherapy practice. While expanding therapeutic possibilities, they introduce new questions and responsibilities requiring critical engagement with the ethical dimensions of digital care. To strengthen the ethical competences of physiotherapists, education must keep pace with technological development.
Purpose: This study aims to systematically synthesize ethical dimensions of digital technology-assisted physiotherapy discussed in the literature, focusing here on the dimensions of justice.
Methods: A scoping review following the JBI methodology was conducted. The process was informed by the four biomedical principles and the policy statement of the World Physiotherapy on the ethical principles and responsibilities of physiotherapists.
Results: Of the 5848 publications, 75 studies were included. Seven core ethical domains were identified: therapeutic effectiveness, professional role and responsibility, relational aspects of care, safety, autonomy, privacy, and justice. The ethical dimensions of justice encompass equity and equity of access. Studies discussed the impact of DHT on benefits and accessibility for different patient groups and the influence of technology design, digital literacy, and existing inequalities.
Conclusion: The ethical dimensions of digital technology-assisted physiotherapy are multidimensional, with justice being a key concern. Ensuring equitable access and equal benefits from DHT use requires clearly defined professional responsibilities and competencies.
Implications: Ethics education in digital physiotherapy must address knowledge and skills about DHT design, digital literacy, and existing inequities. Findings will inform development and Delphi validation of case vignettes and a toolkit for ethics education.
Funding acknowledgements: This research is funded by the Swiss National Science Foundation (Project number: 220690).

O0004
WHEN RISK IS NOT PERCEIVED: INTRODUCING A PATIENT SAFETY PYRAMID FOR PHYSIOTHERAPY PRACTICE
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Physiotherapy interventions are largely non-invasive and often perceived as inherently safe, which may contribute to a weak patient safety culture and limited reporting of adverse events (AEs). Understanding potential harm is essential to guide prevention strategies. The aim is to synthesize evidence on AEs and near misses in physiotherapy, integrate insights from patient safety literature, and develop a profession-specific patient safety pyramid. This study builds on a prior integrative review, incorporates an updated search conducted from October to December 2025, and reanalysis to define a safety pyramid for physiotherapy. Searches combined terms for “physiotherapy”, “patient safety”, “adverse events”, and “near misses” across PubMed and PEDro. Studies reporting AEs or near misses associated with physiotherapy were included. AEs were extracted and thematically classified by severity, impact, and required response, informed by established patient safety frameworks. Of 435 articles, 43 were eligible. A five-level patient safety pyramid was developed, ranging from near misses and minor events with no or transient harm (≈80%), to moderate events requiring intervention (≈12%), and major events involving actual or potential serious physical or psychological injury (≈3%). The findings highlight a wide base of low-severity events that are rarely documented—especially in private outpatient settings—and a narrow apex of severe but underexplored cases. The pyramid provides a structured, physiotherapy-specific framework to describe and grade AEs and near misses, supporting a shared language and systematic monitoring. Embedding this framework in guidelines, education, and reporting systems may strengthen safety culture and inform research on preventable harm in physiotherapy.
Funding acknowledgements: None declared.

RESEARCH METHODOLOGY, KNOWLEDGE TRANSLATION AND IMPLEMENTATION SCIENCE

O0017
DEVELOPING A CORE OUTCOME SET FOR ADULTS WITH CEREBRAL PALSY: DIFFERENT PERSPECTIVES TOWARDS A COMMON GOAL
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Background: Nowadays, over 90% of children with cerebral palsy (CP) survive into adulthood. However, this transition brings physical and psychosocial challenges, compounded by limited integrative services. Evidence remains largely child- focused, and heterogeneous outcome measures hinder data synthesis and clear recommendations. This highlights the need for a patient-centered core outcome set (COS) to guide assessment and management of adult CP.
Purpose: To explore key stakeholders’ perspectives on routine evaluations of adult CP management and important outcomes of care.
Methods: Semi-structured interviews were conducted with adults with CP and health professionals. Outcomes were initially summarized through content analysis, followed by reflexive thematic analysis to deepen understanding of participants’ experiences.
Results: Ten participants were interviewed: five adults with CP (40% women; 47.6 ± 6.8 years; 100% spastic CP; 40% Gross Motor Function Classification System IV) and five health professionals (60% women; 33.8±6.8 years; two occupational therapists, one physiotherapist, one physician, one psychologist). Forty-nine candidate outcomes were identified across the areas of physiological/clinical, life impact, resource use, and adverse events. Three themes emerged: person-centered and accessible assessments; having a normal and independent life; and dynamic challenges in adult CP: aligning care provision with shifting needs.
Conclusion: Preliminary findings suggest stakeholders valued comprehensive, accessible, person-centered assessments that support autonomy and reflect evolving adult CP trajectories. Larger studies and multistakeholder consensus processes are needed.
Implications: This study provides novel insights into stakeholder-identified outcomes in adult CP and forms a foundation for a COS that could enhance clinical decision-making, standardize outcome reporting, enable benchmarking, and promote patient-centered physiotherapy practice.
Funding acknowledgements: None declared.

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O0018

IMPROVING CLINICAL VALIDITY OF THE 30-SECOND SIT-TO-STAND TEST IN ADULTS WITH OBESITY

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Background: The 30-Second Sit-to-Stand Test (STS30) is widely used to assess lower-limb strength and functional performance and has demonstrated reproducibility in individuals with obesity (1). However, a systematic learning effect of 6–12% challenges its validity for baseline assessment in clinical practice. Previous research suggests that multiple trials may be required to achieve performance stability (2), but this has not been established for the STS30.
Purpose: To determine the minimum number of attempts required to achieve within-session performance stability in the STS30 and to evaluate whether this approach mitigates the between-session learning effect.
Methods: A two-phase cross-sectional study was conducted in adults with obesity. Phase 1 (n = 30; BMI 39.8 kg/m^2) examined within- session performance stability across repeated STS30 attempts. Phase 2 (n = 31; BMI 40.2 kg/m2) assessed between-session reliability across two sessions using the optimal number of attempts identified in Phase 1.
Results: Performance increased by 11% from the first to the second attempt (p = 0.003), after which performance stabilized, indicating that two attempts are sufficient for within-session stability. However, a persistent between-session learning effect of 8–9% remained.
Conclusion: Two STS30 attempts provide a feasible strategy to achieve within-session stability. However, a clinically meaningful learning effect persists between sessions. Future research should address how to minimize this effect.
Implications: Clinicians should perform two attempts per session and consider the first session as familiarisation to improve measurement validity in practice.
Funding acknowledgements: None declared.

O0185

REHABILITATION-SPECIFIC QUALITY INDICATORS: EXPLORING THEIR USE AND IMPLEMENTATION DETERMINANTS IN FLEMISH REHABILITATION FACILITIES

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Background: Quality indicators (QIs) are increasingly used to strengthen the integration of rehabilitation within health systems and support quality improvement for interprofessional rehabilitation teams. However, it remains unclear whether rehabilitation-specific QIs are used in Flanders (Belgium), and which determinants influence their implementation.
Purpose: To identify rehabilitation-specific QIs used in Flemish rehabilitation facilities and examine barriers and facilitators influencing their implementation.
Methods: A survey within a Clinical Pathway Network identified existing rehabilitation-specific QIs, which were classified according to Donabedian and WHO quality domains. Two focus groups with healthcare professionals from rehabilitation facilities across Flanders explored implementation determinants. Discussions were transcribed verbatim and analyzed inductively using thematic analysis, after which categories were mapped onto the Consolidated Framework for Implementation Research (CFIR).
Results: Nine rehabilitation-specific QIs were identified, mainly distributed across the Donabedian process component (n = 5) and aligned with the people-centered domain (n = 5). Determinants were identified across all five CFIR domains, including indicator characteristics (relevance and actionability), organizational context, integration into electronic health records, and outer context factors such as benchmarking practices and perceived policy pressure.
Conclusion: This study identified rehabilitation-specific QIs and provides a comprehensive overview of determinants influencing their implementation. Moreover, the findings highlight key factors informing the development of QIs and the design of implementation strategies in rehabilitation.
Implications: These findings raise awareness among physiotherapists of the multifactorial determinants influencing the implementation of rehabilitation-specific QIs. Linking these determinants to the identified indicators supports informed decision-making and tailored implementation strategies in routine rehabilitation practice.
Funding acknowledgements: The lead researcher's time was supported through internal PhD funding from Hasselt University. This study received no external funding.

O0020

GOAL ATTAINMENT SCALING IN NEUROLOGICAL REHABILITATION: A SCOPING REVIEW OF IMPLEMENTATION, REPORTING AND PHYSIOTHERAPY IMPLICATIONS

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Goal Attainment Scaling (GAS) is widely used in neurological rehabilitation to capture person-centered change, yet there is variation. Background in implementation and reporting limits synthesis and discipline-specific translation. To examine how GAS has been implemented and reported across neurological rehabilitation research and identifies methodological features that may strengthen its application within physiotherapy settings.
Purpose: To identify methodological features that may strengthen its application within physiotherapy settings. A scoping review of studies involving individuals with neurological conditions using GAS was conducted. Data extraction addressed goal-setting procedures and SMART goals. Methods included setting, ICF/domain mapping, scaling approaches, training or standardization, and GAS reporting. Findings were synthesized descriptively. Forty-four studies were included. GAS findings were reported in all studies and were generally positive, indicating attainment of individualized, functionally meaningful goals across diverse neurological conditions. Most studies focused on pediatric populations. Goal-setting procedures and goal domains were described in 98% of studies. Structured or 4.
Results: SMART-equivalent goal-setting was reported in 57%, whereas explicit ICF or domain mapping was present in 36%. Only 16% provided detailed inter-rater reliability data. Substantial heterogeneity persisted in goal number, scaling formats, anchor definition, weighting, and aggregation methods, limiting comparability across studies. GAS appears clinically valuable in neurological rehabilitation, but methodological inconsistency limits comparability and 5. Conclusions on reproducibility. Future work should prioritize consensus- based reporting standards, clearer operational definitions, and more consistent implementation frameworks. Physiotherapy practice may benefit from more explicit and standardized GAS procedures, including structured goal 6. Implications include formulation, ICF-informed framing, clear scaling definitions, and assessor training to enhance clinical reasoning and outcome evaluation.
Funding acknowledgements: None declared.

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SPORT AND SPORTS INJURIES

O0082

SIMILAR PATIENT-REPORTED KNEE FUNCTION AND RETURN TO SPORT RATES AFTER NON-SURGICAL OR SURGICAL TREATMENT OF AN ACUTE ACL INJURY

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Background: The best treatment for acute ACL injuries (surgical or non-surgical) remains uncertain, particularly regarding return to sport (RTS) and knee function.
Purpose: Compare knee-related patient-reported outcomes (IKDC-SKF) and RTS between non-ACL reconstruction (ACLR) and ACLR treatment strategies 24 months after injury or ACLR and identify predictors for these outcomes in each group.
Methods: From the NACOX multicenter cohort, 275 patients (mean age 25.2, 52% females) with acute ACL injuries were followed for 24 months after ACL injury or ACLR. Treatment (non-ACLR vs. ACLR) was determined via shared decision-making in routine practice. IKDC-SKF scores were collected at 3, 6, 12, and 24 months. RTS was defined as return to preinjury Tegner level or higher.
Results: No significant differences in IKDC-SKF scores were observed between non-ACLR and ACLR groups. IKDC-SKF scores improved over time ($p < 0.001$) but were negatively affected by new serious knee injury ($p < 0.001$), older age ($p = 0.003$), and female sex ($p = 0.005$). Overall, 75% of patients achieved RTS within 24 months (mean 6.3 months, 95% CI 5.6–7.0), with no significant group difference (71% non-ACLR vs. 77% ACLR; $p = 0.271$).
Conclusion: Both non-ACLR and ACLR management, determined through shared decision-making, resulted in comparable patient-reported knee function and RTS rates at 24 months.
Implications: Non-ACLR treatment may be a viable option for selected patients, as ACLR is not universally required to achieve satisfactory RTS outcomes.
Funding acknowledgements: Swedish Medical Research Council, Swedish Research Council for Sport Science, and Medical Research Council of Southeast Sweden.

O0083

SELF-DIRECTED PSYCHOLOGICAL SUPPORT AFTER ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION: THE BANG RCT

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Background: Half of athletes do not return to competitive sport (RTS) after an ACL reconstruction (ACLR), mostly due to psychological factors.
Purpose: To evaluate the efficacy of internet-delivered psychological support, the BAckiN the Game (BANG) intervention, after ACLR for improving RTS rates.
Methods: Randomized controlled trial. Participants aged 15–30 years, playing a pivoting sport prior to ACL injury, were included. Participants were randomized to either usual care (UC, standard post-operative treatment) plus the BANG intervention (BANG+UC group) or usual care alone (UC group). The intervention was a 24-week internet-delivered psychological support program, based on cognitive-behavioral therapy principles. Participants reported sports participation fortnightly after ACLR and functional and psychological outcomes at 3-, 6-, and 12 months. Knee function was measured at 12 months after ACLR. New injuries were registered up to 24 months after ACLR. The primary outcome was RTS at 12 months after ACLR.
Results: 161 participants were included, 80 in the BANG+UC group and 81 in the UC group. The RTS rate at 12 months was 36% in both groups, with no significant differences in the proportion who RTS or in functional and psychological outcomes. Twelve participants sustained new ACL injuries (6 in each group).
Conclusion: There was no effect of internet-delivered psychological support on the RTS rate, readiness to RTS, or subsequent knee injuries beyond usual postoperative care for people with ACLR.
Implications: Digital psychological support for RTS is not ready to implement currently as standard rehabilitation practice for athletes who want to RTS.
Funding acknowledgements: Swedish Research Council, Swedish Research Council for Sport Science, Medical Research Council Southeast Sweden, Australian National Health Medical Research Council.

O0089

SEX-SPECIFIC RISK FACTORS FOR PAIN AND ANALGESIC USE IN AMATEUR FOOTBALL: A PROSPECTIVE COHORT STUDY

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Background: Pain and analgesic use are common among football players, yet their prevalence, impact, and underlying risk factors remain insufficiently understood in amateur football players.
Purpose: To estimate the prevalence of moderate-to-severe pain and analgesic use during a season and to identify associated risk factors.
Methods: A prospective cohort of 252 amateur players (148 female) completed biweekly surveys across one season. Surveys captured pain prevalence, cause, and analgesic use. Poisson regression models estimated prevalence ratios (PR) for factors associated with moderate-to-severe pain and analgesic use.
Results: Moderate-to-severe pain was reported in 19.4% of reports among females and 14.0% among males, and analgesic use in 25.1% and 9.5% of reports, respectively. Gradual-onset injury was the most frequent cause of pain (female 43%, male 47%), while analgesic use in females was often unrelated to injury. Risk factors for moderate-to-severe pain included older age, pain frequency in the preceding season, analgesic use in the preceding season, and perceived likelihood of pain occurrence. Risk factors for analgesic use during football weeks were pain frequency in the preceding season, analgesic use in the preceding season, and perceived likelihood of pain occurrence.
Conclusion: Pain and analgesic use are frequent in amateur football, and players with a history of pain or analgesic use represent high-risk groups. The identified risk factors can inform preventive strategies.
Implications: These findings support the need for pre-season screening of pain history and medication habits, targeted education on safe analgesic use, and proactive strategies to manage pain and gradual-onset injury.
Funding acknowledgements: The research was funded by grants from The Swedish Research Council (Ref 2021-02178).

O0088

INJURY PREVALENCE AND USE OF INJURY PREVENTION EXERCISE PROGRAMMES IN SWEDISH MALE AND FEMALE AMATEUR FOOTBALL PLAYERS

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Background: Injuries in amateur football are common. Sudden- and gradual-onset injuries add substantially to the burden, yet sex-specific patterns and prevention behaviors remain insufficiently described.
Purpose: To describe injury prevalence and the use of injury prevention exercise programmes (IPEPs) among younger and older male and female players, and to examine sex differences.
Methods: We conducted cross-sectional data collection (April–June 2025) within a baseline survey for a hybrid type 3 randomized controlled trial. Players retrospectively reported injuries and IPEP use for the 2024 season. In total, 5,497 players from 230 teams across nine Swedish districts were eligible. Independent t-tests compared injury outcomes; chi-square tests compared IPEP use between sexes.
Results: Among 534 male and 770 female players, males reported more sudden-onset injuries than females (34% vs 28%). Injury locations differed: males most often injured the knee, ankle, and foot; females the ankle, knee, and foot. Severe sudden-onset injuries (time-loss ≥4 weeks) occurred at comparable rates (16% males; 15% females) and were more frequent among older players. Overall, 42% reported using an IPEP, with higher usage in females than males (46% vs 36%) and increasing with age, especially among females.
Conclusion: About half of older players and roughly one third of younger players reported an injury. Males had a higher prevalence of sudden-onset injuries. Approximately one third of males and half of females used an IPEP.
Implications: Sex-specific differences in injury patterns and prevention behaviours should inform targeted implementation of IPEPs.
Funding acknowledgements: Swedish Research Council for Health, Working Life, and Welfare, the Swedish Research Council, the Swedish Research Council for Sport Science.

O0085

Mindset, effort, and support: the foundation for patients' decision to return to sport after an anterior cruciate ligament injury

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Background: Return to sport (RTS) is often the main goal for patients after an anterior cruciate ligament (ACL) injury. Besides clinical and functional outcomes, the ultimate decision regarding RTS is made by the patient.
Purpose: To explore what determines patients' decisions to RTS after ACL injury, treated with or without ACL reconstruction (ACLR).
Methods: 275 patients with acute ACL injury treated according to clinical practice from the NACOX prospective multicenter cohort study were eligible. When patients reported RTS, they received a questionnaire including the free-text question "What determined your decision to RTS?" Data were analyzed using qualitative content analysis (manual, inductive, text-driven).
Results: 134 patients reported RTS, and 112 patients, 63 with ACLR (56%), were included in the analysis. A total of 271 meaning units were condensed into 50 codes, nine subcategories, and three categories: (1) Motivation and driving forces, (2) Treatment and recovery, (3) Medical clearance and readiness, with the overarching theme "Mindset, effort and support – the foundation for patients' decision to RTS". Passion for the sport and willpower were strong motivators for RTS, outweighing shortcomings and fears. A structured, progressive rehabilitation process, combined with patient engagement, hard work, and support from surrounding personnel, including medical clearance and self-perceived readiness, were factors influencing patients' decision to RTS.
Conclusion: The overarching theme, capturing the key components "mindset, effort, and support", summarizes what determined patients' decisions to RTS.
Implications: The categories and theme may help clinicians identify what to emphasize during the long and demanding process from injury to RTS.
Funding acknowledgements: NACOX-cohort-study is supported by Swedish Medical Research Council, Swedish Research Council for Sport Science, Medical Research Council of Southeast Sweden.

O0084

ON FIELD REHABILITATION AFTER ACL INJURY IN CONTACT TEAM SPORTS: A SCOPING REVIEW OF EXERCISES, PROGRESSION, AND KEY PRINCIPLES

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Background: A structured transition from clinical rehabilitation to sport-specific, field-based training is essential for athletes returning to contact team sports after anterior cruciate ligament (ACL) injury—yet the content and progression of on-field rehabilitation (OFR) remain poorly defined.
Purpose: To map and summarize the existing scientific literature on OFR exercises, progression, and principles designed to support athletes returning to contact team sports after ACL injury.
Methods: A scoping review was conducted following PRISMA-ScR guidelines. Eight databases were searched for eligible sources (published 2010-2025) of any design that described OFR for athletes of any age, sex, or competition level returning to contact team sports after ACL injury.
Results: Thirty-eight sources were included, predominantly expert opinion, clinical commentaries, and case reports focused on football. OFR was typically described as a multi-stage progression applying the "control–chaos continuum", starting with linear running and controlled drills and advancing to multidirectional movements, sport-specific skills, and practice simulations. Progression was criterion-based, guided by minimal pain or swelling, full knee range of motion, adequate strength and limb symmetry, and tolerance to increasing running loads. Collaboration among physiotherapists, coaches, and athletes was emphasized, though organizational roles were seldom described.
Conclusion: Current literature emphasizes staged, criterion-based progression and multidisciplinary collaboration, yet provides limited guidance on roles and organizational structures.
Implications: OFR after ACL injury benefits from a stepwise, knee-function-guided progression supported by field-relevant criteria for safe advancement. These insights can enhance clinical decision-making and promote more coherent, collaborative OFR practices in contact team sports.
Funding acknowledgements: Medical Research Council of Southeast Sweden (FORSS-1012004).

O0086

THE IMPACT OF INJURIES ON FEMALE FOOTBALLERS IN THE KOSOVO ELITE LEAGUE IN TERMS OF PERCEPTION OF RETURN TO PLAY

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Background: Injuries to the lower extremities (LEI) are a common health issue for elite women football players (EWFP), and they are a major cause of missed training and competition time. Understanding body and movement factors associated with these injuries is essential for improving athlete safety and performance.
Purpose: The aim of this study was to identify and analyze the physiological risk factors associated with LEI among EWFP in Kosovo, with particular attention to injury incidence.

Methods: This study used a mixed-methods epidemiological design combining a systematic review and meta-analysis with a prospective longitudinal cohort study. A total of 142 players from 12 clubs in Kosovo's top-tier women's football league (2022–2023 season) participated. Descriptive statistics and logistic regression were used to analyze injury occurrences, the amount of time people were exposed, the seriousness of the injuries, and possible risk factors.
Results: The systematic review indicated that the prevalence of LEI within EWFP varied between 38.17–66%. Significant risk factors encompassed elevated BMI, diminished knee distance, modified knee kinematics during landing, and prior lower limb injuries. The cohort study documented 84 injuries across 26,123 exposure hours, yielding an injury rate of 3.21/1000 hours.
Conclusion: The findings indicate that physiological and biomechanical factors, especially higher BMI, altered knee mechanics, and previous injury history, significantly contribute to the risk of LEI.
Implications: These results highlight the importance of targeted injury prevention strategies and individualized rehabilitation programmes to reduce injury risk and support safe return to play in women's football.
Funding acknowledgements: None declared.

O0091

PARTNERING WITH A NATIONAL FITNESS ORGANIZATION TO SUPPORT USE OF AN INJURY PREVENTION EXERCISE PROGRAMME IN FOOTBALL

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Background: Despite efforts to promote use of injury prevention exercise programmes (IPEPs), football coaches often request more practical hands-on support.
Purpose: To evaluate coaches' experiences of receiving implementation support for use of an IPEP and fitness trainers' experiences of delivering this support.
Methods: We collaborated with a Swedish fitness organization and provided a digital education on the Knee Control+ IPEP and common implementation challenges to fitness trainers in 17 organizations. Trainers then offered implementation support for Knee Control+ to football teams participating in an RCT. Support consisted of practical workshops introducing Knee Control+ exercises and discussing facilitators and challenges for programme use. Coaches completed questionnaires after workshops, and fitness trainers responded after the season. Experiences were rated 0-10, with 10 being most positive.
Results: Sixty-five coaches responded to the questionnaire. They reported that the implementation support increased their knowledge about Knee Control+ (mean 8.7, SD 1.7) and provided practical tools for Knee Control+ use (mean 8.9, SD 1.5). After workshops, they had a firm belief in their ability to lead Knee Control+ (mean 8.7, SD 1.8). Trainers felt the digital education prepared them well to support coaches (mean 8.7, SD 1.9) and expressed strong interest in offering similar support to other sports (mean 9.3, SD 1.3).
Conclusion: Partnering with a national fitness organisation to train trainers to support coaches appears feasible. Both coaches and trainers viewed the implementation support positively.
Implications: This study shows promise for broader scale-up and may be adaptable to other sports and contexts.
Funding acknowledgements: Swedish Research Council for Health, Working Life, and Welfare, Swedish Research Council and the Swedish Research Council for Sport Science.

O0057

QUALITY AND CREDIBILITY OF SUBGROUP CLASSIFICATION SYSTEMS IN PATELLOFEMORAL PAIN: A SYSTEMATIC REVIEW

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Background: Patellofemoral pain (PFP) is a common and persistent condition. Subgroup classification has been proposed to improve individualized management, but the quality and credibility of existing systems remain unclear.
Purpose: To systematically identify subgroup classification systems used in randomized controlled trials involving people with PFP and evaluate their methodological quality and credibility.
Methods: A systematic review was conducted according to PRISMA 2020 and PERSiST guidance. PubMed, EMBASE, PEDro, and SPORTDiscus were searched from inception to 21 November 2024, with citation tracking. Randomized controlled trials or secondary analyses involving people with PFP were included if they proposed or evaluated subgroup classifications or predictive models. Two reviewers independently screened studies, extracted data, and assessed risk of bias, subgroup quality, credibility, and certainty of evidence.
Results: Seventeen randomized controlled trials involving 1,441 participants were included. Five classification categories were identified: clinical characteristics, pathoanatomical features, treatment-based approaches, clinical prediction rules, and combined approaches. Methodological quality ranged from low to high. Most systems were dominated by biomechanical criteria, with limited external validation and minimal integration of psychosocial factors. Few studies met all critical credibility criteria, and certainty of evidence was low to very low across categories.
Conclusion: Existing subgroup classification systems in PFP are heterogeneous and insufficiently validated for confident clinical use.
Implications: Physiotherapists should interpret current subgroup-based approaches cautiously. Future research should develop and validate an integrated framework combining biomechanical, functional, and psychosocial factors to support individualized care.
Funding acknowledgements: None declared.

O0092

INSPIRATORY MUSCLE TRAINING VS PHRENIC NERVE STIMULATION FOR AUTONOMIC RECOVERY IN PROFESSIONAL FOOTBALLERS: A RANDOMIZED PILOT STUDY

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Background: Post-match fatigue alters autonomic recovery in professional football players and may impair subsequent performance. Non-invasive strategies such as inspiratory muscle training (IMT) and transcutaneous phrenic nerve stimulation (TPNS) may accelerate recovery, although their comparative effects remain unclear.
Purpose: To examine the effects of IMT and TPNS on post-match autonomic recovery in professional football players compared with a control condition.
Methods: A randomized controlled pilot longitudinal study was conducted in professional football players allocated to IMT, TPNS, or control groups. Recovery was assessed after match play using heart rate and heart rate variability indices, including RR interval, RMSSD, SDNN, and HF. Within-group changes and between-group differences were analyzed.
Results: Both interventions showed significant recovery-related changes over time, indicating beneficial effects on post- match recovery. IMT demonstrated improvements in heart rate, RR interval, and RMSSD, while TPNS showed significant changes in heart rate, RR interval, RMSSD, SDNN, and HF. Between-group comparisons identified

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relevant differences. Compared with controls, TPNS showed lower heart rate at T2 (p = 0.020, d = -1.34) and T4 (p = 0.020, d = -1.63), with higher RR interval at T4 (p = 0.015, d = 1.75). Differences between IMT and TPNS were observed at T2 for heart rate (p = 0.030, d = 1.50) and RR interval (p = 0.026, d = -1.38).
Conclusion: Both interventions improved post-match autonomic recovery, with TPNS showing clearer effects versus control.
Implications: These findings support targeted recovery strategies in football, with TPNS appearing particularly promising for short-term autonomic recovery.
Funding acknowledgements: None declared.

O0090
BARRIERS AND FACILITATORS FOR IMPLEMENTATION OF INJURY PREVENTION IN FEMALE FOOTBALL IN CENTRAL AND EASTERN EUROPE
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Background: Football is popular among women in Central and Eastern Europe (CEE), but socio-historical gender bias limits safe participation. Limited local stakeholder involvement and scarce research (1% of IPP-related research conducted in CEE) further reduce the effectiveness of injury prevention programmes.
Purpose: To identify context-specific barriers and facilitators influencing IPP implementation in women's football across six CEE countries.
Methods: We performed a group concept mapping study with stakeholders (healthcare professionals, coaches, managers, players) from six countries (Azerbaijan, Croatia, Estonia, Latvia, Poland, Slovenia). Participants generated statements (S) on barriers and facilitators to IPP implementation, then rated them (1–5) for importance (I) and modifiability (M) and grouped them into clusters. Data were analyzed using multidimensional scaling and hierarchical cluster analysis with mean ratings.
Results: 38 stakeholders generated statements, and 36 rated and grouped the statements. 9 clusters (ranked highest to lowers mean importance) were constructed from 89 unique statements: Coaching communication & leadership (S = 5; I = 4.41; M = 3.17); Injury prevention & health management (S = 12; I = 4.33; M = 2.63); Team communication and culture (S = 12; I = 4.29; M = 2.85); Federation support (S = 17; I = 4.23; M = 2.83); Training methodology and implementation (S = 9; I = 4.22; M = 2.95); Lack of expertise (S = 8; I = 4.11; M = 2.31); Players' professionalism and attitude (S = 8; I = 4.05; M = 2.89); Financial constraints (S = 12; I = 4.04; M = 2.22); Sociocultural factors (S = 6; I = 3.03; M = 2.73).
Conclusion: A diverse stakeholder group identified a range of barriers and facilitators of IPP implementation in CEE, focused on leadership, communication, health management, and federation support, with a lack of staff and team culture.
Implications: Context-specific, systemic, multi-level and collaborative interventions6 are needed in Women's Football to effectively implement IPP.
Funding acknowledgements: This work was supported by the UEFA Medical & Research Grant Programme 2025.

SUSTAINABLE HEALTH

O0081
DOES SLEEP AFFECT JOINT PROPRIOCEPTION IN HEALTHY YOUNG ADULTS?
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Background: Proprioception is crucial for sensorimotor control, and since sleep influences many physiological processes, it is important to examine whether it affects joint-specific proprioceptive input.
Purpose: This study investigated the relationship between sleep and joint proprioception.
Methods: Ninety healthy adults (18-30 years) were recruited. Sleep was assessed by the Pittsburgh Sleep Quality Index (PSQI) and the Epworth Sleepiness Scale (ESS). Joint position sense was measured with an inclinometer, calculating the deviation in degrees for the neck, shoulder, trunk, and hip.
Results: Participants had a mean age of 21.94 ± 1.95 years. Median PSQI and ESS scores were 6 (5-8) and 7 (5-10) points, respectively. 56 participants showed poor sleep quality, and 19 reported daytime sleepiness. Global PSQI scores were not correlated with proprioception ($p > 0.05$), whereas the sleep disturbances subscore was correlated with neck and hip proprioception ($p < 0.05$). Shoulder proprioception correlated with ESS score ($r = 0.325$, $p = 0.002$). In univariate linear regression, daytime sleepiness predicted shoulder proprioception ($\beta = 0.333$, $p = 0.001$, $R^2 = 0.101$), while sleep disturbances predicted neck ($\beta = 0.279$, $p = 0.008$, $R^2 = 0.067$) and hip ($\beta = 0.208$, $p = 0.049$, $R^2 = 0.033$) proprioception.
Conclusion: Specific sleep disturbances and daytime sleepiness may influence selective proprioceptive function in healthy young adults.
Implications: Since proprioceptive inputs are vital for function, assessing sleep problems may help protect proprioceptive joint function and prevent injuries. Distinct sleep impairments may be affecting proprioception across different body regions, highlighting the importance of evaluating sleep subdomains rather than relying solely on global scores. These insights may also be valuable for clinical populations and athletes.
Funding acknowledgements: None declared.

O0032
DIGITAL HEALTH INFORMATION: TOPICS, TRUST, AND QUALITY ASSURANCE. AN ONLINE SURVEY
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Background: The health information landscape is rapidly shifting towards a predominance of digital platforms and AI chatbots. Alongside high-quality information, misinformation is prevalent there, impacting health behavior and outcomes of consumers.

Purpose: To assess online health information seeking behavior, trust in information, health decisions based on digital health information, and attitudes towards quality assurance.
Methods: We conducted a representative online survey among the Swiss population (age ≥15 years). A total of 2089 participants were recruited and weighted to represent German-, French-, and Italian-speaking regions.
Results: Overall, 86% of the participants reported having searched online for health and lifestyle information. The most popular topics were symptoms (59%), along with medication (59%), nutrition (57%), specific diseases (55%), and physical activity (48%). Participants trusted information from websites of acknowledged health providers (91%) and rated these contents to be well translatable to their own behavior (81%), along with content from AI chatbots (81%) and search engines (76%). A substantial share of participants regretted a health-related decision due to information obtained from specific digital sources: 26% from social media, 17% from AI-chatbots, and 14% from search engines. Quality assurance of online health information was considered important or very important by 90% of participants.
Conclusion: Consumption of digital health information is highly prevalent across the Swiss population and concerns sensitive topics such as disease and medication. The consumed information is likely to influence health behavior and may bear risks.
Implications: Regrets about following digital health advice are reported, and efforts towards quality assurance are recommended.
Funding acknowledgements: This study was supported by a Seed Grant from the Population Research Center at the University of Zurich, Switzerland.

WOMEN'S HEALTH

O0047
MOTIVATORS AND BARRIERS TO PHYSICAL ACTIVITY IN PREMENOPAUSAL VERSUS PERI- AND POSTMENOPAUSAL WOMEN
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Background: Pelvic floor dysfunction (PFD) is common throughout the female reproductive lifespan and, together with menopausal symptoms, may act as barriers to physical activity (PA).
Purpose: This study investigated differences in motivators and barriers to PA between premenopausal and peri- /postmenopausal women. A secondary aim was to explore whether PFD symptoms, specifically urinary incontinence (UI), colorectal-anal (CA) symptoms, and pelvic organ prolapse (POP), influence these factors.
Methods: A cross-sectional study was conducted in a sample of 80 women aged 18 to 80. Participants completed a questionnaire assessing demographic information, menstrual status (MS), PA-related motivators and barriers, and pelvic floor dysfunction (PFD) symptoms using the Pelvic Floor Distress Inventory (PFDI-20). Binary logistic regression was used to assess associations between MS, PFD severity, and individual motivators and barriers.
Results: MS and PFD symptom severity, especially UI and CAS, were significantly associated with barriers such as poor health perception, fear of incontinence, pain, and fatigue. Fewer significant associations were found for motivators: women with higher symptom burden and those in menopause were less likely to endorse health-related motivators. No significant associations were found between POP symptoms and any motivator or barrier.
Conclusions: PFD symptoms and MS are linked to perceived barriers and motivators for PA. These findings highlight the need for targeted strategies to support PA participation among midlife women, with attention to both physical limitations and psychosocial factors.
Implications: Increasing awareness of the benefits of PA, especially among peri- and postmenopausal women, may help reduce inactivity during this life stage.
Funding acknowledgements: None declared.

O0043
ASSESSING PHYSICAL ACTIVITY DURING PREGNANCY: CRITERION VALIDITY OF THE KAISER PHYSICAL ACTIVITY SURVEY USING ACCELEROMETRY
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Background: Physical activity (PA) during pregnancy is associated with maternal and fetal health benefits, including reduced risk of gestational complications and improved wellbeing. International guidelines recommend regular moderate PA during pregnancy; however, accurately assessing activity levels in pregnant women remains challenging. Self-report questionnaires are widely used due to their feasibility in clinical and research settings, but their validity compared with objective measurement methods requires further investigation.
Purpose: This study aimed to assess PA levels in pregnant women and examine the criterion validity of the Kaiser Physical Activity Survey (KPAS) by comparing questionnaire results with accelerometry.
Methods: A methodological observational study was conducted with pregnant women recruited in northern Portugal. Participants completed the KPAS Portuguese version and wore an ActiGraph accelerometer for seven consecutive days to obtain objective measures of PA. Descriptive statistics were used to characterize the sample and activity levels. Spearman correlation analyses examined associations between KPAS scores and accelerometer-derived indicators of energy expenditure.
Results: Thirty-nine pregnant women participated in the study. The majority met international PA recommendations. Moderate correlations were found between the weighted total KPAS score and accelerometer-derived measures of weekly, daily, and hourly energy expenditure. Occupational activity domains also showed significant associations with objective activity measures.
Conclusion: The KPAS demonstrated acceptable criterion validity compared with accelerometry and may be a useful tool to assess PA patterns during pregnancy.
Implications: Reliable assessment tools support physiotherapists in monitoring PA, guiding interventions, and promoting active lifestyles during pregnancy in clinical practice and research.
Funding acknowledgements: None declared.

O0044
FROM GUIDELINES TO PRACTICE: PHYSIOTHERAPY MANAGEMENT OF PREGNANCY-RELATED PELVIC GIRDLE PAIN
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Background: Pregnancy-related pelvic girdle pain (PGPP) is a common musculoskeletal condition that can significantly affect mobility, daily functioning and quality of life during pregnancy. Physiotherapy plays a key role in its assessment and management. Despite the existence of clinical practice guidelines for pelvic girdle pain, variations in physiotherapists' clinical decision- making and adherence to evidence-based recommendations have been reported internationally.1–3 Understanding current physiotherapy practice patterns is important to identify gaps between guideline recommendations and clinical practice.

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Purpose: This study aimed to explore physiotherapy practices in the assessment and management of pregnancy-related pelvic girdle pain and examine physiotherapists' knowledge and use of clinical practice guidelines.
Methods: An exploratory cross-sectional study was conducted using the questionnaire Physiotherapy Practices in Pelvic Girdle Pain, culturally adapted and validated for the Portuguese context. Seventy-nine physiotherapists completed the questionnaire. Descriptive statistical analysis examined responses related to risk factors, assessment strategies, treatment approaches, and guideline awareness.
Results: Participants demonstrated good knowledge of common PGPP risk factors and frequently reported using recommended provocation and functional tests. Exercise-based interventions, motor control exercises, and joint mobilization were the most frequently selected treatment strategies. Variability was observed in the use of standardized outcome measures and clinical practice guidelines.
Conclusion: Physiotherapists demonstrated good foundational knowledge; however, gaps remain between evidence-based recommendations and routine clinical practice.
Implications: These findings highlight the need for improved dissemination of clinical practice guidelines and targeted professional education to support consistent evidence-based physiotherapy management of PGPP.
Funding acknowledgements: None declared.

O0048
RE-FRAMING THE ROLE OF PHYSIOTHERAPY IN MENOPAUSE EDUCATION: A MIXED-METHODS EVALUATION OF AN INTEGRATED PROGRAMME
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Background: Menopause is associated with increased psychological stress, symptom burden, and long-term health risks. Although guidelines recommend clear, evidence-based education and support, limited direction exists regarding content, delivery, and professional responsibility. Existing literature demonstrates benefit but highlights inconsistency in programme design and evaluation. The contribution of physiotherapy beyond pelvic health remains underdeveloped, leaving a gap in interdisciplinary, biopsychosocial menopause education.
Purpose: To evaluate the effectiveness of a physiotherapist-led programme combining menopause education, yoga-based movement, and behavior change strategies on psychological, quality-of-life, and physiological outcomes, and to explore implications for physiotherapy in menopause care. Seventeen academic women, mean age 51.9 years, participated in a 12-week mixed-methods study. Quantitatively, the Menopause Rating Scale (MRS), SF-36 domains, anthropometrics, and salivary cortisol were utilized. Repeated-measures and exploratory correlations were conducted. Qualitative data from focus groups and interviews were analyzed thematically using a reflexive approach. Ethical approval was granted by the University of Galway.
Results: Improvements were observed in MRS psychological ($p = 0.048$), somatic ($p = 0.0037$), and total scores ($p = 0.0015$). SF-36 role emotional, emotional wellbeing, and social functioning were also significant. Cortisol profiles suggested physiological recalibration in 80% of participants. Qualitative findings highlighted increased self-efficacy, reduced stress, and the value of in-person delivery. Findings support physiotherapy-led, biopsychosocial interventions within interdisciplinary menopause care. Limitations include a small sample size and lack of a control group. Further research should examine scalability.
Implications: An expanded physiotherapy role delivering integrated education, movement, and behavior change across settings, aligned with sustainable models of healthy ageing, is recommended.
Funding acknowledgements: None declared.

O0045
RETHINKING ABDOMINIS DIASTASIS ASSESSMENT: NORMATIVE ULTRASOUND EVIDENCE FROM NULLIPAROUS WOMEN
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Background: Diastasis recti abdominis (DRA), commonly affecting postpartum women, is characterized by increased inter- rectus distance (IRD) and linea alba alterations1. Distinguishing physiological from pathological changes requires robust normative data from healthy populations, particularly nulliparous women. Ultrasound imaging is a reliable method for assessing abdominal wall morphology, including IRD2 and linea alba deformation patterns3.
Purpose: To establish ultrasound-based normative values for IRD, linea alba length (LAL), and distortion (Distortion Index [Didx]) in healthy young nulliparous women.
Methods: A cross-sectional observational study was conducted with 58 women (19–24 years). Ultrasound images were acquired at 2 cm (AB2) and 5 cm (AB5) above the umbilicus, at rest (RT) and during abdominal contraction (AC). Outcome variables included IRD, LAL, and DIdx. Analyses included descriptive statistics, paired t-tests, and Pearson correlations ($p < 0.05$).
Results: Mean IRD values were consistent (~11 mm) across both locations and conditions, with no significant differences between RT and AC. LAL showed small but consistent increases during contraction, suggesting adaptive elongation of the linea alba. The DIdx revealed location-dependent and condition-specific behavior, decreasing at AB2 and increasing at AB5 during contraction. No meaningful associations were found between IRD or DIdx and physical activity levels.
Conclusion: In healthy nulliparous women, IRD remains stable during contraction, whereas LAL and DIdx capture dynamic and region-specific adaptations of the linea alba, reflecting functional tissue behavior beyond static separation measures.
Implications: These findings highlight the limitations of relying solely on IRD and support the integration of dynamic and qualitative indices in clinical assessment.
Funding acknowledgements: None declared.

O0049
LIPOEDEMA: A PHYSIOTHERAPY-FOCUSED EVALUATION OF CONTEMPORARY MANAGEMENT STRATEGIES
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Background: Lipedema is a chronic, progressive disorder predominantly affecting women, characterized by disproportionate subcutaneous fat accumulation, pain, and increased capillary fragility. Despite its clinical burden, it remains underrecognized and is often misdiagnosed as obesity or lymphedema.
Objective: This study aims to evaluate lipedema in light of current literature and to examine the integration of physiotherapy-based conservative approaches with surgical interventions. Additionally, it seeks to assess the effectiveness of physiotherapy modalities, analyze the role of exercise in maintaining functional capacity, and explore the contribution of multidisciplinary management to clinical outcomes.

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Methods: A comprehensive review of studies published between 2020 and 2025 was conducted, including clinical trials, systematic reviews, and international guidelines, with a focus on complex decongestive therapy, exercise interventions, and supportive treatments.
Results: Evidence indicates that lipedema involves chronic low-grade inflammation, adipocyte hypertrophy, microvascular dysfunction, and secondary lymphatic impairment. Physiotherapy interventions, including manual lymphatic drainage, compression therapy, and individualized exercise, improve pain, mobility, and quality of life. While exercise supports functional capacity, its effect on disease progression is limited. Tumescent liposuction provides significant symptomatic relief, particularly when combined with postoperative rehabilitation.
Conclusion: Physiotherapy is essential in lipedema management, and its integration with surgical treatment enhances clinical outcomes. Further research should focus on long-term outcomes and standardized rehabilitation protocols.
Funding acknowledgements: None declared.

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P027

VIRTUAL REALITY MANIPULATION OF SENSORIMOTOR EXPECTATIONS TO MODULATE DYSPNOEA PERCEPTION IN INDIVIDUALS WITH COPD

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Background: Breathlessness is a multidimensional perceptual experience and the main limiting symptom in Chronic Obstructive Pulmonary Disease (COPD). Its perception arises from integration of sensory, motor, cognitive, and emotional processes. Anticipation, anxiety, and expectations strongly modulate dyspnoea, highlighting central nervous system involvement, particularly prefrontal networks. Virtual reality (VR) offers a novel way to manipulate sensory input and exercise-related expectations safely and controllably.
Purpose: To analyse the effects of controlled manipulation of exercise-related sensorimotor expectations using a VR simulator on dyspnoea perception, ventilatory response, and respiratory muscle activity in individuals with COPD compared with healthy controls.
Methods: This ongoing quasi-experimental laboratory study includes 40 individuals with moderate-to-severe COPD and 40 matched healthy participants. Subjects perform a cycling task immersed in a VR environment simulating uphill gradients. Visual slope is systematically dissociated from actual workload to create sensory incongruence. Dyspnoea is assessed using the Borg scale. Scalene muscle activity is recorded via surface electromyography, ventilatory parameters are monitored, and prefrontal cortical activation is measured using functional near-infrared spectroscopy. Psychological dimensions related to dyspnoea are evaluated using validated questionnaires.
Results: Data collection is ongoing. Preliminary observations indicate the protocol is feasible, safe, and well tolerated in both groups. Final outcomes will be reported after completion and statistical analysis.
Conclusion: Findings may support a paradigm shift in dyspnoea understanding and management, promoting therapies targeting expectation modulation and body–brain–environment integration using immersive technologies.
Implications: This approach may inform physiotherapy interventions integrating perceptual modulation, digital therapeutics and personalised rehabilitation strategies for COPD.
Funding acknowledgements: None declared.

P043

IMPACT OF INSPIRATORY MUSCLE TRAINING ON PULMONARY FUNCTION, BLOOD LACTATE, AND TIME-TRIAL PERFORMANCE IN ATHLETES

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Background: Inspiratory muscle training (IMT) is increasingly used to enhance respiratory efficiency and delay fatigue in athletes. However, inconsistent evidence exists regarding its effectiveness across different populations and training protocols.
Purpose: To evaluate the effects of IMT on pulmonary function, blood lactate levels, and time-trial performance in athletes using a structured PICO-based analysis.
Methods: A systematic literature review was conducted following PRISMA guidelines. Five electronic databases (PubMed, ScienceDirect, SPORTDiscus, Semantic Scholar, and Cochrane Library) were searched for studies published within the last 10 years. Inclusion criteria included randomized controlled trials involving athletic populations, IMT as the primary intervention, and outcomes related to pulmonary function, blood lactate, or performance. Twenty-three studies were included. Methodological quality was assessed using the Critical Appraisal Skills Programme (CASP).
Results: IMT consistently improved inspiratory muscle strength and pulmonary function, particularly maximal inspiratory pressure and forced vital capacity. Several studies demonstrated reduced post-exercise blood lactate levels, indicating improved aerobic efficiency. Improvements in time-trial performance were observed mainly in sub-elite and endurance athletes, while minimal effects were reported in elite athletes. Substantial heterogeneity was identified in IMT protocols, duration, and participant characteristics.
Conclusion: IMT is an effective adjunct to training for improving respiratory function and reducing metabolic fatigue. Its impact on performance is dependent on the athlete's level and training protocol.
Implications: IMT can be integrated into physiotherapy and athletic training programmes to optimise performance. Standardised protocols and further high-quality research are required to guide clinical application.
Funding acknowledgements: None declared.

DISABILITY AND REHABILITATION

P037

DEVELOPING HEALTH PROFESSIONAL CAPACITY THROUGH COMMUNITY PARTNERSHIP: EVALUATION OF AN INCLUSIVE EXERCISE PROGRAMME FOR DISABILITY

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Adults with physical disability in rural areas experience reduced access to structured physical activity and prolonged waiting times for rehabilitation services. Traditional one-to-one therapy models may not adequately address sustained physical activity needs while maintaining service capacity. Community-integrated exercise pathways may offer a strategy to improve functional outcomes and alleviate system-level pressures. To evaluate the functional and service-level impact of a community-based group exercise programme implemented within a rural adult disability service. A prospective service evaluation using a repeated-measures pre-post design was conducted. Outcome measures included the 10-Metre Walk Test, 30-Second Sit-to-Stand Test, Berg Balance Scale, and EQ-5D. Pre-post change scores were calculated and interpreted using established Minimal Clinically Important Difference thresholds. Service-level

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impact was assessed through descriptive comparison of physiotherapy waiting list volume and maximum waiting times before and after implementation. Participants demonstrated improvements in all areas, with a majority achieving clinically meaningful gains in gait speed and functional strength. At a service level, physiotherapy waiting list volume reduced by 93.9%, and maximum waiting time decreased by 86.7%, indicating substantial improvement in service flow. A community-based group exercise pathway embedded within a rural adult disability service achieved meaningful functional improvements while significantly reducing waiting list pressures. These findings suggest that redistributing appropriate signposting into structured community programmes can enhance equity of access, preserve clinical capacity for complex cases, and support sustainable rural service redesign. Embedding such pathways within community infrastructure may represent a sustainable model for improving access to physical activity in rural settings.
Funding acknowledgements: None declared.

EDUCATION

P092

INTERNATIONAL MOBILITY AND VIRTUAL EXCHANGE AS INNOVATIVE TEACHING STRATEGIES IN PHYSIOTHERAPY EDUCATION

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Background: Internationalization has become a key strategy in higher education to develop intercultural and professional competencies. The Faculty of Physiotherapy at the Universidade da Coruña has implemented several mobility and internationalisation strategies to strengthen these competencies.
Purpose: This project aimed to analyse the implementation and educational impact of student and staff mobility programmes, internationalization-at-home initiatives, and innovative teaching strategies in physiotherapy education.
Methods: A descriptive analysis was conducted using institutional data from the 2022 to 2025 academic years. Variables included incoming and outgoing student mobility, faculty mobility, and international activities. Quantitative indicators were combined with qualitative descriptions of educational initiatives such as mentoring programmes, informational sessions, and learning activities.
Results: There is an increase in the number of undergraduate physiotherapy students participating in outgoing mobility programmes and in incoming students who completed academic or clinical activities at the faculty. Additionally, students participated in a recurring Blended Intensive Program involving five European universities. Students engaged in the Virtual Exchange Program, an international online initiative designed to enhance intercultural competencies and communication skills. Staff mobility also increased in outgoing and incoming academic teaching, research, or training exchanges. Mobility coordinators have regularly contributed to the European Network of Physiotherapy in Higher Education, which has an impact on fruitful collaboration with partners.
Conclusions: Mobility programmes and virtual exchange initiatives represent effective innovative teaching strategies that promote internationalisation, intercultural competence, and collaborative learning in physiotherapy education.
Implications: Integrating mobility into physiotherapy curricula may strengthen global competencies, foster international collaboration, and prepare future physiotherapists for increasingly international healthcare environments.
Funding acknowledgements: None declared.

EDUCATION: METHODS OF TEACHING AND LEARNING

P036

FEEDBACK MODALITIES AND INSTRUCTIONAL TOOLS IN NEUROPHYSIOTHERAPY EDUCATION: STUDENT PERCEPTIONS AND LEARNING CORRELATES

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Background: Constructive feedback is essential for developing motor skills and clinical reasoning in neurophysiotherapy and for ensuring safe clinical practice. However, limited evidence exists on which feedback modalities and instructional tools best support learning and are most valued by undergraduate physiotherapy students.
Purpose: To examine students' perceptions of different feedback types and tools in a neurophysiotherapy course, explore their evolution during the semester, and analyze their relationship with feedback use and psychoeducational variables.
Methods: 172 students enrolled in a neurophysiotherapy subject at the University of Valencia (Spain) participated. Teaching methods incorporated execution guides and assessment rubrics of maneuvers, video modelling of clinical techniques, case studies, clinical simulation, and structured self-assessment activities. Students completed a questionnaire assessing perceived effectiveness, usefulness, and use of feedback (α =0.76–0.84). Academic engagement, learning self-efficacy, course satisfaction, and procrastination were also collected.
Results: Verbal and physical guidance during maneuver correction (M = 4.68) and face-to-face feedback (M = 4.53) were the most highly valued modalities. Perceived effectiveness increased significantly for rubrics (3.88–4.30) and video modeling (4.11–4.42) feedback during the semester. Satisfaction with feedback was moderate (M = 3.48) and correlated positively with engagement (r = 0.41), learning self-efficacy (r=.32), and course satisfaction (r = 0.29), and negatively with procrastination (r = -0.23).
Conclusion: Direct feedback combined with structured tools, such as rubrics and video modelling, may enhance the perceived quality and educational impact of feedback in neurophysiotherapy training.
Implications: Integrating structured feedback strategies and video modelling in physiotherapy education may strengthen clinical competence and promote feedback literacy in future physiotherapists.
Funding acknowledgements: Partial funding was provided by the Vice Chancellor's Office for Employment and Training Programs, Universitat de València (PIEC_2734849).

HEALTH PROMOTION AND WELLBEING/HEALTHY AGEING/PHYSICAL ACTIVITY

P007

PHYSIOTHERAPY AS A HEALTH ASSET: A SALUTOGENIC MODEL FOR UNIVERSITY STAFF USING AN AI-ASSISTED MULTICHANNEL STRATEGY

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Background: Sedentary behavior in universities leads to physical decline. Beyond ergonomics, a salutogenic approach empowers individuals to use movement as a health asset. Generative AI (Gemini Pro) allows physiotherapists to design personalized educational materials that reinforce long-term adherence.
Purpose: To evaluate the physiotherapy intervention ("Defying Gravity") on the health perception of university staff (PDI/PTGAS) and describe a multichannel strategy using AI-co-created materials.
Methods: A pilot study was conducted with 10 staff members (5 Academic/PDI, 5 Administrative/PTGAS). The intervention, led by a Kinesitherapy professor, followed a reinforcement sequence: 1) On-site theoretical-practical workshop with AI- designed support; 2) Immediate digital booster (infographic) via email; 3) One-month adherence reinforcement (video). Impact was measured using a Likert scale (1-5) for Utility, Content, and Presentation.
Results: The pilot showed a 100% satisfaction rate (scores 4-5). Utility was the highest-rated category (mean 4.9/5; 90% rated it 5/5). Content and Presentation achieved mean scores of 4.7 and 4.6, respectively. Participants highlighted the clarity of AI-assisted materials and the effectiveness of the one-month video follow-up for maintaining postural awareness and habit formation.
Conclusion: The "Defying Gravity" model demonstrates that physiotherapy, supported by Gemini Pro, can implement sustainable institutional health strategies. High ratings in utility and content suggest that this multichannel approach facilitates effective knowledge transfer and engagement among both academic and administrative staff.
Funding acknowledgements: None declared.

P032
AEROBIC EXERCISE AS AN ADJUNCT TO VITAMIN B12 THERAPY: A PILOT STUDY ON COGNITIVE AND FUNCTIONAL OUTCOMES
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Background: Vitamin B12 deficiency is associated with cognitive decline, reduced muscle strength, and increased fatigue. While supplementation is the standard treatment, the potential role of exercise remains underexplored.
Objective: This pilot study investigated the effects of combining aerobic exercise with vitamin B12 supplementation on cognitive status, aerobic capacity, handgrip strength, and fatigue.
Methods: Six individuals aged 18–40 years with vitamin B12 deficiency were allocated into a medical group (standard supplementation) or an exercise group (supplementation plus supervised moderate-intensity aerobic exercise twice weekly for six weeks). Cognitive function was assessed using the Rey Complex Figure Test and Cognitive Status Scale. Aerobic capacity was evaluated with the Incremental Shuttle Walk Test. Fatigue and handgrip strength were assessed using the Fatigue Severity Scale and a Jamar dynamometer.
Results: Baseline characteristics were similar between groups. After the 6-week intervention, no significant difference was observed in cognitive scores ($Z = -0.664$; $p = 0.507$), although the exercise group showed a more consistent improvement trend; aerobic capacity ($Z = -1.964$; $p = 0.050$), left-hand grip strength ($Z = -1.993$; $p = 0.046$), and fatigue severity ($Z = -1.964$; $p = 0.050$) improved in favor of the exercise group.
Conclusion: These preliminary findings suggest that integrating aerobic exercise into the management of vitamin B12 deficiency may contribute to improvements in physical function and fatigue management, while also showing a positive trend in cognitive outcomes. Larger controlled studies are needed.
Implications: Incorporating structured aerobic exercise into treatment protocols may represent a valuable multimodal approach for improving functional outcomes in individuals with vitamin B12 deficiency.
Funding acknowledgements: None declared.

P077
COST-EFFECTIVENESS OF 24-HOUR MOVEMENT BEHAVIOR INTERVENTIONS FOR SECONDARY PREVENTION IN PATIENTS WITH CVD: A SYSTEMATIC REVIEW
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Purpose: Cardiovascular disease (CVD) prevalence is projected to reach 1.1 billion by 2050, necessitating sustainable preventive strategies. While 24-hour movement behavior (24h-MB), comprising physical activity, sedentary behavior, and sleep, is a critical modifiable risk factor, evidence regarding the cost-effectiveness of 24h-MB interventions remains unclear. This systematic review identifies, appraises, and synthesizes economic evaluations of 24h-MB interventions in CVD patients.
Methods: A systematic search was conducted across four databases (Embase, PubMed, CENTRAL, CINAHL). Inclusion criteria required full economic evaluations from developed countries focusing on adults with CVD, where ≥50% of the intervention targeted 24h-MB components. Quality was appraised using CHEERS and ROB-2. Costs were standardized to 2024 Euros. The primary outcome was incremental net monetary benefit (INMB). Meta-analyses were performed by perspective and follow-up duration.
Results: Twelve studies (n = 4.194) were included. Ten focused exclusively on physical activity, one on sleep, and one addressed sedentary behavior. While reporting quality was generally good-to-moderate, 50% of studies exhibited high risk of bias, primarily due to missing data. Meta-analysis (healthcare perspective, willingness-to-pay = €35.000, one-year follow-up, 8 trials, n = 1.428) demonstrated that 24h-MB interventions were cost-effective compared to usual care (INMB MD 832,16; 95% CI: -27.40 to 1.691,72; $I^2 = 95\%$). Consistency was observed across different follow-up durations.
Conclusion: Preliminary evidence suggests 24h-MB interventions are cost-effective for CVD management, providing health gains while reducing expenditure. Integrating these interventions into clinical practice offers a pathway toward more efficient and sustainable healthcare systems.
Funding acknowledgements: Funded by ZonMw (Lifestyle in Healthcare programme) and Regieorgaan SIA (RAAK-PRO programme).

P083
PERCEIVED BARRIERS AND FACILITATORS WITH EXERCISE PROGRAMMES AMONG PHYSIOTHERAPISTS IN LONG-TERM CARE CENTERS
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Background: Exercise programmes are important in long-term care (LTC) to maintain physical function and prevent decline in older adults. However, organisational and environmental barriers often limit their implementation.
Purpose: To identify the main barriers and facilitators perceived by physiotherapists when organising exercise in LTC centres and to examine proposed changes to enhance programme quality.

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Methods: A national cross-sectional survey was conducted among physiotherapists working in LTC in Spain. A self-administered online questionnaire gathered information on barriers, facilitators with current exercise programmes, and potential improvements.
Results: A total of 171 physiotherapists participated. The most frequently reported barriers were heterogeneity of residents' functional capacity (81.3%), insufficient staff for transfers (57.9%), limited time due to competing activities (60.8%), and lack of dedicated exercise time (49.1%). Material, space, and facility limitations were also common (approximately 42–44%). Among respondents, 62% would change aspects of the programme. Proposed improvements included increasing therapist staffing (64%), expanding exercise time (71%), adding new activities (94%), offering outdoor exercise (89%), and improving facilities (73%). Regarding evidence access, most disagreed with lacking skills or motivation; 67% searched for evidence when needed, although 72% reported limited time for it.
Conclusions: Physiotherapists report organizational and resource-related barriers that hinder optimal exercise delivery in LTC.
Implications: Improving staffing, expanding exercise time, updating facilities, and supporting evidence-based decisions could enhance LTC exercise programmes. These findings may guide physiotherapy planning, workforce allocation, and policy strategies to strengthen exercise provision in LTC.
Funding acknowledgements: None declared.

P014

HANDGRIP STRENGTH AS AN INDICATOR OF QUALITY OF LIFE AND LONGEVITY IN ADULTS OVER 60 YEARS OLD ATTENDING HOSPITAL DOS DE MAIG

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Background: Active ageing is a priority objective in the care of the older population. Handgrip strength (HGS) has been proposed as a simple and useful functional indicator to assess health status and quality of life (QoL). Objective: To analyze the relationship between HGS and QoL in older adults over treated in our rehabilitation service.
Methods: A cross-sectional observational study was conducted in 65 patients over 60 years old, evaluated between January and February 2026. HGS was measured using a Jamar hydraulic dynamometer, performing three maximal measurements for each hand and calculating the mean value. QoL was assessed using the SF-36 questionnaire. Statistical analysis was performed using IBM SPSS Statistics 23.
Results: The mean age was 70.17 ± 7.21 years. Mean handgrip strength was 20.25 ± 8.15 kg in the right hand and 19.15 ± 8.83 kg in the left hand. A positive correlation was observed between right-hand grip strength and the physical role dimension of the SF-36 ($p = 0.063$). Comorbidity was negatively associated with quality of life in most dimensions, and osteoarthritis showed a significant relationship with quality of life in general health ($p = 0.022$) and mental health ($p = 0.03$).
Conclusions: HGS may be associated with QoL in older adults, representing a useful functional indicator for health assessment and the promotion of active ageing.
Implications: HGS may be a simple and objective tool for functional assessment in older adults, allowing early detection of functional decline and guiding physiotherapy interventions aimed at promoting active ageing.
Funding acknowledgements: None declared.

P093

AEROBIC EXERCISE FOR SLEEP QUALITY: DOSE–RESPONSE META-ANALYSIS ON OPTIMAL VOLUME AND INTENSITY IN ADULTS

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Background: Poor sleep quality is a major problem linked to severe chronic diseases. Although aerobic exercise is recognized as an effective tool for improving sleep, current clinical recommendations lack a precise dosage. Purpose: To conduct a systematic review with meta-analysis to determine the optimal total volume and intensity of aerobic exercise needed to maximize sleep quality (PSQI).
Methods: We searched PubMed, Embase, Web of Science, Cochrane, and SCOPUS from inception to 16 July 2025 for Randomized Controlled Trials (RCTs) evaluating aerobic exercise interventions in adults. Two reviewers independently screened, extracted data, and assessed bias. A random-effects pre-post meta-analysis and one-stage dose–response meta- analysis using restricted cubic splines were conducted.
Results: 39 RCTs (n = 1,714) were included. Aerobic exercise significantly improved sleep quality compared to controls (MD = -2.27, 95% CI: -3.29, -1.25, $I^2 = 97\%$). Moderate intensity yielded the largest improvement (MD = -3.06), although differences between intensity levels were not statistically significant. A significant non-linear dose-response relationship was confirmed ($p < 0.001$). For the general population, the optimal accumulated volume was 2400 minutes (MD = -3.44) but differed by clinical condition: 1200 minutes for primary sleep disorders (MD = -7.47) and 2600–2800 minutes for cancer patients (MD = -1.23).
Conclusion: Aerobic exercise improves sleep quality through a non-linear dose–response relationship requiring specific total volumes. Optimal accumulated minutes are 2400 for the general population, 1200 for sleep disorders, and 2600–2800 for cancer patients.
Implications: Exercise dosage enables moving beyond generic advice toward precise, population-specific volume prescription for sleep quality.
Funding acknowledgements: A.T-B acknowledges predoctoral funding (FPU24/03315). Other authors received no funding for this work.

P073

EVALUATION OF THE URBAN ACTION AGAINST CANCER (UCAN-ACT) APP: STAKEHOLDER PERSPECTIVES ON USABILITY AND ENGAGEMENT

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Background: UcanACT is an intersectoral project funded by the Erasmus+ Programme (2021–2027). It aims to encourage adults and senior citizens to engage in physical activity (PA) as a means of preventing cancer within public urban green spaces. PA promotion was based on supervised exercise sessions supported by the UcanACT App, which incorporates exercise demonstrations based on the latest evidence.
Purpose: To evaluate the usability and engagement of the UcanACT App reported by stakeholders of the UcanACT project.
Methods: Citizens aged over 50 years from three European territories (Bologna, Kilkenny and Munich) were invited to participate in 1-hour supervised PA sessions twice weekly and to use the UcanACT App. The System Usability Scale (SUS) and the User Engagement Scale (UES-SF) were implemented to assess the experience and

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engagement of stakeholders (citizens and physiotherapists) with the UcanACT application.
Results: A total of 146 citizens (mean age 66.1 years) and 29 physiotherapists took part in this project. The perceived usability of the App can be considered good for all agents. The items that scored highest were "I think that I would like to use this App frequently", "I found the various functions in this App were well integrated", and "I felt very confident using the App". Similarly, both agents reported feeling highly engaged when using the App.
Conclusions: The UcanACT App appears to be a well-accepted tool among citizens and physiotherapists for PA promotion.
Implications: This tool could be used by other municipalities interested in promoting PA for cancer prevention.
Funding acknowledgements: This research was co-funded by the European Union under the Erasmus+ Programme 2021-2027 (Grant Agreement No. 101050256).

INNOVATIVE TECHNOLOGY: ROBOTICS

P079
ROBOT-ASSISTED GAIT TRAINING IN PEDIATRIC NEUROREHABILITATION: SYSTEMATIC REVIEW AND NARRATIVE SYNTHESIS
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Background: Pediatric neurological disorders often result in persistent gait impairments and reduced functional mobility. Robot-assisted gait training (RAGT) provides high-intensity, task-specific, and repetitive locomotor practice, emerging as a promising strategy in pediatric neurorehabilitation.
Objective: To critically examine current evidence on RAGT in pediatric populations, highlighting clinical outcomes, methodological limitations, and potential neurophysiological mechanisms underlying functional recovery.
Methods: An integrated narrative review was conducted, combining (1) a structured analysis of recent clinical studies on lower-limb robotic devices in pediatric neurorehabilitation, and (2) a theoretical synthesis of neuroplasticity and motor learning principles relevant to robotic locomotor rehabilitation. Studies including children with central neurological disorders receiving robot-assisted gait interventions were considered, encompassing multiple pediatric conditions.
Results: Despite broad inclusion criteria, available evidence predominantly involves children with cerebral palsy. Reported outcomes indicate improvements in walking speed, endurance, and Gross Motor Function Measure (GMFM) scores following RAGT. Study quality is heterogeneous, often limited by small sample sizes, short intervention durations, and variable training protocols. Neurophysiological mechanisms supporting functional improvements remain underexplored: few studies assess neuromuscular activation patterns, and direct evaluation of central nervous system adaptations is rare.
Conclusions: RAGT is feasible and potentially beneficial for locomotor recovery in pediatric neurorehabilitation. However, the relationship between functional gains and underlying neuroplastic processes is not fully established.
Implications: Future research should integrate functional, biomechanical, and neurophysiological outcomes within rigorous experimental designs to clarify mechanisms of action, optimize intervention protocols, and support evidence-based implementation of robotic technologies in pediatric rehabilitation.
Funding acknowledgements: None declared.

MENTAL HEALTH

P024
WALKING AGAINST DEPRESSION: DOSE-RESPONSE META-ANALYSIS ON OPTIMAL VOLUME, INTENSITY AND FORMAT IN ADULTS
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Background: Depression is a leading global health concern. While physical activity reduces depressive symptoms, the specific role and optimal dose of walking remain unclear.
Purpose: To conduct a systematic review with meta-analysis evaluating walking effectiveness in reducing depressive symptoms in adults, assessing dose–response relationships and determining the optimal intensity, setting, and format.
Methods: We searched PubMed, Embase, Web of Science, and Scopus from inception to 11 February 2025 for Randomized Controlled Trials (RCTs) evaluating walking interventions in adults with depressive symptoms. Two reviewers independently screened, extracted data, and assessed bias. A random-effects pre-post meta-analysis and one-stage dose–response meta- analysis using restricted cubic splines were conducted. Results: 18 RCTs (n = 464) were included. Walking significantly reduced depressive symptoms (SMD: −1.70; 95% CI: −2.27 to −1.13; I^2 = 84%). Moderate-intensity walking demonstrated the greatest effect (SMD = −2.43), followed by vigorous intensity, while light intensity was not significant. Dose–response analysis revealed a nonlinear relationship, with maximal effects at approximately 2600 accumulated minutes. For moderate-intensity interventions, optimal effect was reached at approximately 1500 minutes (SMD = −3.08), followed by a plateau. Beneficial effects were observed across all settings and formats, with no significant subgroup differences.
Conclusion: Walking is an effective, accessible, and low-cost intervention for reducing depressive symptoms. Moderate- intensity walking appears to provide the greatest benefit, with optimal effects at 1500–2600 accumulated minutes.
Implications: These findings support the inclusion of structured walking programs in clinical and public health strategies for depression management and provide evidence-based guidance for exercise prescription.
Funding acknowledgements: A.T-B acknowledges predoctoral funding (FPU24/03315). Other authors received no funding for this work.

MUSCULOSKELETAL

P049
INFLUENCE OF ENDOGENOUS PAIN INHIBITORY SYSTEM DYSFUNCTION ON RESPONSE TO PHYSIOTHERAPY IN MUSCULOSKELETAL CONDITIONS
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Background: Musculoskeletal conditions (MSKC) are a leading cause of disability worldwide. Dysfunction of endogenous pain inhibitory systems (EPIS) has been identified in several MSKC, but its influence on the response to physical therapy remains unclear.

Purpose: To analyze the influence of EPIS dysfunction on the clinical course of patients with MSKC during physical therapy, particularly regarding pain intensity.
Methods: This prospective observational cohort study included 29 individuals with MSKC starting physical therapy. Baseline assessments included pain intensity using the Numerical Pain Rating Scale (NPRS), a sociodemographic and clinical questionnaire, and the Musculoskeletal Health Questionnaire (MSK-HQ). EPIS function was assessed using a sequential Conditioned Pain Modulation (CPM) protocol, and participants were classified as "with" or "without" EPIS dysfunction. Pain intensity was reassessed at 2, 4, and 6 weeks, and the MSK-HQ at 6 weeks.
Results: EPIS dysfunction was present in 44.83% of participants. No significant between-group differences were observed at baseline. Pain intensity decreased significantly over time in both groups, except at 2 weeks in the dysfunction group. Pain intensity was significantly higher in the dysfunction group at 2 weeks ($p = 0.036$) and 4 weeks ($p = 0.016$). No significant differences between groups were observed at 6 weeks for pain intensity or the MSK-HQ.
Conclusion: EPIS dysfunction appears to negatively influence recovery in patients with MSKC, especially in the early stages of physical therapy.
Implications: Assessment of EPIS function may help identify individuals at risk of delayed pain reduction and support individualized physical therapy strategies, particularly in the early stages of physical therapy.
Funding acknowledgements: None declared.

P029
EFFECT OF A PHYSIOTHERAPY PROGRAM ON POSTURE AND PAIN IN INSTRUMENTAL MUSICIANS: A QUASI-EXPERIMENTAL CONTROLLED STUDY
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Background: Instrumental musicians show a high prevalence of musculoskeletal disorders (MSDs), estimated between 62% and 93% among professionals. Inadequate posture and poor body awareness are recognized as risk factors. However, physiotherapy-based prevention programs for musicians remain scarce in clinical and educational settings.
Purpose: To evaluate the effectiveness of a physiotherapy program based on body awareness, postural re-education, and instrumental gesture training on postural quality and pain in instrumental musicians.
Methods: Quasi-experimental study with 38 musicians (mean age 38.5 ± 13.5 years) from a wind band, orchestra, and higher conservatory (Pamplona, Spain). Consecutive sampling allocated participants to the intervention (IG, n = 26) or control (CG, n = 12). The IG received a mean of 9.15 sessions (≈75 min/session) over three months. Twelve postural variables were assessed in static standing and during musical performance (standing/sitting) using video-based analysis. Pain was measured with the Visual Analogue Scale (VAS). Analyses included the Wilcoxon signed-rank test, ANCOVA, and relative risk (RR).
Results: Pain decreased in the IG ($p = 0.001$; mean −1.42 VAS points) but not in the CG ($p = 0.292$). ANCOVA showed no significant between-group difference after baseline adjustment. RR analysis demonstrated postural improvements in the IG: performance standing (RR 0.66; 95% CI 0.62–0.71), performance sitting (RR 0.60; 95% CI 0.55–0.65), and static standing (RR 0.52; 95% CI 0.29–0.92).
Conclusions: The program improved postural quality and reduced pain, with stronger effects during performance than static standing.
Implications: Preventive physiotherapy programs in conservatories and orchestras may reduce MSDs and support performing arts occupational health.
Funding acknowledgements: None declared.

P075
POSTURAL ASSESSMENT OF INSTRUMENTAL MUSICIANS IN STATIC AND PERFORMANCE CONDITIONS: A CROSS-SECTIONAL STUDY
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Background: Instrumental musicians present a high prevalence of musculoskeletal disorders (MSDs) associated with static postures and postures adopted during performance. Heterogeneity in postural assessment methods makes it difficult to compare results and plan preventive interventions.
Purpose: To analyse static posture and posture during performance in standing and sitting positions in instrumental musicians, describing the frequency of postural alterations in major body regions.
Methods: A cross-sectional observational study was conducted with 38 musicians (20–65 years; mean 38.5 ± 13.5) playing wind, string, keyboard, and percussion instruments, recruited from a wind band, a professional orchestra, and a higher conservatoire. Photographs and videos were obtained in standing and sitting positions during performance. Posture was evaluated using the Postural Observation Instrument (12 variables) and image analysis. Descriptive statistics and Friedman and Wilcoxon tests were applied ($p \leq 0.0167$).
Results: No participant showed an adequate posture in all assessed conditions. Over 70% presented severely altered posture in static standing and during performance. A rigid general posture predominated (up to 68.4% in static standing), with a slight increase in physiological postures in sitting (18.4%). The centre of gravity was displaced mainly anteriorly in the sagittal plane and laterally in the frontal plane, with somewhat more centred patterns during performance. Pelvic anteversion, reduced thoracic curvature, forward head, and protracted shoulders showed high prevalence across conditions.
Conclusions: Most musicians presented multiple postural alterations in standing and during performance.
Implications: Systematic postural assessment using standardised tools is key to designing preventive physiotherapy and postural education programs for musicians.
Funding acknowledgements: None declared.

P009
ACUTE AND PROLONGED EFFECTS OF THE KINESIO TAPING FUNCTIONAL CORRECTION TECHNIQUE ON ANTERIOR PELVIC TILT
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Background: The Kinesio Taping Functional Correction (KTFC) technique influences functional movement patterns by applying more than three-quarters of maximum tension, assisting movement through a spring effect. KTFC is the least studied Kinesio Taping technique.
Purpose: To determine the acute (60 minutes after intervention) and prolonged (after 48 hours) effects of KTFC on pelvic tilt angle (PTA), compared to placebo Kinesio Taping (PKT).
Methods: The study included 28 healthy volunteers randomly assigned to two groups of 14 (10 female, 4 male). PTA was measured using a pelvimeter and an anthropometer with a spirit level. In the experimental group, Kinesio tape was applied according to the KTFC protocol (75+% tension). In the placebo group, the material was applied with neutralized elasticity and zero percent tension, placed without stretching the skin or subcutaneous tissues.
Results: In the KTFC group, there was a significant acute increase in PTA (from 19.81° to 23.21°, $p = 0.024$), and this new posture was maintained after 2 days (23.12°). In the PKT group, there were no significant changes between measurement points (17.12°, 17.39°, 16.98°). Comparison between groups revealed significantly higher PTA ($p = 0.019$) in the experimental group.

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Conclusion: KTFC significantly increases anterior pelvic tilt, and this effect persists for two days.
Implications: KTFC creates the perception of reaching the end of the range of motion (ROM) even before the actual physiological end. This is integrated as a new normal ROM, and the joint is repositioned according to this neuromuscular background.
Funding acknowledgements: None declared.

P033

CHANGES IN PATIENT-REPORTED OUTCOMES AFTER FIRST-LINE TREATMENT OF HAND OSTEOARTHRITIS – A REGISTER-BASED STUDY OF 2315 PARTICIPANTS

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Background: First-line treatment for osteoarthritis is information and exercise. However, few studies have investigated the outcomes of the treatment in individuals with hand osteoarthritis.
Purpose: To investigate outcomes following 3 months of participation in a first-line treatment program for hand osteoarthritis in females and males, respectively.
Methods: Data from January 2016 to January 2023 were obtained from the Swedish OsteoArthritis Register and included 2315 individuals. Changes in patient-reported outcomes from baseline to the 3-month follow-up were analyzed using paired t-tests or McNemar's test.
Results: From baseline to 3 months, pain decreased in females (MD -0.70, 95% CI: -0.80 to -0.60) and males (MD -0.75, 95% CI: -0.96 to -0.53), while health-related quality of life improved in females (EQ-5D index MD 0.032, 95% CI: 0.024 to 0.038; EQ VAS MD 1.95, 95% CI: 1.17; 2.72) and males (EQ-5D index MD 0.040, 95% CI: 0.025 to 0.055; EQ VAS MD 3.86, 95% CI: 2.09 to 5.63). The proportion of physically active participants increased, while the proportion reporting frequent pain and fear of movement decreased in both females and males ($p < 0.05$). No statistically significant changes in proportions of participants were observed for pain medication use or willingness to undergo surgery ($p > 0.05$).
Conclusion: Improvements in pain, quality of life, physical activity, and fear of movement were observed after 3 months. Further research should examine if these improvements persist long-term.
Implications: The findings highlight the importance of first-line treatment for patients with hand osteoarthritis.
Funding acknowledgements: None declared.

P094

PATIENT EXPECTATIONS AS DETERMINANTS OF PHYSIOTHERAPY OUTCOMES

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Background: Patient expectations are powerful contextual factors that trigger neurobiological placebo or nocebo responses, potentially determining the success of physiotherapy interventions.
Purpose: To evaluate the influence of pre-treatment expectations on clinical outcomes regarding pain, function, and psychological status in musculoskeletal physiotherapy.
Methods: A systematic review was conducted across Cochrane, PubMed, Scopus, WOS, and PEDro (2016-2026). Studies involving human participants with neuromusculoskeletal conditions and physiotherapy interventions (manual therapy, exercise, dry needling) were included. A total of 24 original articles were analyzed as a single body of evidence.
Results: Positive expectations are robust prognostic factors, yielding a 47% increased probability of recovery in neck pain and significantly predicting physical function at 12 weeks ($\beta = 0.80$; $p < 0.001$). High expectations correlate with increased satisfaction, greater self-efficacy (OR 1.25), and reduced catastrophizing. Conversely, negative expectations increase psychological distress and can abolish treatment benefits. Clinical assessment is also susceptible to bias, with clinician expectations potentially altering objective range-of-motion measurements by 7.7°. While expectations significantly enhance immediate hypoalgesia in manual therapy, results for dry needling remain heterogeneous.
Conclusion(s): Patient expectations consistently influence pain intensity, functional recovery, and treatment satisfaction. They represent an intrinsic factor distinct from general optimism.
Implications: Physiotherapists must routinely assess and modulate patient expectations through education and communication to optimize clinical trajectories and avoid nocebo-related treatment failure.
Funding acknowledgements: None declared.

P070

DESCRIPTIVE PILOT STUDY ON THE FUNCTION OF ABDOMINAL WALL MUSCULATURE ASSESSED THROUGH ENDURANCE TESTS IN YOUNG ADULT POPULATION

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Background: The importance of abdominal wall musculature for lumbopelvic stability and injury prevention is well established. This musculature is regarded as an integrated system that combines stability and motor control, as established in the literature. However, the relationship between tonic and phasic musculature, as well as their association with sex and anthropometric variables, remains unclear.
Purpose: To analyze the function and relationship between tonic and phasic abdominal wall musculature in young adults using endurance-based assessments, and to explore potential differences according to sex and anthropometric variables.
Methods: A cross-sectional observational study was conducted in 27 physiotherapy students aged 20–25 years (13 women, 14 men). Abdominal musculature endurance was assessed using curl-up, prone plank, and side plank tests. Abdominal circumference was measured following WHO guidelines. Test order was randomized.
Results: Men showed significantly higher values in all tests compared to women, with differences suggesting a sex-related effect. No significant differences or correlations were found for abdominal circumference. Moderate positive correlations were observed between tests.
Conclusion(s): Abdominal musculature demonstrates interdependent functional behavior, with no qualitative differences but clear quantitative differences between sexes. Abdominal circumference does not appear to be a determining factor in abdominal muscle performance. Further studies with larger sample sizes are warranted to confirm these findings.
Implications: These findings suggest that abdominal musculature should be assessed and trained as an integrated system rather than in isolation in both sexes.
Funding acknowledgements: This study has received funding from the Official College of Physiotherapists of Galicia.

P072

SOMATOSENSORY PARAMETERS, PHYSICAL ACTIVITY AND PHYSICAL FITNESS: IS THERE A RELATIONSHIP IN HEALTHY INDIVIDUALS?

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Background: Exercise is an effective intervention for the prevention and treatment of musculoskeletal conditions, often explained by improvements in physical fitness. However, recent studies suggest that neurophysiological and somatosensory mechanisms may also play an important role. Therefore, more research is needed to understand the real impact of physical fitness on the nociceptive system in healthy individuals.
Purpose: To analyse the association between physical fitness and physical activity and different somatosensory parameters in healthy individuals.
Methods: Somatosensory profile was assessed using a Quantitative Sensory Testing (QST) protocol in the lumbar region. Physical fitness was measured with the 6-Minute Walk Test (cardiorespiratory capacity), 1-Minute Sit-to-Stand Test (lower limb strength), and Handgrip Strength Test (upper limb strength). Physical activity was assessed using the IPAQ. All procedures were conducted by the same researchers using a standardized protocol. Data analysis included Spearman correlations, Mann-Whitney, and Kruskal–Wallis tests.
Results: The sample included 37 participants. Significant correlations ($p \leq 0.05$) were found between higher physical fitness and higher heat pain thresholds, higher pressure pain thresholds, greater nociceptive adaptability, and lower cold detection thresholds. Higher vigorous physical activity and walking intensity were associated with higher heat detection thresholds and lower pain perception to repeated stimuli. More active individuals showed lower heat detection thresholds, higher heat pain thresholds, and greater adaptability and tolerance.
Conclusion: The hypothesis that higher physical fitness is associated with better somatosensory system efficiency was partially supported.
Implications: This study supports the potential role of exercise as an important strategy for pain prevention and management in physiotherapy practice.
Funding acknowledgements: None declared.

MUSCULOSKELETAL: LOWER LIMB

P001

QUANTITATIVE ANALYSIS OF POSTERIOR CAPSULE CONTRIBUTION TO KNEE EXTENSION LIMITATION IN A RAT MODEL

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Background: Knee extension limitation restricts activities of daily living. Joint immobilization induces arthrogenic contracture and limits knee extension range of motion (ROM). Previous studies reported thickening, increased cross-sectional area, adhesion, and shortening of the posterior capsule after immobilization. Posterior capsule release improves ROM, indicating capsular involvement. However, articular structures such as bone, cartilage, and ligaments remain after muscle removal, and posterior capsule contribution to residual extension limitation remains unclear. Quantitative evaluation of capsular contribution is essential to identify therapeutic targets.
Purpose: To quantitatively determine posterior capsule contribution to knee extension limitation remaining after muscle removal.
Methods: Twelve male Wistar rats were divided into control (n = 6) and immobilization (n = 6) groups. In the immobilization group, both knees were fixed at 150° flexion using external fixation for 4 weeks. Knee extension ROM was measured before immobilization, after immobilization, after muscle removal, and after posterior capsule resection. Residual extension limitation after muscle removal was defined as 100%, and capsular contribution was calculated from ROM improvement after resection. Two-way ANOVA was performed with significance set at $p < 0.05$.
Results: Extension ROM significantly decreased in immobilized knees compared with controls ($p < 0.001$) and remained restricted after muscle removal. Posterior capsule resection significantly improved ROM ($p < 0.001$). The posterior capsule accounted for 62.5% of residual extension limitation, whereas other articular structures accounted for 37.5%.
Conclusion: The posterior capsule is the major articular structure contributing to knee extension limitation after muscle removal.
Implications: These findings quantitatively demonstrate posterior capsule contribution and support its importance as a therapeutic target in arthrogenic contracture.
Funding acknowledgements: None declared.

P026

PEANUT BALL EXERCISE VS CONVENTIONAL PROGRAM AFTER TOTAL KNEE ARTHROPLASTY: A RANDOMIZED STUDY OF PAIN AND KNEE FUNCTION

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Background: The number of total knee arthroplasty (TKA) procedures has increased in recent years. Despite limited evidence, peanut balls have been introduced in postoperative rehabilitation in several European hospitals.
Purpose: To evaluate the effect of peanut ball exercises compared with a conventional postoperative exercise program.
Methods: This randomized controlled trial included patients with primary knee osteoarthritis undergoing TKA. Participants were block-randomized to either a peanut ball exercise program or a conventional exercise program. Outcomes included Numeric Rating Scale (NRS) pain (0–10), analgesic use, knee range of motion, the 30-second sit-to-stand test, and the Forgotten Joint Score. Assessments were performed early postoperatively and at 3-month follow-up. Between-group differences were analyzed using independent t-tests and Mann–Whitney U tests.
Results: A total of 333 patients were enrolled (mean age 70 ± 9 years; 60% women), and 288 completed the 3-month follow- up. No statistically significant differences were found between groups for any outcome at follow-up.
Conclusion: Peanut ball exercises early after TKA did not provide additional benefit over conventional exercise regarding pain, analgesic use, range of motion, functional performance, or knee awareness at 3 months.
Implications: As both interventions showed comparable outcomes, peanut balls should be used selectively rather than routinely, considering cost and environmental impact.
Funding acknowledgements: TJ has received funding from University Healthcare Clinical Research Funding.

P053

RESULTS OF THE TEST PROTOCOL AFTER ACL RECONSTRUCTION IN GENERAL POPULATION: A RETROSPECTIVE CASE SERIES OF 136 PATIENTS

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Background: The anterior cruciate ligament (ACL) is the most commonly injured knee ligament requiring surgical treatment (ACLR), and physical therapy is central to postoperative rehabilitation. To improve rehabilitation after ACLR, a structured test protocol was implemented at Turku University Hospital's exercise laboratory in 2020. The aims were to objectively assess lower limb function, personalize rehabilitation, prevent re-injury, and systematically collect high-quality data.
Purpose: This study aimed to describe postoperative test protocol results and evaluate their usability in the rehabilitation process. A secondary aim was to establish baseline values for functional test outcomes in the general Finnish ACLR population.
Methods: Retrospective data were collected/analyzed from Turku University Hospital electronic medical records between April 2020 and February 2026.
Results: A total of 136 patients (54 women, 82 men) were assessed. Median testing age was 27 years for women and 29 years for men. Median time from surgery to testing was 8 months. Mean kinesiophobia (TSK) scores were 31 (SD 5.4) for women and 34 (SD 6.5) for men. Operated leg mean long hop distance was 114 cm (SD 31) for women and 138 cm (SD 36) for men; corresponding LSI values were 86% and 85%. Operated-knee isokinetic extension strength averaged 126 Nm (SD 40) for women and 170 Nm (SD 57) for men, while non- operated knee extension strength averaged 161 Nm (SD 41) and 215 Nm (SD 63). Most therapists considered the protocol beneficial.
Conclusion & Implications: The test protocol contributes valuable information to optimize rehabilitation after ACLR and supports data-driven, individualized therapy.
Funding acknowledgements: None declared.

P035

EXPLORING BARRIERS AND FACILITATORS TO MEDICAL REFERRAL OF PEOPLE WITH OSTEOARTHRITIS TO THE SPLIT.OA PROGRAMME: A QUALITATIVE STUDY

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Background: Hip and knee osteoarthritis (HKOA) is a prevalent condition with substantial individual and societal burden. However, the delivery of first-line treatments remains suboptimal. The Split.OA programme is a care model designed to improve the quality of physiotherapy care in Portugal by promoting regular exercise through behaviour change in people with HKOA.
Purpose: This study aimed to explore the barriers and facilitators perceived by physicians in referring patients to the Split.OA.
Methods: A qualitative study under an interpretivist paradigm was performed. Semi-structured interviews were conducted, recorded, transcribed verbatim, and deductively analysed. The interview guide and data analysis were grounded in the Behaviour Change Wheel (BCW), including the Capability-Opportunity-Motivation Behaviour (COM-B) model and the Theoretical Domains Framework (TDF). Five general practitioners, four rheumatologists, three physiatrists, and one orthopedic surgeon were interviewed.
Results: Twenty-one barriers and twenty-five facilitators were identified, related to referring people with HKOA to the Split.OA programme. These related to physician factors (training, communication skills, referral support strategies, professional relationships and roles), patient factors (challenges linked to patient characteristics, beliefs and needs), and organisational factors (health system limitations, organisational support and referral process constraints).
Conclusion: Multiple barriers and facilitators that could be targeted to optimise referrals to the Split.OA programme were identified. Future research can link this behavioural diagnosis to intervention strategies to support the Split.OA implementation.
Implications: These findings highlight key barriers and facilitators that physiotherapists can address to strengthen referral pathways and improve access to physiotherapy management for people with HKOA in Portugal.
Funding acknowledgements: None declared.

P060

LOWER SELF-REPORTED PHYSICAL ACTIVITY MIRRORS POORER WALKING PERFORMANCE IN KNEE OSTEOARTHRITIS

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Background: In knee osteoarthritis (KOA), the International Physical Activity Questionnaire (IPAQ) captures self-reported activity, whereas walk tests (6MWT, 2MWT, 10mWT) and SPPB provide objective performance. These related but distinct constructs often diverge, complicating clinical interpretation.
Purpose: To examine whether quadriceps strength and performance-based function differ between KOA-affected individuals with lower IPAQ activity and those with moderate or high activity.
Methods: In this cross-sectional study, 84 participants were categorized as lower or higher activity according to IPAQ-scoring criteria. Outcomes included bilateral quadriceps strength (dynamometry), 6MWT, 2MWT, 10mWT, and SPPB. Between-group differences were tested with Student's t-tests for independent samples.
Results: Compared with higher IPAQ activity, the lower IPAQ group showed poorer objective performance: shorter 6MWT distance (215 vs 270 m; $p < 0.001$) and 2MWT distance (75 vs 92 m; $p < 0.001$), slower 10mWT (greater time: 20.42 vs 15.31 s; $p < 0.001$), and lower SPPB scores (6.41 vs 8.30; $p < 0.001$). Quadriceps strength was weaker in the lower IPAQ group, significantly on the right (11.36 vs 13.84; $p = 0.004$) and with a trend on the left ($p \approx 0.06$).
Conclusions: Lower self-reported physical activity is aligned with reduced walking capacity and functional performance, while psychosocial burden and pain severity do not differ meaningfully between IPAQ groups in knee osteoarthritis.
Implications: IPAQ classification can flag functional limitations in KOA. Professionals could integrate self-report with walk tests and SPPB—and consider strength testing—to guide physiotherapy assessment, goal-setting, and progression.
Funding acknowledgements: None declared.

P015

DEPRESSION AND PAIN OUTCOMES AFTER FIRST-LINE INTERVENTION FOR HIP AND KNEE OSTEOARTHRITIS: A REGISTER STUDY OF 44,311 INDIVIDUALS

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Background: The impact of depression on outcomes of first-line osteoarthritis (OA) interventions remains insufficiently understood.
Purpose: To compare characteristics of individuals with and without a history of depression participating in first-line interventions for hip or knee OA, and to examine the influence of depression on pain outcomes.

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Methods: This longitudinal cohort study included participants in a standardized OA intervention program (patient education and exercise therapy) registered in the Swedish Osteoarthritis Register between 2008 and 2016. The Swedish Prescribed Drug Register was used to identify whether these individuals had been prescribed and dispensed antidepressants (≥1) during the three years preceding participation. Associations between depression and patient-reported pain reduction (≥2 points on a numeric rating scale [NRS]) from baseline to three-month follow-up were analyzed using multivariable logistic regression.
Results: At baseline, 16% had a history of depression. These individuals were younger, had higher body mass index, more comorbidities, greater pain, and were often women with multiple joint OA, compared to those without depression. Multivariable analyses showed that individuals with depression had a slightly lower likelihood of achieving pain reduction of ≥2 points on NRS (hip OA, OR 0.90 (95% CI 0.81-0.99); knee OA, OR 0.88 (95% CI 0.82-0.95)).
Conclusion: Individuals with depression differ in baseline characteristics when entering first-line OA interventions, but depression has only a minor impact on pain outcomes.
Implications: Given safety and broad health benefits, first-line OA interventions remain clinically relevant for patients with hip or knee OA, irrespective of depression status.
Funding acknowledgements: Futurum, the Academy for Health and Care, Region Jönköping County Sweden, FORSS Sweden, and the Swedish state through the ALF agreement.

P088

EFFECTS OF QUADRUPOLAR MAGNETS ON PAIN AND GAIT CHARACTERISTICS IN INDIVIDUALS WITH KNEE OSTEOARTHRITIS: MULTIPLE SINGLE-SUBJECT STUDY

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Background: Knee osteoarthritis (OA) is a common degenerative condition causing pain, reduced mobility, altered gait, and decreased quality of life (QOL). Quadrupolar static magnets (QSM) have been proposed as a potential pain-relieving intervention, but their effects on knee OA are not well understood.
Purpose: This study investigated the effects of QSM on pain, gait, and function in individuals with knee OA.
Methods: A 9-week A1-B-A2 time-series design was used with eight participants (ages 50–70); seven completed the study. During Phases A1 and A2, participants wore elastic wraps with magnets over the medial and lateral tibiofemoral joint lines for 2 hours/day, 5 days/week. No magnets were used during Phase B. Pain (Visual Analog Scale), knee function (Knee Injury and Osteoarthritis Outcome Score, KOOS), and gait parameters (velocity, step length via GAITRite) were assessed at baseline and after each phase. Changes exceeding the minimal clinically important difference (MCID) or ±2 standard deviations were considered significant.
Results: Phases A1 and A2 showed significant improvements in gait velocity, step length, and KOOS subscales (pain, ADLs, sport/recreation, QOL) in most participants. VAS pain scores also decreased, though MCID changes were variable for some. Phase B (no magnets) showed declines in gait and KOOS scores, though changes were inconsistent.
Conclusion: QSM reduces pain and functional limitations in knee OA, improving gait, ADLs, and QOL. While promising, the small sample size limits generalization.
Implications: QSM may serve as an effective adjunct to physical therapy for knee OA management.
Funding acknowledgements: This project is supported by the Physical Therapy Program of Maryville University.

P065

EFFECTS OF A LUMBAR MOTOR CONTROL AND HIP STRENGTHENING PROGRAM ON CHRONIC LOW BACK PAIN: PRELIMINARY RESULTS

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Background: This randomized controlled clinical trial aimed to evaluate the effectiveness of an 8-week combined lumbar motor control and hip muscle strengthening program in individuals with chronic non-specific low back pain (NSLBP).
Methods: Fifty-four adults with chronic NSLBP were randomized into 2 groups: combined lumbar motor control and hip muscle strengthening program (n = 27) or lumbar motor control program alone (n = 27). The intervention comprised 24 in-person sessions delivered over an 8-week period. Pain intensity and disability were assessed before and after the intervention using a Visual Analogue Scale and Oswestry Disability Index, respectively.
Results: Both groups showed significant reductions in pain intensity compared with baseline, with a 15-mm decrease on the VAS in both the experimental ($p = 0.01$) and control groups ($p = 0.03$). Between-group analysis revealed a statistically significant difference favoring the experimental group ($p = 0.03$). Disability also improved in both groups, with reductions of 15 points in the experimental group ($p = 0.01$) and 12 points in the control group ($p = 0.01$); however, the experimental group demonstrated a significantly greater improvement compared with the control group ($p = 0.02$). Functionally, participants in the experimental group progressed from moderate disability at baseline (29%) to minimal disability post-intervention (14%), whereas the control group remained within the moderate disability range despite treatment (32% at baseline and 20% post-intervention).
Conclusions: These preliminary results show that participants in the combined lumbar motor control and hip muscle strengthening program showed greater improvements than those who received the lumbar motor control program alone.
Funding acknowledgements: None declared.

P068

MUSCLE FIBER CONDUCTION VELOCITY IN END-STAGE KNEE OSTEOARTHRITIS DURING BLOOD FLOW RESTRICTION TRAINING: RANDOMIZED CROSSOVER STUDY

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Background: Little is known about the acute effects of blood flow restriction (BFR) training on peripheral muscle fatigue, assessed as muscle fiber conduction velocity (MFCV), and how these effects relate to kinesiophobia and physical function in knee osteoarthritis (KOA).
Purpose: To investigate the effect of different occlusion levels during BFR training on acute MFCV in the vastus medialis (VM) and lateralis (VL) in end-stage KOA.
Methods: Fourteen participants performed low-load knee extensions with 3 BFR occlusion levels separated by 3 days: sham (control), BFR at 40% arterial occlusion pressure (AOP), and at 80% AOP. MFCV was calculated from high-density surface electromyography. Correlation coefficients were calculated between MFCV and baseline kinesiophobia (TSK-11) and physical function (WOMAC).

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Results: VM MFCV decreased compared with control (mean difference = 1.11 m/s; 95% CI = 0.76 to 1.45 m/s; p < 0.0001). VM MFCV in the final repetitions was lower with control than with 80% AOP (mean difference = -1.16 m/s; 95% CI = -2.17 to -0.15 m/s; p = 0.0203). Kinesiophobia modulated VM MFCV (initial control, r = -0.62, p = 0.02; final control, r = -0.64, p = 0.01; initial 40% AOP, r = -0.55, p = 0.04; final 80% AOP, r = -0.71, p = 0.004).
Conclusion: MFCV in the VM declined more in the control than in the BFR conditions, with kinesiophobia modulating this response.
Implications: Regardless of the occlusion level, BFR training appears to delay the onset of peripheral muscle fatigue compared to unrestricted exercise, which may facilitate positive neuromuscular adaptations and enhance long-term functional recovery.
Funding acknowledgements: A.T-B acknowledges predoctoral funding (FPU24/03315). Other authors received no funding for this work.

P023

BLOOD FLOW RESTRICTION THERAPY IN POSTOPERATIVE RECOVERY FROM ANTERIOR CRUCIATE LIGAMENT SURGERY: A PILOT STUDY

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Background: Blood flow restriction (BFR) has emerged as a potential adjunct to rehabilitation following anterior cruciate ligament reconstruction (ACLR), although its effect on recovery and return-to-sport readiness remains uncertain.
Purpose: To evaluate whether adding BFR to conventional rehabilitation improves clinical and functional outcomes and supports a safer return to sport after ACLR.
Methods: In this randomized controlled trial, 9 participants following ACLR were assigned to either conventional rehabilitation alone (4) or conventional rehabilitation plus BFR (5). BFR was applied to the proximal limb at 80% limb occlusion pressure during low-load, hamstring-focused exercises from postoperative week 2 to week 12. Outcomes included pain, muscle strength, range of motion, kinesiophobia, and quality of life. Assessments were conducted at 2, 6, and 12 weeks after surgery.
Results: Both groups showed significant improvements over time in pain (p = 0.014), quality of life (p = 0.034), knee flexion range of motion (p < 0.001), quadriceps strength (p = 0.001), and hamstring strength (p = 0.021). The BFR group demonstrated additional improvement in hamstring strength asymmetry measured in kilograms (p = 0.004).
Conclusion: Adding BFR to conventional rehabilitation after ACLR appears to be a safe and effective strategy, with outcomes comparable to standard rehabilitation and potential added benefit for hamstring strength recovery.
Implications: BFR may help safely enhance muscle strength, particularly hamstring strength, during postoperative ACLR rehabilitation.
Funding acknowledgements: None declared.

P048

EFFECTS OF ELECTRICAL STIMULATION PROTOCOLS ON VENOUS HEMODYNAMICS AND PERCEIVED TOLERANCE: A GENDER-BASED ANALYSIS

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Background: Electrical stimulation has been proposed as a non-invasive strategy to enhance venous return and prevent venous stasis. However, gender-related differences in venous hemodynamic response and perceived tolerance remain insufficiently explored.
Purpose: To analyze gender differences in venous hemodynamic response and perceived tolerance to different electrical stimulation protocols in healthy individuals.
Methods: A randomized crossover study was conducted with 24 healthy participants (12 men, 12 women). In phase 1, participants received three transcutaneous electrical nerve stimulation (TENS) protocols: 1 Hz and 5 Hz over the common peroneal nerve, and 5 Hz over the soleus muscle. In phase 2, TENS (5 Hz), neuromuscular electrical stimulation (NMES), and placebo stimulation were applied over the soleus. Popliteal venous flow volume (VF) and peak velocity (VP) were assessed using Doppler ultrasound. Perceived tolerance was evaluated using a visual analogue scale and a verbal rating scale.
Results: All active protocols significantly increased venous hemodynamic parameters compared to baseline. Despite significant anthropometric differences, baseline hemodynamics were similar between genders. No significant sex differences were found in VF or VP increases across protocols. However, women showed a consistent trend toward greater VF increases, reaching significance during NMES (p = 0.044). Men tolerated higher current intensities during muscle stimulation, whereas women showed better tolerance during nerve stimulation.
Conclusion: Although no significant differences between the genders were observed systematically, the trends observed suggest that gender-specific responses may influence the optimisation of electrostimulation parameters for improving venous return.
Implications: Gender-specific protocols could improve effectiveness and safety of their clinical application.
Funding acknowledgements: None declared.

MUSCULOSKELETAL: SPINE

P076

DOSE-RESPONSE ASSOCIATION BETWEEN SCREEN-BASED SEDENTARY BEHAVIOR AND LOW BACK PAIN IN CHILDREN AND ADOLESCENTS: A META- ANALYSIS

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Background: Low back pain (LBP) is increasingly reported among children and adolescents and represents a growing public health concern. Concurrently, screen-based sedentary behaviors have risen substantially in this population. Although several studies have explored the association between screen exposure and LBP, the findings remain inconsistent.
Purpose: To investigate the association between screen-based sedentary behavior and LBP in children and adolescents.
Methods: A systematic review and meta-analysis of observational studies was conducted. Electronic databases were searched from inception to September 2025. Studies included children and adolescents aged 6 to 18 years. Risk of bias was assessed independently by two reviewers using the ROBINS-E tool. A random-effects multivariate dose–response meta- analysis was performed under a log-linear assumption. Statistical heterogeneity was assessed using the I^2 statistic.
Results: 30 studies were included in the systematic review, showing considerable variability in the findings. Thirteen studies provided

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sufficient data for inclusion in the dose–response meta-analysis. The pooled analysis indicated that each additional hour of daily screen exposure was associated with a 26% increase in the odds of LBP (OR = 1.26; 95% CI 1.08–1.48), demonstrating a significant positive linear trend. Between-study heterogeneity was high (I^2 = 92.4%).
Conclusions: Higher levels of screen-based sedentary behavior were associated with higher odds of LBP in children and adolescents.
Implications: These findings suggest that prolonged screen-based sedentary behavior may represent a modifiable risk factor relevant to physiotherapy practice, particularly in preventive and educational approaches aimed at promoting physical exercise and musculoskeletal health in young people.
Funding acknowledgements: None declared.

P081
CERVICAL PROPRIOCEPTIVE ACCURACY IN ASYMPTOMATIC WORKERS EXPOSED TO SCREENS: CROSS-SECTIONAL STUDY USING THE JOINT POSITION ERROR TEST
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Hospital dos de maig. Consorci sanitari integral

Background: Neck pain is one of the most frequent musculoskeletal disorders in workers exposed to prolonged use of visual display units. Impaired cervical proprioception, assessed using the Joint Position Error Test (JPET), has been linked to cervical pathology, although its behavior in asymptomatic individuals remains poorly understood.
Purpose: To describe cervical proprioceptive accuracy in asymptomatic workers who perform their job duties in front of screens and to analyze the presence of signs and symptoms associated with cervical pathology.
Methods: A cross-sectional descriptive study was conducted with 41 asymptomatic workers exposed to prolonged screen use. Demographic variables, years of occupational screen exposure, hours of sleep, pain intensity (VAS), and disability (Neck Pain Disability Index, NPDI) were recorded. Cervical joint position error was assessed in flexion, extension, right rotation, and left rotation. A mean error ≥4.5° was considered a positive test.
Results: The sample presented low pain intensity (VAS 1.80 ± 2.15) and mild disability (NPDI 9.39 ± 7.57). Mean errors did not exceed the cutoff point in any movement. However, individually, 17.1% showed positive results in flexion, 14.6% in extension, 24.4% in right rotation, and 29.3% in left rotation.
Conclusions: Although the group means did not show clinically significant proprioceptive impairment, a significant percentage of asymptomatic workers presented errors exceeding the cutoff point, especially in cervical rotation. These findings could suggest subclinical sensorimotor alterations potentially related to prolonged screen exposure and justify preventive strategies in this population.
Implications: Early proprioceptive assessment in this population may be relevant for preventive physiotherapy.
Funding acknowledgements: None declared.

P040
EFFECTS OF QUADRUPOLAR MAGNETS IN INDIVIDUALS WITH CHRONIC LOW BACK PAIN: A MULTIPLE SINGLE-CASE STUDY
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Background: Quadrupolar magnets (Q-magnets) generate a localized magnetic flux field and may relieve pain. While Q- magnets have shown promise in managing myofascial and arthritic pain, their effects on chronic low back pain (LBP) remain underexplored.
Purpose: This study investigated the effects of Q-magnets on pain and functional limitations in individuals with chronic LBP, hypothesizing reductions in pain intensity and functional impairments with daily use.
Methods: Ten participants (ages 20–50) with chronic LBP (≥6 months) completed a 4-week intervention. Pain intensity was assessed with the Visual Analogue Scale (VAS), functional disability with the Oswestry Disability Index (ODI), and gait performance using the GAITRite® system. Participants wore four QF-28-6 magnets on painful low back regions for 2 hours daily, 5 days per week. Outcomes were measured at baseline (Week 0) and post-intervention (Week 4). Changes in VAS, ODI, and gait parameters exceeding the minimal clinically important difference (MCID) or 2 standard deviations (SD) were considered significant.
Results: At Week 4, all participants showed improved gait velocity and stride length, with velocity changes exceeding MCID thresholds. VAS and ODI scores decreased in all participants, with 9 out of 10 achieving reductions beyond the MCID threshold.
Conclusions: Q-magnets reduced pain and disability and improved gait performance in individuals with chronic LBP. These findings suggest Q-magnets may be a useful non-invasive complement to physical therapy. Further research with larger, placebo-controlled studies is necessary to confirm these results.
Implications: Q-magnets may enhance chronic LBP management as a complementary tool in physical therapy.
Funding acknowledgements: The Physical Therapy Program of Maryville University supported this study.

P018
EXERCISE PROGRAM AND HEALTH EDUCATION ON PATIENTS SUFFERING FROM CHRONIC NONSPECIFIC LOW BACK PAIN, WITH OR WITHOUT VISUAL IMPAIRMENT
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Chronic Non-Specific Low Back Pain (CNSLBP) poses significant treatment challenges, and existing protocols have rarely been evaluated in individuals with visual impairment (VI). This RCT aimed to compare the effectiveness of an exercise program with health education, adapted for VI, versus passive analgesic treatment. Individuals with CNSLBP, including participants with VI, were recruited: Group A received an active exercise program, and Group B underwent passive analgesic treatment. Disability (Oswestry Disability Index, ODI), functional performance (30-second sit-to-stand test, 30SST), and psychosocial outcomes (Pain Catastrophizing Scale; Fear-Avoidance Beliefs Physical/Work; Tampa Scale of Kinesiophobia) were assessed at baseline and post-intervention. 67 participants were analyzed, including 18 individuals with VI. Between-group analyses showed a significant difference in disability at post-intervention, favouring Group B (ODI, p = 0.039). No significant between-group differences were observed for functional performance or psychosocial outcomes. Within-group analyses revealed significant pre-post improvements in functional performance (30SST, p = 0.004) and disability (ODI, p = 0.004). No significant within-group changes were observed in psychosocial variables. Group B showed improvements in disability just after intervention, when compared with group A. Both interventions were associated with short-term improvements in functional performance in individuals with CNSLBP, including those with VI. The inclusion of individuals with VI highlights the importance of developing and evaluating treatment protocols specifically designed to address the needs of this population. The observed between-group difference in ODI may reflect a greater short-term impact on patient-reported disability.
Funding acknowledgements: This research was funded under reference LMP97_21 by the Government of Aragón, Spain.

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MUSCULOSKELETAL: UPPER LIMB

P062

EFFECTIVENESS OF MANUAL THERAPY ON PAIN IN PEOPLE WITH CARPAL TUNNEL SYNDROME: A SYSTEMATIC REVIEW

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Background: Carpal tunnel syndrome (CTS) is a prevalent peripheral nerve mononeuropathy caused by compression of the median nerve, accounting for approximately 90% of neuropathy cases worldwide. Despite clear clinical manifestations, various treatment approaches are still being explored, including manual therapy techniques such as neurodynamic techniques (NT), tendon gliding exercises (TGE), and soft tissue mobilization (STM), alongside surgical interventions. Conflicting evidence regarding therapy effectiveness and duration highlights the need for further investigation.
Objective: To systematically review and analyze available evidence on the effectiveness of manual therapy in reducing pain and symptoms of CTS.
Methods: A systematic review was conducted using PubMed, PEDro, ScienceDirect, Scopus, and EBSCOhost, following predefined inclusion criteria.
Results: Eight randomized controlled trials were included: six on mild-to-moderate CTS, one on chronic CTS, and one on CTS in individuals with diabetes. Two studies focused exclusively on female participants. Significant improvements were reported in groups receiving manual therapy, nerve, and bone mobilization. While some studies indicated superior effects for specific interventions (manual therapy or neuromobilization), others found comparable outcomes with therapeutic ultrasound, TENS, acupuncture, and conventional physiotherapy. Overall, integrating manual therapy with other modalities appears to provide a holistic approach to managing CTS symptoms.
Conclusions and implications: Manual therapy techniques (TGE, CBMT, NT, and mobilizations), combined with other modalities, can reduce pain, symptom severity, and improve function. Clinicians should consider manual therapy as an adjunct in early-stage CTS, alongside splinting and exercise therapy, while monitoring patient response to guide individualized treatment progression.
Funding acknowledgements: None declared.

NEUROLOGY

P002

REPEATED BETA (20 HZ) TRANSCRANIAL ALTERNATING CURRENT STIMULATION DISRUPTS CONSOLIDATION OF MOTOR LEARNING

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Background: Implicit motor sequence learning (IMSL) enables unconscious acquisition of everyday motor skills and involves stage-specific neural dynamics. Beta-band (13–30 Hz) activity is believed to support consolidation, yet its causal role across IMSL stages remains unclear.
Purpose: To investigate the effects of repeated 20 Hz transcranial alternating current stimulation (tACS) over the motor cortex on IMSL acquisition, consolidation, and retention.
Methods: Using a double-blind, sham-controlled, between-subjects design, 80 healthy adults received active or sham tACS during a serial reaction time task (SRTT) across three consecutive days (Sessions 1–3), with retention assessed one week later (Follow-Up).
Results: Mixed-effects models revealed sequence-specific learning in both groups across sessions (all $p < 0.0001$). Active tACS tended to enhance learning in Session 1 (M = 54.62 ms) vs. sham (M = 41.89 ms), $p = 0.063$, but significantly impaired learning in Session 2 (active M = 75.97 ms, sham M = 85.95 ms, $p = 0.003$), Session 3 (active M = 95.89 ms, sham M = 113.14 ms, $p < 0.0001$), and at Follow-Up (active M = 91.79 ms, sham M = 117.21 ms, $p < 0.0001$).
Conclusion: Repeated beta-tACS tended to improve acquisition, but impaired consolidation and retention. This stage-specific disruption – preserved early learning followed by later deficits – supports a dynamic role for beta: early desynchronization facilitates flexible encoding, while later synchronization stabilizes learned patterns.
Implications: tACS effects are stage-dependent and not uniformly beneficial. Beta-tACS should be carefully timed, as repeated stimulation may enhance early learning but impair consolidation and retention.
Funding acknowledgements: This research was funded by the Research Foundation Flanders (FWO) under Grant 11G9622N.

P050

OVERGROUND BODY WEIGHT SUPPORTED GAIT TRAINING IN NEUROLOGICAL DISORDERS: A SCOPING REVIEW

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Background: Neurological disorders are a leading cause of disability and are often associated with gait impairments that reduce functional independence and quality of life. Body weight supported gait training is commonly implemented using treadmill systems; however, overground approaches may offer greater task specificity and ecological validity. Despite increasing clinical interest, evidence supporting overground body weight supported gait training in neurological populations remains unclear.
Purpose: To map and synthesise the available evidence on overground gait training with body-weight support in individuals with neurological disorders.
Methods: A scoping review was conducted following Joanna Briggs Institute methodology and PRISMA-ScR guidelines. Searches were performed in PubMed, PEDro, CENTRAL, EBSCO, and Web of Science. Studies investigating overground gait training with body-weight support in neurological populations were included. Data was extracted, and studies were critically appraised using JBI tools.
Results: Seven studies met the inclusion criteria, including individuals with stroke, cerebral palsy, spinal cord injury, and Parkinson's disease. Overground body-weight supported gait training was associated with improvements in gait independence, walking speed, endurance, gait symmetry, motor function, fall risk, and freezing of gait. Outcomes were comparable or sometimes superior to treadmill-based or conventional gait training, although study designs and intervention protocols were heterogeneous.
Conclusions: Evidence on overground body weight supported gait training in neurological populations remains limited. Although findings suggest potential benefits for gait outcomes, stronger evidence is required.
Implications: Overground body weight supported gait training may represent a promising rehabilitation strategy. High-quality randomised controlled trials with standardised protocols are needed to guide physiotherapy practice.
Funding acknowledgements: None declared.

P084

DOES FUNCTIONAL STANDING MATTER? POSTURAL ALIGNMENT AND ABILITY IN ADULTS WITH CEREBRAL PALSY

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Background: Postural and movement disorders are a key issue in cerebral palsy (CP), with many affected individuals needing assistance with standing due to difficulties with alignment. Research is needed to determine whether achieving functional standing is relevant to posture alignment and control in adults with CP.
Objective: To compare the ability to maintain and change posture, as well as the presence of postural asymmetries, between adults with CP who have and do not have functional standing ability (levels IV and V, respectively, in the Gross Motor Function Classification System (GMFCS)).
Methods: A cross-sectional study was conducted in 31 adults with CP (aged 37.45 ± 14.61 years, 58% male, GMFCS IV: n = 16). The Posture and Postural Ability Scale (PPAS) was used to assess: 1) Head, trunk, legs/feet deviations from the midline and arm/weight-bearing asymmetries (scored 0 = asymmetry or 1 = symmetric/neutral). The total score ranged from 0 to six points; and 2) Preferred posture and postural ability when standing, sitting, or lying (in supine and prone). Postural ability ranges from 1 ('unplaceable') to 7 ('able to move into/out of position'). Between-group comparisons were performed using the Mann–Whitney U test.
Results: Level IV participants showed significantly lower postural asymmetries in all the positions and planes studied ($p \leq 0.002$) and greater ability to maintain and change posture in the four postures studied (<0.001).
Conclusion: Having functional standing seems to be crucial for posture alignment and control.
Implications: Long-term functional standing programmes are recommended from childhood to adulthood, particularly for those who require assistance to stand.
Funding acknowledgements: None declared.

NEUROLOGY: MULTIPLE SCLEROSIS

P005
PHYSIOTHERAPY AFTER AUTOLOGOUS HEMATOPOIETIC STEM CELL TRANSPLANTATION IN MULTIPLE SCLEROSIS PATIENTS: PERSPECTIVES AND CHALLENGES
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In recent years, autologous hematopoietic stem cell transplantation has been used as an optional therapy for patients with some cases of multiple sclerosis. This method has its benefits for overall health, but it hides some challenges. Though physical therapy plays a crucial role in the recovery process for patients with multiple sclerosis, it remains insufficiently studied in this case. The aim of this research is to explore the challenges after autologous hematopoietic stem cell transplantation in multiple sclerosis patients and the perspectives and challenges for physiotherapeutic approaches. Methods: A literature review was conducted using databases such as Scopus, Web of Science, and Google Scholar. Results: Additional complications may occur after the transplantation. Some of them might be fatigue, respiratory difficulties, inflammatory processes, loss of muscle mass, metabolic disturbances, and others, particularly during the first months after transplantation. Targeted physiotherapy interventions are essential to support functional recovery, restore physical capacity, and improve overall health outcomes. Rehabilitation interventions should be individualized and adapted to the patient's functional status and physical capacity. Finally, it is necessary for a multidisciplinary team to be established to support the overall process. Conclusions: Physical therapy is a key component in maintaining functional capacity and quality of life in patients with multiple sclerosis. Each therapy should be individualized in relation to the individual physical state and phase of treatment. Despite everything, current evidence linked to physical activity and rehabilitation after autologous hematopoietic stem cell transplantation remains limited. Further in-depth research is needed.
Funding acknowledgements: None declared.

P030
THE EFFECTIVENESS OF AEROBIC EXERCISE ON FATIGUE PERCEPTION IN PEOPLE WITH MULTIPLE SCLEROSIS: A SCOPING REVIEW
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Background: Fatigue represents one of the most common and disabling symptoms in Multiple Sclerosis (MS), significantly affecting daily activities. Aerobic exercise has been proposed as a non-pharmacological strategy to improve fatigue and quality of life perception.
Purpose: This scoping review aims to explore current evidence on the effect of personalized aerobic exercise on fatigue perception in people with MS.
Methods: A systematic search of PubMed, Cochrane Library, and Scopus was conducted for English-language articles published between 2016 and 2026. The search combined terms related to MS, aerobic exercise, and fatigue. Inclusion criteria were: 1) randomized controlled trials; 2) English language; 3) publication in indexed journals; and 4) studies examining aerobic exercise effects on fatigue in MS. Non-randomised trials, reviews, non-English papers, and studies not focused on aerobic exercise or fatigue were excluded. A PRISMA flowchart of the selection and screening method was created, and a total of 24 studies were included. The Cochrane Risk of Bias for RCT tool was used for the randomised controlled trials included in the review. Risk of bias was assessed using the Cochrane Risk of Bias tool.
Results: Most studies reported improvements in fatigue perception after aerobic interventions, including treadmill walking, aquatic therapy, interval training, and step-based exergames, enhancing endurance and delaying fatigue onset.
Conclusion: Aerobic exercise appears to positively influence fatigue perception and functional tolerance in people with MS. However, a high heterogeneity of interventions and outcome measures was observed.
Implications: Standardized and personalized protocols are needed to optimize clinical application.
Funding acknowledgements: None declared.

P061
DETECTING EARLY PROGRESSION IN MULTIPLE SCLEROSIS: INTEGRATING COGNITIVE AND FUNCTIONAL MARKERS IN CLINICAL PRACTICE
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Background: Early detection of disease progression in multiple sclerosis (MS) remains a major challenge in clinical practice. Traditional disability measures may not capture subtle functional or cognitive changes that could indicate early progression. Increasing evidence suggests that multidimensional assessment combining clinical, functional, and cognitive markers may improve the identification of early

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progression in MS and provide a more comprehensive understanding of patient status.
Purpose: The aim was to characterise cognitive and functional changes in people with RRMS presenting early signs suggestive of disease progression. A secondary objective was to explore whether regular physical exercise may influence functional outcomes in this population.
Methods: A descriptive study was conducted at the Multiple Sclerosis Unit of Hospital Virgen Macarena (Seville, Spain). Twenty individuals with RRMS and suspected progression were evaluated using a multidisciplinary protocol. Functional evaluation included gait analysis using the GaitRite system, 6-Minute Walk Test, Timed 25-Foot Walk, Nine-Hole Peg Test, and handgrip strength.
Results: No significant changes were observed in overall gait parameters when analysing the entire cohort. However, subgroup analyses showed that participants who engaged in regular exercise demonstrated better functional performance, including greater walking distance, higher walking speed, reduced gait asymmetry, and a narrower base of support. Sedentary participants showed a trend towards functional decline over time.
Conclusions: Combining functional and cognitive assessments may help identify early signs of progression in MS. Larger longitudinal studies are needed.
Implications: Multidimensional clinical assessment could improve early monitoring of disease progression and support personalised strategies in people with MS.
Funding acknowledgements: None declared.

P085
EFFECTS OF TRANSCUTANEOUS POSTERIOR TIBIAL NERVE STIMULATION ON URINARY INCONTINENCE IN MS: A RANDOMISED CONTROLLED TRIAL
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Background: Urinary dysfunction affects more than half of people with multiple sclerosis (MS) and significantly reduces quality of life and independence. Posterior tibial nerve stimulation (PTNS) has emerged as a non-invasive neuromodulation approach for neurogenic bladder dysfunction, although evidence in MS populations remains limited and heterogeneous.
Purpose: To investigate the efficacy of PTNS in reducing urinary incontinence (UI) and improving bladder-related outcomes in MS.
Methods: A prospective, randomized, double-blind, sham-controlled clinical trial was conducted at the MS Unit of Hospital Virgen Macarena (Seville). Sixty adults with MS and UI were randomly assigned to PTNS (n = 30) or sham stimulation (n = 30). Both groups received standard bladder education. PTNS was delivered transcutaneously at the medial malleolus (20 Hz, 200 µs, 30 minutes), twice weekly for 12 weeks. Outcomes were assessed at baseline and at weeks 4-8-12-24. The primary outcome was urinary leakage episodes. Secondary outcomes included urinary frequency, bladder emptying efficiency, and patient-reported outcomes.
Results: Forty-one participants completed the study (PTNS n = 21; control n = 20). PTNS produced a progressive reduction in urinary leakage episodes (rate ratio week 12 = 0.34; 95% CI 0.11–1.02; p = 0.058). Bladder emptying efficiency improved significantly (OR week 8 = 1.91, p = 0.047; week 24 = 2.43, p = 0.005). Improvements in quality of life and sleep were transient.
Conclusions: PTNS appears to be a safe and clinically relevant intervention for reducing UI and improving bladder emptying efficiency in people with MS.
Implications: PTNS may represent a valuable non-invasive physiotherapy strategy within multidisciplinary management of bladder dysfunction in MS.
Funding acknowledgements: This study received support from a Merck Research Grant (2022).

NEUROLOGY: PARKINSON'S DISEASE

P006
COMBINED LAND-BASED AND AQUATIC PHYSIOTHERAPY IN A PATIENT WITH PARKINSON'S DISEASE AND RHEUMATOID ARTHRITIS: A CASE STUDY
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Background: Parkinson's disease (PD) is a progressive neurodegenerative disorder characterised by impaired balance, gait disturbances, and reduced functional mobility. Rheumatoid arthritis (RA) is a chronic inflammatory disease associated with pain, joint stiffness, and functional limitations. When these conditions coexist, disability, fall risk, and reduced participation in daily activities may increase. Evidence regarding physiotherapy interventions addressing both neurological and rheumatological impairments remains limited.
Purpose: To explore the effects of a combined land-based and aquatic physiotherapy programme on balance, mobility, pain, and balance confidence in an individual with PD and RA.
Methods: A female patient with PD and RA participated in a 4-week physiotherapy programme with three weekly sessions: two land- based exercise sessions and one aquatic physiotherapy session. Outcomes were assessed before and after the intervention using the Mini-BESTest, Timed Up and Go (TUG), Activities-specific Balance Confidence Scale (ABC), and Numeric Pain Rating Scale (NPRS).
Results: Improvements were observed in functional mobility, balance confidence, and pain intensity. Mini-BESTest scores increased, particularly in reactive postural responses and gait stability, although changes were not clinically significant. TUG performance improved in both single- and dual-task conditions. Balance confidence exceeded the minimal clinically important difference, and pain decreased during weight-bearing activities.
Conclusions: Combined land-based and aquatic physiotherapy may improve mobility, reduce pain, and increase balance confidence in individuals with PD and RA.
Implications: Integrated physiotherapy programmes may benefit patients with coexisting neurological and rheumatological conditions. Further research into larger samples is needed to support clinical practice.
Funding acknowledgements: None declared.

P038
IMPACT OF DEEP BRAIN STIMULATION OF THE SUBTHALAMIC NUCLEUS (DBS-SN) ON DYSKINESIA IN PARKINSON'S DISEASE: A PROSPECTIVE CASE STUDY
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Background: Parkinson's disease (PD) is a neurodegenerative disorder characterized by motor and non-motor symptoms. Levodopa remains the main pharmacological treatment; however, long-term use is associated with levodopa-induced dyskinesia (LID), which significantly impacts quality of life (QoL). Deep Brain Stimulation (DBS) is an effective surgical treatment for advanced PD, helping control LID.
Purpose: The aim was to analyze Physiotherapy Intervention in DBS in an adult with PD (Hoehn and Yahr stage 3) with severe LID.

Methods: This prospective case study describes the Physiotherapy Process of an adult patient in a hospital setting. Physiotherapy was provided daily for one week, with 30-minute sessions. Assessment tools included: Rush Dyskinesia Rating Scale (RDRS), Numeric Pain Rating Scale (NPRS), Berg Balance Scale (BBS), and Parkinson's Disease Quality of Life Questionnaire (PDQL). Intervention strategies included: patient education (preoperative), positioning (intraoperative); task-oriented training, dual-task training, and cueing strategies (postoperative). Written consent was obtained.
Results: Improvements were observed in dyskinesia (RDRS chorea from 2/4 to 0/4), pain (NPRS from 6/10 to 0/10), balance (BBS from 48/56 to 56/56), and QoL (PDQL PD symptoms from 58.57/100 to 98.57/100, with positive expectations in social and emotional domains). Qualitatively, improvements were also observed in motor initiation, smoother and more symmetrical movements, regulated activity rhythm, and legible handwriting.
Conclusions: The intervention proved appropriate and highly effective. Despite its benefits, DBS remains underutilized due to its invasive nature, rigorous eligibility criteria, and limited access. Further research is needed to define optimal DBS timing in PD.
Implications: Limited evidence for Physiotherapy in the DBS phases.
Funding acknowledgements: None declared.

P063

IMPACT OF DEEP BRAIN STIMULATION OF THE SUBTHALAMIC NUCLEUS (DBS-STN) ON DYSKINESIA IN PARKINSON'S DISEASE: A PROSPECTIVE CASE STUDY

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Background: Parkinson's disease (PD) is a neurodegenerative disorder characterized by motor and non-motor symptoms. Levodopa remains the main pharmacological treatment; however, long-term use is associated with levodopa-induced dyskinesia (LID), which significantly impacts quality of life (QoL). Deep Brain Stimulation (DBS) is an effective surgical treatment for advanced PD, helping control LID.
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Results: Improvements were observed in dyskinesia (RDRS chorea from 2/4 to 0/4), pain (NPRS from 6/10 to 0/10), balance (BBS from 48/56 to 56/56), and QoL (PDQL PD symptoms from 58.57/100 to 98.57/100, with positive expectations in social and emotional domains). Qualitatively, improvements were also observed in motor initiation, smoother and more symmetrical movements, regulated activity rhythm, and legible handwriting.
Conclusion: The intervention proved appropriate and highly effective. Despite its benefits, DBS remains underutilized due to its invasive nature, rigorous eligibility criteria, and limited access. Further research is needed to define optimal DBS timing in PD.
Implications: Limited evidence for Physiotherapy in the DBS phases.
Funding acknowledgements: None declared.

P090

RELATIONSHIP BETWEEN LOWER-LIMB RIGIDITY AND MUSCLE TONE IN A PATIENT WITH PARKINSON'S DISEASE AND A HEALTHY SUBJECT

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Background: Rigidity is a primary clinical manifestation in people with Parkinson's Disease (pwPD) and may impair gait. Previous evidence comparing lower-limb rigidity, basal muscle tone, myotonometry, and surface electromyography (sEMG) outcomes is limited.
Purpose: To compare lower-limb muscle rigidity, basal muscle tone, muscle activation, and elasticity between a pwPD and a Healthy Subject (HS).
Methods: One pwPD and one HS (78-year-old men) were assessed. Basal muscle tone at rest was measured (MyotonPRO®) in rectus femoris (RF), tibialis anterior (TA), biceps femoris (BF), and medial gastrocnemius (MG). Muscle activation was recorded with mDurance®. Outcomes: muscle stiffness(N/m), tone (Hz), elasticity (ms) (Myotonometry), and muscle activation (Surface electromyography or sEMG, RMS).
Results: Muscle stiffness and tone under resting conditions were higher in the pwPD than in HS (e.g., TA = 475/448 vs 366/351 N/m; TA = 24.4/23.7 vs 20.2/19.4 Hz). sEMG demonstrated substantially higher resting muscle activation, particularly in the medial gastrocnemius (199.44–65.23 vs 2.98–4.37 RMS). Muscle elasticity: reduced in pwPD with respect to HS (e.g., RF = 17.5/22.5 vs 23.7/24.0 ms).
Conclusion: In the case of pwPD evaluated, increased lower-limb rigidity is associated with higher basal muscle activation at rest and reduced muscle elasticity with respect to HS. Further studies with larger sample sizes are needed to confirm these findings.
Implications: Objective measurement of muscle tone and activation in Parkinson's disease may guide physiotherapy selection, identify responders, and support some interventions to improve muscle rigidity in pwPD, like dry needling.
Funding acknowledgements: None declared.

P071

RESPIRATORY ASSESSMENT IN PARKINSON'S DISEASE: A SCOPING REVIEW OF DOMAINS, OUTCOMES AND MEASURES

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Background: Respiratory dysfunction is a clinically relevant but frequently under-recognised feature in people with Parkinson's disease and related parkinsonisms. Although widely described, the assessment of respiratory function remains conceptually fragmented, with no structured framework integrating the multiple dimensions of impairment, activity, and symptom perception.
Purpose: To map and categorise instruments used to assess respiratory function and capacity in people with Parkinson's disease and related parkinsonisms, and to identify evaluated domains, measured outcomes, and key gaps in the literature.
Methods: A scoping review was conducted following Joanna Briggs Institute methodology and reported according to PRISMA-ScR guidelines. Electronic databases were systematically searched up to December 2024. Studies including respiratory assessment instruments in this population were eligible. Instruments were organised using a Domain–Outcome–Measure framework aligned with the International Classification of Functioning, Disability and Health.

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Results: A total of 215 studies were included. Substantial heterogeneity was identified across assessment approaches. Most instruments targeted functional capacity, pulmonary function, and respiratory muscle strength. In contrast, ventilatory control and respiratory symptom assessment were consistently underrepresented. This pattern suggests a predominance of physiological and performance-based measures, with limited integration of regulatory and perceptual domains.
Conclusions: Respiratory assessment in Parkinson's disease is characterised by marked heterogeneity and lack of conceptual integration. Organising instruments within a multidimensional framework highlights key gaps and supports a more structured understanding of respiratory dysfunction.
Implications: A domain-based approach aligned with functional frameworks may support more comprehensive and clinically meaningful respiratory assessment, informing research standardisation and physiotherapy practice.
Funding acknowledgements: None declared.

NEUROLOGY: SPINAL CORD INJURY

P020

NEUROMODULATION OF NEUROPATHIC PAIN IN SPINAL CORD INJURY WITH HIGH-FREQUENCY ELECTRICAL CURRENTS (40 KHZ): PRELIMINARY RESULTS

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Neuropathic pain affects over one-third of individuals with spinal cord injury and remains difficult to treat. High-frequency alternating currents (≥30 kHz), particularly 40 kHz, may selectively target nociceptive fibres and increase pain thresholds without affecting other functions, supporting their therapeutic potential. A randomized, double-blind, controlled trial compared 40 kHz transcutaneous stimulation with placebo alongside usual care. Participants received ten 20-minute sessions over two weeks. Perceived spontaneous pain intensity was measured by the weekly mean visual analogue scale (VAS) value at T0 (baseline), T1 (after 5 days), T2 (after 10 days), and T3 (follow-up week). In addition, the proportion of clinical responders was calculated. At T2, the active group showed a significantly greater reduction in pain from baseline compared to placebo (mean difference = −1.84; p = 0.002), with a large effect size (d = −1.27). At T3, this significant difference was maintained (mean difference = −2.26; p = 0.006), also with a large effect size (d = −1.08). Regarding a reduction of ≥30%, at T2, 53.3% of the active group and 20% of the placebo group were responders (p = 0.058), while at T3, the percentages were 73.3% and 33.3%, respectively (p = 0.028). For a reduction of ≥50%, no significant differences were observed at T2, but at T3, 53.3% of the active group versus 6.7% of the placebo group met this criterion (p = 0.005). Transcutaneous stimulation with 40 kHz alternating currents produces a clinically relevant reduction in neuropathic pain, with a higher proportion of responders than placebo.
Funding acknowledgements: Project funded by the Spanish Ministry of Science and Innovation in 2020 (PID2020-119752RA-100).

NEUROLOGY: STROKE

P010

EFFECTIVENESS OF TDCS AND CIMT IN STROKE: SYSTEMATIC REVIEW WITH META-ANALYSIS

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Constraint-induced movement therapy (CIMT) is among the most extensively studied post-stroke interventions, especially for the recovery of upper-limb motor function. Emerging evidence suggests its effect may be further enhanced when combined with transcranial direct current stimulation (tDCS), a non-invasive brain stimulation that modulates neural plasticity to facilitate motor recovery. This study aimed to review the scientific literature that studies the combination of CIMT and tDCS compared to CIMT with sham tDCS in a post-stroke adult population, specifically focusing on upper-limb motor recovery. Clinical trials comparing tDCS and CIMT to sham tDCS combined with CIMT on upper-limb motor function, hand dexterity, and cortical excitability were included. Risk of bias was assessed independently by two reviewers using the Cochrane Risk of Bias Tool 2.0, and certainty of evidence was evaluated following the GRADE approach. Both qualitative synthesis and quantitative meta-analysis were performed. A total of 11 trials, involving 461 participants, were included in the review. In the qualitative synthesis, we observed a slight improvement favoring the experimental group in upper-limb motor function, spasticity, joint pain, and functional ability. The meta-analysis described a statistically significant difference favoring the experimental group in the Fugl-Meyer Assessment for Upper Extremity (FMA-UE) scores. CIMT combined with tDCS is a promising and safe intervention for improving motor function and functional outcomes in stroke patients. However, studies with larger samples and neurophysiological outcomes are required. Additionally, tDCS serves as a valuable adjunct to conventional physiotherapy, potentially enhancing clinical outcomes.
Funding acknowledgements: None declared.

P013

OBJECTIVELY MEASURED SEDENTARY BEHAVIOR AND LIGHT PHYSICAL ACTIVITY ARE ASSOCIATED WITH BONE QUALITY IN PEOPLE WITH CHRONIC STROKE

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Background: Prolonged sedentary behavior is common after stroke and may accelerate bone deterioration. While physical activity (PA) is considered protective, the relationship between objectively measured sedentary time and different PA intensities, and bone quality in chronic stroke remains unclear.
Purpose: To examine the association between sedentary behavior, PA intensity, and calcaneal bone quality in people with chronic stroke.
Methods: A cross-sectional study was conducted in 54 individuals with chronic stroke sequelae (57.8 ± 10.9 years, 70.4% men, 78 ± 56.6 months since stroke). Calcaneal bone quality of both limbs was assessed using quantitative ultrasound densitometry (SONOST 3000), obtaining the speed of sound (SOS), the broadband ultrasound attenuation (BUA), and the bone quality index (BQI). Time spent in sedentary behavior, light PA, and moderate-to-vigorous PA was objectively measured with an Actigraph GT3X+ accelerometer (7-day recording). Correlations between activity variables and bone parameters were analyzed.

Results: Sedentary time presented moderate negative correlations with SOS, BUA, and BQI, particularly in the affected limb ($p < 0.05$). Light PA was moderately and positively associated with SOS and BUA of the affected limb ($p < 0.05$). In contrast, moderate-to-vigorous PA exhibited weaker and less consistent associations. Inter-limb differences in BUA were consistently correlated with all the activity variables.
Conclusion: In people with chronic stroke, sedentary time and light PA appear to be more strongly associated with calcaneal bone quality than moderate-to-vigorous PA.
Implications: Physiotherapy programs for people with chronic stroke should incorporate strategies to reduce sedentary behavior and increase light daily PA to help preserve bone microarchitecture and reduce inter-limb asymmetry.
Funding acknowledgements: Conselleria d'Innovació, Universitats, Ciència i Societat Digital (CIGE/2021/099); JUAN DE LA CIERVA JDC2023-052176-I funded by MICIU/AEI/10.13039/501100011033.

P039

MEETING MODERATE-TO-VIGOROUS PHYSICAL ACTIVITY RECOMMENDATIONS IS ASSOCIATED WITH REDUCED LOWER-LIMB BONE ASYMMETRY IN CHRONIC STROKE

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Background: Reduced mechanical loading after stroke contributes to bone loss and structural asymmetry between limbs. Physical activity may mitigate these changes. Current recommendations suggest performing ≥20 minutes/day of moderate-to-vigorous physical activity (MVPA), but its relationship with lower-limb bone mineral density (BMD) in people with chronic stroke remains unclear.
Objective: To compare lower-limb BMD parameters and inter-limb asymmetry between people with chronic stroke who meet and do not meet MVPA recommendations.
Methods: A cross-sectional study was conducted in adults with chronic stroke (6 months or more since the last episode). MVPA was objectively measured using accelerometry (Actigraph GT3X+, 7-day recording), and participants were classified into high-MVPA (≥20 min/day; n = 15) and low-MVPA groups (<20 min/day; n = 39). Calcaneal bone mineral density was assessed using quantitative ultrasound densitometry (SONOST3000). Speed of sound (SOS), broadband ultrasonic attenuation (BUA), and bone quality index (BQI) were obtained for both limbs. Absolute and percentage inter-limb differences were calculated. Between-group comparisons were performed using the Student's t-test or the Mann–Whitney U test.
Results: Participants not meeting MVPA recommendations showed significantly lower BUA in the affected limb ($p=0.033$) and greater inter-limb asymmetry in BUA ($p = 0.012$) and BQI ($p = 0.016$). No significant differences were observed in SOS.
Conclusion: Meeting MVPA recommendations was associated with better trabecular bone properties in the affected limb and reduced inter-limb asymmetry in people with chronic stroke.
Implications: Physiotherapy programs for people with chronic stroke should promote achieving MVPA recommendations to help maintain bone health in the affected limb and reduce inter-limb asymmetry.
Funding acknowledgements: Valencian Regional Government (CIGE/2021/099); JUAN DELA CIERVA JDC2023-052176-I funded by MICIU/AEI/10.13039/501100011033 and by the ESF+.

P047

IMPACT OF PHYSIOTHERAPY ON FUNCTIONAL RECOVERY IN SUBACUTE POST-STROKE PATIENTS WITH RESIDUAL IMPAIRMENTS: A PROSPECTIVE CASE STUDY

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Background: Stroke is a focal neurological event lasting more than 24 hours, causing varying degrees of disability depending on the affected area. In ischemic stroke, early intervention is crucial, and neuroplasticity represents a pathway for motor and functional rehabilitation, where Physiotherapy plays a key role.
Purpose: The aim was to analyze Physiotherapy intervention in an older patient with subacute ischemic stroke (>3 weeks) and delayed admission post-symptom onset. The patient had residual tetraplegia (ASIA III, C4) but was previously independent with one crutch.
Methods: This prospective case study reports the Physiotherapy Process of an older patient in a hospital setting. Physiotherapy was provided daily for four weeks, with 45-minute sessions. Assessment tools included: Modified Ashworth Scale (MAS), Medical Research Council Scale (MRC), Berg Balance Scale (BBS), Functional Ambulation Classification (FAC), and Barthel Index (BI). Intervention strategies comprised: patient education, soft-tissue mobilization, passive mobilization, muscle strengthening, Proprioceptive Neuromuscular Facilitation (PNF), task-oriented training (transfers, reaching activities, gait), and motor imagery. Written consent was obtained.
Results: Improvements were observed in: right hemicorpus (tone (upper limb: MAS 3/4 to 2/4; lower limb: MAS 3/4 to 1/4), strength (upper limb: MRC 1/5 to 3/5, proximally; lower limb: MRC 3/5 to 4/5)); gait (FAC 0/5 to 2/5); balance (BBS 13/56 to 29/56); independence (BI 35/100 to 60/100).
Conclusions: The interventions proved appropriate. Despite positive results, recovery was influenced by pre-existing impairments. Earlier admission could have improved prognosis. Continued physiotherapy is essential to maximize functional recovery.
Implications: Subacute stroke literature remains limited, emphasizing the need for individualized physiotherapy.
Funding acknowledgements: None declared.

NON-COMMUNICABLE DISEASES (NCDS) AND RISK FACTORS

P059

DAILY STEPS AND BLOOD PRESSURE: A DOSE-RESPONSE META-ANALYSIS

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Background: Higher levels of physical activity are associated with lower blood pressure, yet the optimal number of daily steps required to achieve clinically meaningful reductions remains uncertain. Additionally, whether the dose–response relationship between daily steps and blood pressure differs by age group remains unclear.
Purpose: To evaluate the dose–response relationship between daily steps and blood pressure and examine potential interaction by age.
Methods: Systematic searches were conducted in PubMed, Scopus, SPORTDiscus, and Web of Science up to July 15, 2025. Restricted cubic splines were used to model the dose–response association between daily steps and blood pressure. Interaction by age group (<60 vs ≥60 years) was also examined.
Results: Fifteen cross-sectional studies were included, comprising 110,499 participants (age range: 32.3–81.8 years; 50% women). A significant nonlinear dose–response relationship was observed between daily steps and systolic blood pressure (p-nonlinearity < 0.001). The greatest reductions were observed at approximately 8,000 steps/day, corresponding to decreases of −6 mmHg in adults <60 years and approximately −7.7 mmHg in adults ≥60 years. No evidence of interaction by age group was observed (p-interaction = 0.968). No significant linear association was found between daily steps and diastolic blood pressure, regardless of age (p > 0.05).
Conclusions: Daily step counts are nonlinearly associated with systolic blood pressure, with the greatest reductions observed around 8,000 steps/day, with similar patterns across age groups.
Implications: Promoting daily step accumulation around 8,000 steps/day may represent a practical target for hypertension prevention and management across adulthood.
Funding acknowledgements: ERG is supported by a grant from the Instituto de Investigación Sanitaria de Castilla-La Mancha (IDISCAM).

OLDER PEOPLE

P041

BASELINE MUSCLE OXYGENATION PREDICTS 1-YEAR CHANGES IN LUMBAR MULTIFIDUS ECHO INTENSITY IN OLDER FEMALES

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Background: Age-related decline in muscle quality is characterized by increased echo intensity (EI), reflecting intramuscular fat and fibrosis; however, predictors of multifidus degeneration remain unclear.
Purpose: This study aimed to identify baseline predictors of changes in lumbar multifidus EI in older adults.
Methods: Thirty community-dwelling older female participants (aged 83.9 ± 6.1 years) attending outpatient rehabilitation who completed a 1-year follow-up were analyzed. Lumbar multifidus EI was assessed using ultrasonography in the prone position. Hemodynamics were evaluated using near-infrared spectroscopy during prone, sitting, standing, walking for 1 minute, and post-walk standing. Subcutaneous thickness, fat mass, phase angle, trunk muscle mass, bone mass, history of spinal compression fractures, back pain, walking speed, and spinal sagittal alignment were recorded. One-year EI changes were calculated. Paired t-tests assessed longitudinal changes, and associations between EI change and baseline variables were examined using multiple regression.
Results: EI significantly decreased over 1 year (−6.7 ± 13.2 a.u., p = 0.009), whereas trunk muscle mass did not change (p = 0.177). Despite this decrease, variability was observed, with EI increasing in seven participants and decreasing in 23. In the final model, lower baseline EI (β = −0.510, p = 0.003) and lower prone oxy-Hb (β = −0.362, p = 0.033) independently predicted greater EI increases (adjusted R^2 = 0.342, p = 0.003).
Conclusions: Lower baseline muscle quality and reduced resting muscle oxygenation predict greater progression of multifidus degeneration.
Implications: Assessing resting muscle oxygenation may help identify at-risk individuals and guide targeted physiotherapy interventions.
Funding acknowledgements: This work was supported by JSPS KAKENHI Grant Number JP24K14239.

ONCOLOGY, HIV AND PALLIATIVE CARE

P008

EFFICACY OF DIFFERENT CRYOTHERAPY INTENSITIES FOR PREVENTING CIPN IN PEOPLE WITH BREAST CANCER: A META-ANALYSIS

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Background: Chemotherapy-induced peripheral neuropathy (CIPN) is a frequent adverse effect in people receiving chemotherapy for breast cancer (BC), often leading to functional limitations and treatment modification. Recent evidence suggests that cryotherapy may prevent CIPN severity; however, its effectiveness may depend on the temperature applied and patient tolerability. Given the variability in intervention protocols, evaluating the effect of different cryotherapy intensities is necessary to identify optimal treatment parameters.
Purpose: To evaluate the effectiveness of different cryotherapy temperatures in preventing CIPN-related neurotoxicity in people with BC undergoing chemotherapy.
Methods: A systematic search was conducted in PubMed, Cochrane, Scopus, WOS, PEDro, and SPORTDiscus from inception to March,2026. RCTs comparing cryotherapy with a control condition (CG) and reporting CIPN neurotoxicity severity in people with BC were included. Pooled standardized mean differences (SMD) with 95% confidence intervals (CI) were calculated using the REML method. Subgroup analyses were performed according to cryotherapy temperature ranges. Subgroups 1-6 were included. Overall, cryotherapy prevented CIPN-related neurotoxicity compared with CG (SMD = -0.97 [-1.70; -0.24]). Subgroup analyses suggested that temperatures between −30°C and−20°C produced the only statistically significant effect (SMD = -1.35 [-2.67; -0.03]).
Results: Six RCTs.
Conclusions: Cryotherapy appears effective for preventing CIPN-related neurotoxicity in people with BC, particularly when temperatures between −30°C and−20°C are applied. Higher temperature ranges showed a non-significant but potentially protective trend.

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Implications: This study supports the use of very low temperatures. However, the observed trends suggest that more tolerable cryotherapy intensities may still provide protective effects. Future research should directly compare temperature ranges.
Funding acknowledgements: None declared.

P031

EXERCISE INTERVENTIONS FOR PREVENTION AND TREATMENT OF CHEMOTHERAPY-INDUCED PERIPHERAL NEUROPATHY IN BREAST CANCER: A META-ANALYSIS

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Background: Chemotherapy-induced peripheral neuropathy (CIPN) is a common complication of neurotoxic chemotherapy in breast cancer, affecting up to 73% of patients. Exercise-based rehabilitation may reduce symptoms, but the effectiveness of specific exercise modalities and their role in prevention versus treatment remains unclear.
Purpose: To evaluate the effects of exercise-based interventions on neurotoxicity severity for the prevention and treatment of CIPN in breast cancer.
Methods: A systematic review and meta-analysis were conducted following PRISMA 2020 guidelines. PubMed, Scopus, CENTRAL, Web of Science, PEDro, and SPORTDiscus were searched. Experimental studies comparing exercise with passive controls and reporting quantitative measures of CIPN-related neurotoxicity were included. Random-effects meta-analysis using the Hartung–Knapp method estimated standardized mean differences (SMD). Risk of bias was assessed using RoB 2 and ROBINS-I. Subgroup analyses were conducted by study objective and exercise type.
Results: Five studies were included. Exercise did not significantly reduce neurotoxicity severity compared with controls (SMD −1.27; 95% CI −3.35 to 0.80; $I^2 \approx 96\%$). Subgroup analyses showed no significant effects for prevention (SMD −0.65; 95% CI −3.26 to 1.97) or treatment (SMD −2.23; 95% CI −24.40 to 19.94). Sensorimotor training showed a consistent direction of benefit across studies, although pooled estimates were not significant. Risk-of-bias assessment indicated that 40% of studies had some concerns and 60% had high risk of bias.
Conclusion: Exercise-based interventions did not show significant effects for preventing or treating CIPN-related neurotoxicity in breast cancer.
Implications: Sensorimotor training may represent a promising physiotherapy strategy; however, larger and more rigorous trials are needed.
Funding acknowledgements: None declared.

P078

ONCOLOGY PHYSIOTHERAPY THROUGH ASYNCHRONOUS TELEREHABILITATION IN PERIOPERATIVE COLORECTAL CANCER: A RANDOMIZED CLINICAL TRIAL

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Background: People undergoing colorectal cancer surgery commonly experience perioperative deconditioning, reduced mobility, impaired physical function, and diminished quality of life. Although exercise-based prehabilitation and postoperative rehabilitation are recommended, access to oncology physiotherapy is often limited. Asynchronous telerehabilitation may help maintain continuity of care and support recovery.
Purpose: To evaluate the effectiveness of an asynchronous telerehabilitation programme delivered during prehabilitation and rehabilitation, compared with an educational booklet, in people undergoing colorectal cancer surgery.
Methods: A parallel, assessor-blinded randomized clinical trial included 51 people scheduled for elective colorectal cancer surgery at Hospital Royo Villanova, Zaragoza, Spain. Participants were randomly allocated to a telerehabilitation group or control group. The intervention combined breathing, aerobic, and resistance exercises with remote support over 2 preoperative and 4 postoperative weeks. Outcomes included functional exercise capacity (Six-Minute Walk Test), mobility (Timed-Up-and-Go), lower-limb performance (Sit-to-Stand), handgrip strength, and quality of life (EQ-5D) at four perioperative time points.
Results: The telerehabilitation group showed greater functional exercise capacity at T2, T3, and T4 than controls ($p < 0.05$). Lower-limb functional performance was better at T2 ($p = 0.014$), with favourable trends at T3 and T4. Mobility was better at T2 and T4 ($p < 0.05$). Right-hand grip strength was higher at T2 ($p = 0.038$), with no significant between-group differences in left-hand grip strength or quality of life.
Conclusion: Asynchronous telerehabilitation improved functional recovery, mobility, and lower-limb performance compared with an educational booklet.
Implications: Asynchronous telerehabilitation appears to be a feasible oncology physiotherapy strategy to extend exercise- based care, improve access, and support recovery in perioperative colorectal cancer pathways.
Funding acknowledgements: None declared.

P067

ECONOMIC VALUE AND COST-EFFECTIVENESS OF PHYSICAL ACTIVITY IN CANCER: A SYSTEMATIC REVIEW

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Background: Scientific evidence supports the effectiveness of exercise in the prevention and treatment of cancer, as well as in improving patient survival and quality of life. Although there are indications that exercise interventions may be cost- effective, the evidence remains unclear.
Purpose: Review current evidence on the cost-effectiveness of exercise therapy in cancer population.
Methods: A systematic review of economic evaluations performed alongside randomised controlled trials (RTCs) was developed. The search was conducted in PubMed, Embase, PsycINFO, CINAHL, and SPORTDiscus databases from their inception to November 2024.
Results: A total of 653 records were identified. 10 reports (9 RCTs) recruiting 2,344 participants were finally included. Nine reports performed a cost-effectiveness analysis and/or cost-utility analysis; one conducted a cost análisis. The most common outcome used in cost-effectiveness assessments was Quality-Adjusted Life-Years. There was no clear trend in the cost- effectiveness results for exercise-based interventions in the cancer population.
Conclusions: Evidence is inconclusive; the heterogeneity described in cost estimates, outcome measures, patient populations, study designs, intervention characteristics, and health care systems makes comparisons difficult. Nevertheless, some studies suggest that exercise for

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cancer may be cost-effective or even dominant in certain populations and contexts (e.g., colorectal cancer, metastatic breast cancer), with the costs of the intervention offset by savings in health care or productivity. Future economic evaluations on this topic should be conducted to provide valuable insights and inform policy decisions.
Implications: Evidence suggests that the economic impact and cost-effectiveness are dependent upon multiple factors and the specific care perspective adopted (social vs. medical).
Funding acknowledgements: Granting of the EU Erasmus+ Sport Programme contribution: grant agreement Nr. 101050256 - UcanACT - ERASMUS- SPORT-2021-SCP.

P091
PREDIAGNOSTIC CARDIORESPIRATORY FITNESS AND HANDGRIP STRENGTH FOR MORTALITY RISK: A UK BIOBANK COHORT STUDY
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Background: Cancer constitutes the foremost contributor to global disease burden and mortality. However, no previous studies have simultaneously examined the association of cardiorespiratory fitness (CRF) and handgrip strength (HGS) with all-cause mortality in a pre-cancer-diagnosis stage population.
Purpose: To determine the prospective dose-response association of pre-diagnostic CRF and HGS with all-cause mortality among initially cancer-free adults.
Methods: Prospective cohort study from the UK Biobank comprising cancer adults without a baseline diagnosis. Associations of CRF and HGS with all-cause mortality were investigated using a Royston-Parmar flexible parametric model adjusted for age, sex, educational attainment, socioeconomic status, smoking, alcohol intake, self-rated health, BMI, fruit/vegetable consumption, use of antihypertensive, cholesterol-lowering, and insulin therapies.
Results: 12,207 participants (mean age 59.6 years, 51% men) were followed for a median of 12.5 years, during which 2,188 deaths occurred. CRF showed a decreasing L-shaped pattern of association with mortality. Using a reference value of 27.9 $ml \cdot kg^{-1} \cdot min^{-1}$, very low VO_2 (12.5 $ml \cdot kg^{-1} \cdot min^{-1}$) was associated with higher mortality risk (HR 1.59;95% CI 1.28–1.98), without evidence of plateau. HGS followed an inverse non-linear association. Using a reference value of 32 kg, weaker HGS (12 kg) was associated with an increased mortality risk (HR 1.37; 95%CI 1.11–1.67), with no further risk reduction beyond the reference value.
Conclusion: Among participants who later developed cancer, CRF was a stronger predictor of mortality than HGS.
Implications: Pre-diagnostic fitness assessment and lifestyle interventions targeting HGS and especially CRF may improve long-term survival in cancer-free populations.
Funding acknowledgements: A.T-B acknowledges predoctoral funding (FPU24/03315). Other authors received no funding for this work.

P021
EFFECTS OF AN IN-HOSPITAL RESISTANCE TRAINING PROGRAM ON FUNCTIONALITY AND PSYCHOLOGICAL OUTCOMES IN PATIENTS WITH CHOROIDAL MELANOMA
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Background: Choroidal melanoma (CM) is the most common intraocular cancer worldwide. Treatment requires isolated bed rest, resulting in functional and psychological impairment. While exercise has been suggested as a potential countermeasure, no prior study has investigated this hypothesis.
Purpose: To investigate the effects of an in-hospital resistance training (RT) program on functionality and patient-reported outcomes in patients with CM.
Methods: Ten participants with CM were randomized to either RT or a control group. The RT group performed daily sessions of a single set of five exercises performed unilaterally at 12-15 repetitions maximum. Physical function was assessed through the Timed-Up-and-Go test (TUG) and the 30-second sit-to-stand test (30-StS). Patient-reported outcomes included quality of life (EORTC QLQ-C30 and OPT30 modules), anxiety and depression (Hospital Anxiety and Depression Scale).
Results: A significant group-by-time interaction was found for the 30-StS test ($p = 0.023$): the intervention group improved (13.8 ± 3.49 to 15.0 ± 3.16), while the control group declined (14.4 ± 2.07 to 12.4 ± 3.71). Anxiety showed a significant main effect of time ($p = 0.0028$), with sustained reductions in the intervention group at 1-month follow-up (2.8 ± 2.59) compared to a rebound in controls (6.2 ± 4.76). No significant interactions were found for global health status, functional scales, symptom burden, or TUG performance ($p > 0.05$).
Conclusion: Findings suggest preliminary benefits of the intervention, particularly for physical function and sustained psychological outcomes.
Implications: Exercise programs may counteract bed rest-related functional decline while providing sustained psychological benefits, supporting their integration into standard care.
Funding acknowledgements: A.T-B acknowledges predoctoral funding (FPU24/03315). Other authors received no funding for this work.

P046
IMPACT OF AN EXERCISE AND THERAPEUTIC EDUCATION PROGRAM ON FUNCTIONAL CAPACITY AND QUALITY OF LIFE IN PATIENTS WITH A CANCER DIAGNOSIS
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Background: Cancer and its treatments are associated with a significant decline in functional capacity and quality of life, particularly due to symptoms such as fatigue and pain.
Purpose: To evaluate the impact of a structured exercise and therapeutic education program on functional capacity and health-related quality of life in individuals diagnosed with cancer in a community setting.
Methods: An observational pre–post study was conducted in individuals enrolled in an oncological physiotherapy program developed at the Spanish Association Against Cancer in Madrid. The intervention consisted of 16 supervised group sessions combining moderate-intensity cardiovascular and strength training, motor control and balance exercises, and therapeutic education. Functional capacity was assessed using the 6-Minute Walk Test and the 30-Second Sit-to-Stand Test, while quality of life was measured using the EORTC QLQ-C30 questionnaire.
Results: A total of 106 participants were included, with a mean age of 53.5 years and a predominance of women. Significant improvements were observed in functional capacity, global health status, and physical and role functioning domains of quality of life, along with clinically relevant reductions in fatigue and pain.

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Conclusions and implications: These findings support community-based oncological physiotherapy as an effective, safe, and transferable intervention, with relevant clinical and organizational implications for comprehensive cancer care. The results have direct relevance for clinical practice, healthcare management, and public health policy.
Funding acknowledgements: None declared.

ORTHOPAEDICS

P003

HEALTHCARE WORKER ATTITUDES TO IMPLEMENTING AN EARLY MOBILISATION INTERVENTION TO INCREASE MOBILISATION AFTER HIP FRACTURE SURGERY

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Delayed mobilization following hip fracture surgery is detrimental to patients and healthcare systems, increasing mortality, morbidity and time spent in hospitals. NICE recommends mobilisation by the day after surgery. Achieving this metric varies in success across organisations. One key limitation to success is the availability of a physiotherapist. This embedded, qualitative study explored healthcare workers' attitudes and perceptions of implementing a novel training intervention that was delivered on their trauma ward, aimed at increasing the number of patients mobilised for the first time by healthcare assistants (HCAs), instead of physiotherapists, following surgery. Semi-structured interviews were conducted with 18 participants ranging from physiotherapists, nurses, HCAs, and managers. Three themes were identified: (a) healthcare workers' perceived benefits and challenges, (b) organisation and leadership, and (c) training. Increased HCA confidence, engagement, improved MDT communication and collaboration, and increased therapy time to engage in other rehabilitation activities were positive outcomes. Barriers were the potential change in HCA and therapy roles, increased burden of additional tasks for HCAs, and budget limiting staffing. Facilitators to success were existing positive team ethos, strong, present leadership, and management buy-in. This study has identified potential facilitators and barriers to successful implementation of this intervention on a larger scale. With increasing demand on physiotherapy resources in the UK and globally, it will be important to understand how best to engage the wider healthcare workforce to support achieving important metrics such as early mobilisation. Our results can provide insight into how to improve engagement with the workforce and reduce barriers to success.
Funding acknowledgements: This work was funded by the Norfolk Initiatives for Coastal and Rural Equalities (NICHE) Anchor Institute fellowship award.

PAEDIATRICS

P025

SPINAL MUSCULAR ATROPHY IN THE ERA OF NEW THERAPIES: TRANSLATING EVIDENCE INTO PAEDIATRIC PHYSIOTHERAPY AND ORTHOPAEDIC PRACTICE

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Background: Spinal muscular atrophy (SMA) is a neuromuscular disorder with high mortality. Disease-modifying therapies such as nusinersen, onasemnogene abeparvovec, and risdiplam have transformed survival and motor outcomes, creating new functional trajectories and musculoskeletal patterns relevant for pediatric physiotherapy and orthopedic/orthotic management.
Purpose: To synthesize how contemporary SMA therapies are reshaping phenotypes relevant to physiotherapy and orthopaedic practice, and to identify key decision points for pediatric physiotherapists.
Methods: A focused narrative review of pharmacological therapies for SMA and associated functional outcomes was undertaken and combined with the clinical experience of a paediatric physiotherapist/orthotist and a clinical pharmacist. Advances and their reported impact on survival, motor function, posture and participation were mapped and grouped into practice-oriented domains.
Results: An emerging "treated SMA" phenotype is characterised by increased survival of children with severe forms, greater motor heterogeneity and changing trajectories of scoliosis and contractures. Domains relevant for physiotherapy include postural control, gait potential, endurance and participation in play and school. These changes require updating functional assessment, reconsidering orthotic and standing-programme decisions, refining therapeutic exercise prescription, and implementing structured monitoring of respiratory and spinal status.
Conclusion: Disease-modifying therapies have changed the clinical presentation of SMA and demand updated clinical reasoning and close coordination between physiotherapy, neuromuscular, rehabilitation, and orthopedic teams.
Implications: This synthesis proposes evidence-informed questions and decision points to support physiotherapists in translating pharmacological advances into realistic, participation-focused intervention plans for children with SMA and their families.
Funding acknowledgements: None declared.

P054

PARENTAL SELF-EFFICACY, STRESS, AND SOCIAL VULNERABILITY IN PARENTS OF YOUNG CHILDREN: A CROSS-SECTIONAL STUDY

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Background: Parental self-efficacy is a determinant of parenting behaviour, family well-being, and child development. Parents experiencing stress or socioeconomic vulnerability may perceive themselves as less competent, which may affect caregiving. Understanding these associations may help identify families who could benefit from early support.
Purpose: To describe parental self-efficacy, parental stress, and social vulnerability among parents of young children and to examine the associations between these factors.
Methods: A descriptive cross-sectional study was conducted using questionnaires completed by parents of young children. Parental self-efficacy was assessed using the Escala de Evaluación Parental (EEP), parental stress using the Parenting Stress Index (PSI), and social vulnerability using the AROPE indicator (At Risk of Poverty or Social Exclusion). Elevated parental stress was defined as PSI > 89. Descriptive statistics and non-parametric analyses (Mann–Whitney U test and Spearman correlations) were performed.

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Results: Thirty-one participants were recruited, of whom 29 provided valid data. AROPE was present in 93.5% of participants. The mean EEP score was 6.98 (SD 1.72), and the mean PSI score was 82.3 (SD 19.4). Using this cut-off, 31% of participants experienced elevated parental stress. Participants classified as AROPE had lower EEP scores (Z = −2.81; p = 0.005) and higher PSI scores (Z = −2.41; p = 0.016). Participants with elevated stress also had lower EEP scores (Z = −2.67; p = 0.008). EEP and PSI scores were inversely correlated (Spearman's rho = −0.61; p = 0.002).
Conclusion: Lower parental self-efficacy was associated with higher parental stress and increased social vulnerability.
Funding acknowledgements: None declared.

P016
PRETERM CHILDREN IN ICELAND: NEONATAL RISK FACTORS, MOTOR DEVELOPMENT IN THE FIRST 2 YEARS, AND NEURODEVELOPMENTAL OUTCOMES
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Background: Premature children are at high risk of delayed motor development due to an immature central nervous system. Shorter gestational age and lower birthweight increase the likelihood of neonatal health complications, raising the risk of neurodevelopmental diagnosis. Purposes: 1) To describe neonatal complications among children born <32 weeks' gestation in Iceland, and examine whether complications predict later disability, 2) To track motor development to 24 months in children born <28 weeks and/or <1000 g.
Methods: Retrospective cohort of children born <32 weeks followed at Children´s Hospital in Iceland (2012–2020). Motor development was assessed using the Alberta Infant Motor Scale to 15 months, and Bayley Scales of Infant and Toddler Development–III motor scales at 12 and 24 months. Associations between neonatal complications and later outcomes were examined.
Results: Complications were more common in children born <28 weeks and/or <1000 g, who also had higher rates of neurodevelopmental diagnoses. Motor performance at 24 months was below test norms in this high-risk group, but complications were not associated with motor scale outcomes. In the full <32-week cohort, cumulative neonatal complication burden independently predicted later disability, with adjusted odds increasing by approximately 60% per additional complication.
Conclusions: Children born <28 weeks and/or <1000 g experienced greater complications and poorer early motor performance, while cumulative complication burden in the broader <32-week cohort increased odds of later disability.
Implications: Children born very preterm, especially those born before 28 weeks and/or <1000 g, need developmental monitoring, early physiotherapy, and early supportive intervention.
Funding acknowledgements: Research Fund for Women's and Children's Services at the University Hospital of Iceland.

PAEDIATRICS: CEREBRAL PALSY

P056
BENEFITS OF HIPPOTHERAPY ON FUNCTIONAL PERFORMANCE IN CHILDREN WITH CEREBRAL PALSY: A SCOPING REVIEW
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Background: Animal-assisted therapy is a structured intervention in which trained animals are incorporated into rehabilitation programs to promote physical and psychological benefits through active patient-animal interaction (1). In children with Cerebral Palsy (CP)-a group of permanent disorders affecting movement and posture due to a non-progressive lesion of the developing brain-hippotherapy has been proposed as a complementary therapeutic approach to improve motor outcomes. Purpose: This scoping review aimed to evaluate and highlight the potential benefits of hippotherapy in children with CP.
Methods: This scoping review aimed to evaluate and highlight the potential benefits of hippotherapy in children with CP. A literature search was conducted in PubMed, Cochrane Library, and Scopus for English-language randomized controlled trials (RCTs) published between 2016 and 2026. The strategy combined the keywords "equine-assisted animals" OR "hippotherapy" AND "cerebral palsy". Inclusion criteria were: (1) RCT design; (2) publication in English; (3) indexed journals; and (4) focus on hippotherapy in children with CP. Non-randomized studies, reviews, non-English articles, and studies not specifically addressing hippotherapy in CP were excluded. The selection process followed PRISMA guidelines, resulting in six RCTs included in the review. Risk of bias was assessed using the Cochrane Risk of Bias tool.
Results: The included studies reported significant improvements in gross motor function, balance, postural control, coordination, mobility, and sitting ability.
Conclusion: Overall, current evidence supports the benefits of hippotherapy in improving functional performance in children with CP.
Implications: These findings encourage the integration of hippotherapy into multidisciplinary rehabilitation programs for children with CP.
Funding acknowledgements: None declared.

P087
EXPERIENCES OF ASSISTIVE DEVICES AMONG YOUTH WITH CEREBRAL PALSY (CP) AT GROSS MOTOR FUNCTION CLASSIFICATION SYSTEM LEVELS III–V
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Background: Assistive devices support mobility and participation for children and youth with cerebral palsy (CP), particularly those at GMFCS levels III–V. Less is known about how children and youth experience using these devices.
Purpose: To explore how children and youth with CP experience their assistive devices.
Methods: This qualitative study used semi-structured interviews with a phenomenological approach to deepen the understanding of participants' personal experiences. Five children and youth, 12-17 years of age, with CP at GMFCS levels III- IV were interviewed. The data were coded and analyzed using thematic analysis, and a thematic model was developed to represent participants' experiences.
Results: The analysis revealed a range of experiences among the children regarding their assistive devices, although several commonalities emerged. Three main themes emerged: 1) the significance of assistive devices in everyday life, 2) emotional responses associated with using these devices, and 3) the practical function and impact on daily activities. Assistive devices were described as important for independence, mobility, and social participation, although some were experienced as uncomfortable and negatively affected everyday use.
Conclusion: Assistive devices play a vital role in enabling children and youth with CP to live active and meaningful lives. These findings are important for physiotherapists and other health professionals in providing more individualized care.

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Implications: Because assistive devices can both support independence and participation and create discomfort that limits everyday use, clinicians need to provide individualized assessment and ongoing follow-up. Listening to children's own experiences may help optimize device selection, adaptation, and long-term use.
Funding acknowledgements: None declared.

PAIN AND PAIN MANAGEMENT

P051

SEE ME AND HELP ME SO THAT I CAN HELP MYSELF: A STUDY EXPLORING EXPERIENCES OF ADOLESCENTS RECEIVING PHYSIOTHERAPY FOR PERSISTENT PAIN

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Background: Persistent pain in adolescence can have considerable impact on daily life, social functioning, and psychological wellbeing. Physiotherapy is a recommended treatment approach, yet there is limited knowledge about how adolescents experience physiotherapy and which components of treatment they find to be important.
Purpose: The aim of the study was to explore adolescents' experiences and perspectives of physiotherapy for persistent pain. The goal was to improve treatment approaches and to ensure that physiotherapy is tailored to their needs**.**
Methods: Thirteen individual interviews were conducted with adolescents who had experience with persistent pain. The interviews explored their experiences of physiotherapy and the aspects that they found to be most important. The data were analyzed with reflexive thematic analysis.
Results: Three main analytical themes were constructed: 1) See me: Understanding who I am, 2) Help me: Making the pain understandable, and 3) Help myself: Dealing with life.
Conclusion: This study shows that adolescents living with persistent pain have specific needs regarding physiotherapy treatment. By providing practical tools and exercises, physiotherapists can help adolescents gain a sense of control over their pain.
Implications: These results support the importance of patient-centered care that emphasizes therapeutic alliance, shared decision-making, and a biopsychosocial understanding of persistent pain. It also illustrates the need to incorporate adolescents' perspectives into physiotherapy practice, education, and development of clinical guidelines.
Funding acknowledgements: This study is funded by The Norwegian Fund for Post-Graduate Training in Physiotherapy [219981].

P012

PHYSIOTHERAPEUTIC AND INSTRUMENTAL INTERVENTIONS FOR TEMPOROMANDIBULAR DISORDERS AND BRUXISM: A SCOPING REVIEW

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Background: Temporomandibular disorders (TMD) and bruxism are musculoskeletal conditions that require multidisciplinary 2, pharmacological, and physiotherapeutic approaches, highlighting the need for an updated synthesis to guide clinical decision-making amid fragmented evidence across dental management.
Purpose: This scoping review aimed to map and synthesize evidence from randomized controlled trials (RCTs) on the effectiveness of rehabilitative interventions for TMD and bruxism, focusing on pain intensity, mandibular kinematics, and quality of life.
Methods: A systematic search of PubMed, Cochrane Library, and Scopus was conducted for English-language RCTs published between 2016 and 2026. Keywords included combinations of "orofacial pain," "temporomandibular joint disorders," "TMD," "bruxism," "rehabilitation," "physical therapy," "pain management," and "quality of life." Inclusion criteria were: (1) RCTs; (2) published in indexed journals; and (3) focused on TMD or bruxism managed through rehabilitative interventions. Reviews, non-randomized studies, and non-English papers were excluded. A PRISMA flow diagram guided study selection. Nine RCTs were included.
Results: Manual therapy and cervical motor control exercises combined with occlusal splints demonstrated superior long- term improvements in jaw function, sleep quality, and somatic tinnitus. High-Intensity Laser Therapy (HILT) was the most effective modality for rapid acute pain reduction. The efficacy of botulinum toxin remains controversial, failing to surpass placebo effects in double-blind trials.
Conclusion: Non-invasive multimodal physiotherapy appears more effective than isolated or invasive interventions. Future research is recommended in order to standardize cervical exercise protocols integrated with orofacial management.
Implications: Physiotherapy should be considered a primary intervention for TMD, with integrated cervical assessment and interdisciplinary collaboration.
Funding acknowledgements: None declared.

P066

EFFECTIVENESS OF PAIN NEUROSCIENCE EDUCATION IN FIBROMYALGIA: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: Fibromyalgia is a chronic pain condition affecting about 2% of the global population. EULAR guidelines recommend a multimodal management approach integrating pharmacological and non-pharmacological strategies. Pain Neuroscience Education (PNE) is an educational intervention designed to improve patients' understanding of the neurophysiological mechanisms underlying chronic pain and its psychosocial components.
Purpose: To evaluate the effectiveness of PNE in individuals with fibromyalgia.
Methods: A systematic review and meta-analysis of RCTs was conducted following PRISMA guidelines. Major biomedical and rehabilitation databases were searched up to July 2025. Two independent reviewers screened studies using Rayyan and extracted data with standardized forms. Risk of bias was assessed using the RoB 2.0 tool. Meta-analyses examined pain, psychosocial outcomes, functional status, and quality of life, reporting mean differences with 95% confidence intervals.
Results: Fourteen RCTs involving 1463 participants with fibromyalgia were included; participants were predominantly women with a mean age between 45 and 54 years. PNE was delivered alone or within multimodal programmes. Significant post- intervention improvements were observed for pain (MD −0.44; −0.75 to −0.13), kinesiophobia (MD −1.04; −1.45 to −0.63), anxiety (MD −0.41; −0.71 to −0.11), depression (MD −0.58; −0.74 to −0.42), and functional status (MD −0.57; −0.96 to −0.18). No significant effects were observed for pain catastrophizing and quality of life.
Conclusions: Pain Neuroscience Education appears to be an effective component of physiotherapy management for fibromyalgia.

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Implications: Integrating PNE into physiotherapy programmes may improve pain understanding, reduce fear of movement, and support active self-management in patients with fibromyalgia.
Funding acknowledgements: None declared.

P096

METHODOLOGICAL HETEROGENEITY IN CLINICAL TRIALS ASSESSING HEART RATE VARIABILITY AFTER MANUAL THERAPY FOR MUSCULOSKELETAL PAIN

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Background: Heart rate variability (HRV) has been proposed as a biomarker of autonomic nervous system modulation following manual therapy in musculoskeletal pain conditions. However, reported effects remain inconsistent, possibly due to differences in populations, interventions, HRV acquisition protocols, and outcome selection. Understanding methodological heterogeneity is essential to interpret findings and guide future physiotherapy research.
Purpose: To analyze methodological heterogeneity in clinical trials evaluating HRV following manual therapy in individuals with musculoskeletal pain and identify implications for physiotherapy research.
Methods: A systematic review of clinical trials was conducted according to PRISMA. Searches were performed in PubMed, Web of Science, Scopus, and PEDro between April and September 2025. Eligible studies evaluated manual therapy effects on HRV in adults with musculoskeletal pain. Data extracted included population characteristics, intervention type, HRV parameters, and methodological quality assessed with the PEDro scale.
Results: Eight clinical trials involving 541 participants were included. Heterogeneity was observed in conditions, manual therapy techniques, intervention dosage, and HRV metrics. Five trials reported increases in parasympathetic-related HRV parameters, whereas three showed no significant autonomic changes. Most interventions were short-term. PEDro scores ranged from 4 to 8.
Conclusions: Manual therapy may modulate autonomic nervous system activity in musculoskeletal pain; however, interpretation of current evidence is limited by methodological heterogeneity and variability in HRV measurement protocols.
Implications: Future trials should standardise HRV acquisition, define clinically meaningful outcomes, include adequate sample sizes, and explore dose-response relationships.
Funding acknowledgements: None declared.

P098

MULTIDIMENSIONAL ASSESSMENT OF PSYCHOSOCIAL RISK FACTORS FOR MUSCULOSKELETAL PAIN IN TEXTILE SECTOR WORKERS: PRELIMINARY RESULTS

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Background: Musculoskeletal disorders, including pain, are a major cause of disability and functional limitation affecting daily life and work capacity. Identification of modifiable risk factors is essential to reduce their impact; however, the biopsychosocial model is rarely implemented by companies for the management of these disorders.
Objectives: To cross-sectionally quantify the association between musculoskeletal pain and biopsychosocial factors in a population of workers from a textile company.
Methods: Voluntary participation surveys were conducted, collecting information on sociodemographic data, habits and lifestyle, prevalence of musculoskeletal disorders, and psychosocial factors.
Results: The sample consisted of 93 participants, with a mean age of 38 years; 69% were women. 33.7% and 51.2% of the sample reported a medium-to-high level of mental and physical stress, respectively. 37.8% reported a medium-to-low level of self-efficacy, and 40.5% of the participants did not engage in physical exercise during their leisure time. Regarding body areas with pain during the six months prior to the survey, 67% reported pain in three or more body areas.
Conclusion: The prevalence of pain in this population (93%) and of pain in three or more locations is high, with a consequent risk of impact on personal and working life. Nearly 60% reported reduced activity, and/or the need for sick leave, and/or the need for healthcare assistance.
Implications: It is necessary to identify psychosocial factors associated with musculoskeletal pain and to qualitatively analyze workers' experiences in order to provide appropriate information aimed at improving health promotion outcomes within company occupational health and prevention departments.
Funding acknowledgements: Universidad San Jorge.

PELVIC, SEXUAL AND REPRODUCTIVE HEALTH

P052

NON-HORMONAL MANAGEMENT OF GENITOURINARY SYNDROME OF MENOPAUSE: IMPACT OF INDIBA® RADIOFREQUENCY ON VAGINAL TISSUE QUALITY

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Background: Genitourinary Syndrome of Menopause (GSM) impairs vaginal tissue quality and lubrication. Effective non-hormonal therapies are required for women unwilling to use estrogen-based treatments.
Purpose: To compare the efficacy of capacitive–resistive monopolar radiofrequency (CRMR) versus sham treatment on vaginal tissue quality and lubrication.
Methods: A single-blind, placebo-controlled randomised clinical trial was conducted in 63 women with GSM. The intervention group received six CRMR sessions (INDIBA®; 41–42°C, 10 minutes), while the sham group received a simulated procedure. Outcomes included Vaginal Health Index (VHI) domains and total score, and self-reported lubrication. Between-group differences were analysed using ANCOVA adjusted for age, time since menopause, and baseline values.
Results: Between-group comparisons demonstrated statistically significant differences favouring CRMR over sham at post-treatment (T1) and 12-week follow-up (T2) across all VHI domains (all $p < 0.001$). Large to very large effect sizes were observed for elasticity ($d = 1.55$ at T1; $d = 2.03$ at T2), vaginal secretion ($d = 2.14$; $d = 1.88$), pH ($d = 1.60$; $d = 2.03$), epithelial integrity ($d = 1.17$; $d = 1.13$), and moisture ($d = 1.81$; $d = 3.17$). The total VHI score showed very large between-group effects at T1 ($d = 3.48$; $p < 0.001$) and T2 ($d = 3.80$; $p < 0.001$). Self-reported lubrication also significantly favoured CRMR compared with sham at T1 ($p < 0.001$; $g = 1.31$) and T2 ($p = 0.001$; $d = 0.88$), indicating sustained moderate-to-large clinical effects.
Conclusion: CRMR produces clinically and statistically significant improvements in vaginal tissue quality and lubrication compared with sham treatment.

Implications: CRMR represents a robust non-hormonal therapeutic option for GSM.
Funding acknowledgements: None declared.

P074

POSTPARTUM SEXUAL FUNCTION THROUGH WOMEN'S EXPERIENCES

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Background: Sexuality is a multifaceted aspect of life influenced by several dimensions, including biology, psychology, socioeconomics, and spirituality. Postpartum sexual health remains an understudied and relevant area for women. This systematic review of qualitative studies aimed to synthesise knowledge of postpartum women's perceptions of sexuality in relation to their psychosexual adjustment and sexual functioning, and the contextual and relational influences affecting women during this period.
Methods: From inception until January 31st, 2026, a comprehensive search of qualitative findings was conducted across the MEDLINE, Web of Science, SCOPUS, and PsycInfo databases. Studies reporting a qualitative analysis of the perceptions associated with sexual function in postpartum women were included. Study quality was assessed using the CASP Checklist, and findings were synthesized thematically through inductive analysis. Confidence in the results was evaluated with the GRADE-CERQual approach.
Results: Fifteen studies were included, and three analytical themes emerged: psychosexual adjustment, sexual functioning, and contextual and relational factors. Confidence in all findings was rated high.
Conclusions: This meta-synthesis demonstrates that postpartum women often experience pain, fear, diminished sexual desire, body image concerns, and cultural constraints, frequently within a context of insufficient support and systemic silence. It is essential to recognize sexuality as an integral part of postpartum health to promote comprehensive, evidence- based, woman-focused care.
Funding acknowledgements: None declared.

P011

CENTRAL SENSITIZATION AND PAIN EDUCATION IN CHRONIC PELVIC PAIN: A SCOPING REVIEW OF PHYSIOTHERAPY AND INSTRUMENTAL INTERVENTIONS

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Background: Chronic pelvic pain (CPP) is a complex musculoskeletal and visceral condition often driven by central sensitization mechanisms. The persistence of symptoms is frequently associated with neurocognitive distortions and maladaptive neuroplasticity1. The fragmentation of evidence across gynecological, pharmacological, and rehabilitative approaches highlights the need for an updated synthesis that integrates pain neuroscience to guide clinical decision-making.
Purpose: To map and synthesize RCTs on rehabilitative interventions for CPP, focusing on central sensitization modulation, pain reduction, and quality of life.
Methods: A systematic PubMed and Cochrane search (2016–2026) identified English/Italian RCTs. Inclusion criteria: 1) RCTs; 2) indexed journals; 3) rehabilitative/educational focus. Exclusion criteria: 1) non-randomized studies; 2) purely surgical or pharmacological interventions; 3) acute pelvic pain. Twelve articles were included.
Results: Pain neuroscience education and graded exposure, combined with manual therapy, showed superior long-term efficacy in reducing kinesiophobia and central sensitization markers compared to passive treatments. High-intensity laser and ESWT emerged as the most effective instrumental modalities for neuromodulation and pain relief. Conversely, botulinum toxin failed to surpass placebo for persistent hypertonia in patients undergoing physiotherapy. Finally, a pain duration exceeding six years was identified as a significant negative predictor for treatment success.
Conclusion: Multimodal rehabilitation integrating pain education is more effective than purely passive or invasive interventions. Future research should standardize instrumental neuromodulation protocols integrated with central desensitization.
Implications: Physiotherapy is a primary intervention for CPP. Clinicians must integrate central sensitization assessment and educational programs to prevent chronicity and improve functional outcomes.
Funding acknowledgements: None declared.

P019

THE SPANISH QUESTIONNAIRE FOR THE ASSESSMENT OF PELVIC FLOOR DISORDERS AND THEIR RISK FACTORS DURING PREGNANCY AND POSTPARTUM

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Background: No Spanish-validated instrument comprehensively assesses pelvic floor disorders during pregnancy and postpartum.
Purpose: To cross-culturally adapt and psychometrically validate the Spanish Questionnaire for the Assessment of Pelvic Floor Disorders and Their Risk Factors During Pregnancy and Postpartum (APFDQ).
Methods: Design: Cross-sectional study; longitudinal follow-up. Procedures-participants: Spanish cross-cultural adaptation: forward-backward translation; expert review; pilot testing (30 pregnant women). Psychometric validation (140 nulliparous women in the third trimester, reassessed three months postpartum). Analyses: internal consistency (Cronbach's α); test-retest reliability (intraclass correlation coefficient-ICC); convergent-divergent validity (Spearman correlations/multitrait–multimethod matrix: Pelvic Floor Distress Inventory-Short Form; Pelvic Floor Impact Questionnaire-Short Form; Female Sexual Function Index); factorial validity (confirmatory factorial analysis: Root Mean Square Error of Approximation-RMSEA, Standardised Root Mean Square Residual-SRMR; multidimensional scaling: Young's S-stress, R2); responsiveness (Wilcoxon test, Effect Size-ES, Standardized Mean Response-SMR, Responsiveness Statistic-RS); feasibility-interpretability (completion rate-time, ceiling-floor effects).
Results: The Spanish-APFDQ showed semantic, conceptual, idiomatic, and content equivalence. Internal consistency was acceptable-to-excellent (α[95% CI] = 0.71 [0.63; 0.77]-0.86[0.82; 0.89]). Test–retest reliability was excellent (ICC [95%CI] = 0.98[0.96; 0.99]-1.00[0.99; 1.00]). Expected correlations supported convergent-divergent validity. Factorial validity showed acceptable fit (RMSEA [95% CI] = 0.07[0.07; 0.08]; SRMR = 0.10; Young's S-stress = 0.1; R^2 = 0.9). Responsiveness was demonstrated (bladder: MD [95%CI] = -0.42[-0.52; -0.21], ES = -0.44, SMR = -0.44, RS = -0.59; sexual function: MD [95% CI] = 0.42[0.21; 0.83]; ES = 0.43, SMR = 0.38, RS = 0.90). Completion rate was 99.6%, completion time was 7.3 ± 2.2 min, with no floor-ceiling effects.
Conclusions: The Spanish-APFDQ demonstrated reliability, validity, responsiveness, and feasibility for assessing pelvic floor disorders during pregnancy-postpartum.

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Implications. The Spanish-APFDQ comprehensively screens and monitors pelvic floor disorders in Spanish-speaking women during pregnancy-postpartum.
Funding acknowledgements: This work was supported by the University of Alcalá, Alcalá de Henares, Madrid, Spain (grant number: FPI-UAH-20).

P097

DEPRESSIVE SYMPTOMS MEDIATE THE PHYSICAL ACTIVITY–QUALITY OF LIFE RELATIONSHIP IN OLDER ADULTS WITH URINARY INCONTINENCE

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Background: Urinary incontinence (UI) negatively affects quality of life, with limited attention paid to modifiable determinants of well-being in diagnosed individuals.
Purpose: To examine associations of physical activity, depressive symptoms, and lifestyle factors with quality of life (QoL) in older adults with UI, and to assess the mediating role of depressive symptoms.
Methods: Cross-sectional study (n = 1,561; mean age 77.2 years). Multivariable linear regression assessed associations between QoL (CASP score) and depressive symptoms, sex, BMI, tobacco/alcohol, fruit/vegetable intake, physical activity frequency, and handgrip strength. Mediation analysis (5,000 bootstrap resamples) examined whether depressive symptoms mediated the physical activity-QoL relationship.
Results: Depressive symptoms were strongly associated with lower QoL (β = –0.96, 95% CI: –1.08 to –0.84, $p < 0.001$). Greater handgrip strength (β = 0.04, 95% CI: 0.002 to 0.08, $p = 0.041$), female sex (β = 1.12, 95% CI: 0.36 to 1.89, $p = 0.004$), and higher frequency of vigorous (β = 1.78, 95% CI: 1.01 to 2.55, $p < 0.001$) and moderate physical activity (β = 1.78, 95% CI: 1.11 to 2.55, $p < 0.001$) were associated with better QoL. No other significant associations were observed. Depressive symptoms partially mediated the physical activity-QoL relationship, explaining 20.6% of the total effect ($p < 0.001$).
Conclusion: Female sex, fewer depressive symptoms, greater handgrip strength, and higher frequency of moderate/vigorous physical activity were independently associated with better QoL in older adults with UI.
Implications: Physiotherapists should address depressive symptoms alongside moderate-to-vigorous physical activity to optimize QoL in older adults with UI.
Funding acknowledgements: A.T-B acknowledges predoctoral funding (FPU24/03315). Other authors received no funding for this work.

PROFESSIONAL ISSUES: DIVERSITY AND INCLUSION

P034

EDUCATIONAL CONTENT FOR DIVERSITY COMPETENCE TRAINING FOR HEALTHCARE PROFESSIONALS: A SYSTEMATIC REVIEW

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Background: European healthcare systems serve increasingly diverse populations, yet health inequities persist across diversity dimensions. Developing diversity competence among healthcare professionals might be important to promote equitable and patient-centred care. However, the educational content of diversity competence programmes remains heterogeneous and insufficiently synthesized.
Purpose: To identify and synthesize the educational content and pedagogical components of interventions designed to enhance diversity competence.
Methods: A Systematic review following PRISMA 2020 guidelines was conducted and registered in PROSPERO (CRD4202511116515). MEDLINE (PubMed), CINAHL, ERIC, and Cochrane CENTRAL were searched (June–July). Studies describing educational interventions addressing diversity or cultural competence among healthcare professionals or students were included. Two reviewers independently conducted screening, study selection, data extraction, and quality appraisal with blinding. Data were synthesised narratively and grouped according to common topics.
Results: Of 12,596 records identified, 301 full texts were assessed, and 68 studies were included. Interventions varied widely in instructional design, theoretical grounding, and thematic focus. The majority addressed cultural competence related to migration and ethnicity, while diversity dimensions such as disability, gender identity, and sexual orientation were less frequently included. Reported outcomes mainly reflected improvements in awareness, knowledge, and attitudes, whereas behavioural change and patient-related outcomes were rarely evaluated.
Conclusion: Diversity competence education is widely implemented but conceptually fragmented. The review identifies core educational components and highlights gaps in addressing diversity dimensions.
Implications: Findings support development of structured, theory-informed diversity competence training in physiotherapy and other health professions. Integrating broader diversity dimensions and practice-oriented learning approaches may strengthen inclusive care and improve patient outcomes.
Funding acknowledgements: Zukunft Niedersachsen, the joint science funding program of the Lower Saxony Ministry of Science and Culture and the Volkswagen Foundation (VWZN4569).

P080

WHO'S NOT IN THE ROOM? WIDENING PARTICIPATION AT A MEMBERSHIP PHYSIOTHERAPY CONFERENCE IN THE UNITED KINGDOM

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Chartered Society of Physiotherapy

A 2022 report into the Chartered Society of Physiotherapy's Annual Conference (CSPAC) revealed under-representation and increased barriers to participation for physiotherapists from marginalised groups related to finance, accessibility and presenting. To widen participation at CSPAC, we encouraged presentations and attendance from members from under-represented groups. Plan, do, study and act quality-improvement cycles were followed for 2023-2025 CSPACs. Formal Equality Impact assessments (EIA) were conducted to identify risks, opportunity differences, and to introduce mitigations. These included: an award to address financial barriers, proactive engagement mechanisms, increased support for presenters via updated submission formats, guidelines, webinars and drop-ins. The project was piloted in 2023. Data from anonymised CSPAC 2024-2025 attendance, award registers and surveys were summarised. EIAs facilitated accessibility guides, staff training, captions, hearing loops, hybrid delivery, prayer rooms, quiet rooms

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and tailored support. The 2024-2025 financial award supported 150 delegates: 79 (53%) identified as Black, Asian and Minority Ethnic (BAME), 16 (11%) LGBTQIA+, and 36 (24%) as having a disability. Participation increased: in 2024, 176 (20%) delegates were BAME versus 352 (25%) in 2025; in 2024, 44 (5%) were LGBTQIA+ versus 79 (6%) in 2025; in 2024, 88 (10%) delegates were living with disability versus 130 (9%) in 2025. Presentations from diversity networks increased, enriching conference content. Work to widen participation must be proactive and multi-faceted. Funding can improve under-representation. Engagement with lived experience members enhances outcomes. Collecting sensitive data is challenging. Future work should explore longer-term impacts, including on presenter diversity. Widening conference participation is achievable and strengthens opportunities for professional development and networking for all.

Funding acknowledgements: Funding provided by the Chartered Society of Physiotherapy's Charitable Trust for the 2023 and 2024 award. Provided by CSP for 2025.

RESEARCH METHODOLOGY, KNOWLEDGE TRANSLATION AND IMPLEMENTATION SCIENCE

P004

COMPARISON OF FLIR AND INFIRAY THERMAL CAMERAS FOR THERMOGRAPHIC MONITORING IN PHYSIOTHERAPY

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Background: Thermal imaging is a reliable method for identifying inflammatory changes in joints and can serve as a useful adjunct for physiotherapists when assessing joint condition before exercise therapy. Although high-performance thermal cameras are costly, more affordable smartphone-based alternatives have recently become available, offering potential for broader clinical use.
Purpose: This study aimed to determine whether low-cost smartphone-mounted thermal cameras (approximately €300) provide sufficient measurement accuracy, fidelity of thermal-radiation distribution, and image-resolution quality compared with a high-end research-grade thermal camera (approximately €20,000).
Methods: Quantitative and qualitative comparisons were performed between two smartphone-based thermal cameras (Infiray P2 Pro and Infiray T3 Pro) and a reference-standard device (FLIR T620bx). All three cameras were used to image 57 forearms. Thermal images were analysed using Fiji software to quantify thermal-distribution characteristics, and visual assessments were conducted to compare thermal patterns and identify similarities or discrepancies across devices.
Results: The average image-quality correspondence between the FLIR T620bx and the P2 Pro was 65% (SD 15). For the T3 Pro, the corresponding value was 55% (SD 12). Thermal-pattern similarity was higher: agreement between the T620bx and the P2 Pro reached 96% ($\kappa = 0.89$, $p < 0.001$), while agreement between the T620bx and the T3 Pro reached 84% ($\kappa = 0.60$, $p < 0.001$).
Conclusions: The agreement between smartphone-based and high-end thermal cameras appears adequate to support their use in physiotherapy practice.
Implications: Smartphone-based thermal imaging provides a rapid, patient-friendly, and cost-effective option for routine clinical assessment of joint status in physiotherapy.
Funding acknowledgements: None declared.

P055

A STEPWISE METHOD FOR CO-DESIGNING AN EVIDENCE-BASED EDUCATIONAL INTERVENTION FOR PATIENTS WITH MUSCULOSKELETAL PAIN

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Background: Patient education is central to primary care physiotherapy. Modern methods of designing educational interventions are required.
Purpose: To develop a new digital pain science education (PSE) tool for primary care physiotherapy through an iterative process of co-design with stakeholders.
Methods: The educational film 'Be PainSMART:er' was developed through a three-stage method involving clinical researchers, patients, clinicians and cognitive scientists. Stage 1-Needs exploration: Two qualitative interview studies, with patients seeking primary care physiotherapy for MSKP (n = 10) and primary care clinicians (n = 12), mapped the participants' needs and design preferences for a digital PSE tool. Stage 2-Design synthesis: Combined cognitive and pain research knowledge with the qualitative results to develop a film script and guide film production. Stage 3-Pre-validation: New patients (n = 9) and clinicians (n = 13) were interviewed before and after exposure to the film to map whether the film matched their needs and preferences regarding PSE.
Results: Patients in Stage 1 preferred a film showing a clinical consultation and containing simple facts and answers to common questions about MSKP. The clinicians expressed that the film should provide explanatory models and advice on MSKP management strategies. Stage 2 emphasised that the film should contain evidence-based key messages, simple language, animations, and be divided into sections. Stage 3 confirmed that the film could positively influence patients' understanding of MSKP and facilitate patient-clinician communication.
Conclusion: The film displayed potential clinical utility and was deemed ready for evaluation in a clinical trial.
Implications: This study exemplifies a three-stage method for production of a PSE-tool.
Funding acknowledgements: Supported by Linköping University, Region Östergötland and the Medical Research Council of Southeast Sweden (FORSS).

P089

UNCOVERING THE LATENT STRUCTURE OF BARRIERS TO EVIDENCE IMPLEMENTATION IN HOSPITAL PHYSIOTHERAPY PRACTICE: A FACTORIAL STUDY

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Background: Implementation of research findings into clinical practice remains a major challenge in hospital settings. Despite increasing availability of evidence supporting physiotherapy interventions, a gap persists between research production and routine clinical care. Previous studies identified isolated barriers such as lack of time or limited access to evidence; however, the multidimensional structure underlying these barriers remains insufficiently explored. Identifying these dimensions is essential to design effective implementation strategies in hospital physiotherapy practice.
Purpose: To identify latent dimensions underlying perceived barriers to implementation of research findings in hospital clinical practice and analyse their relevance for physiotherapy settings.
Methods: A multicenter cross-sectional study included 234 hospital-based professionals from 30 centres across 12 regions. Perceived barriers were assessed using the BARRIERS to Research Utilization Scale. Exploratory factor analysis with principal components extraction and varimax rotation was performed. Sampling adequacy was evaluated using the Kaiser-Meyer- Olkin index and Bartlett's test. Factors were retained according to eigenvalues >1 and scree plot inspection.
Results: Factorability was excellent (KMO = 0.887; Bartlett $p < 0.001$). Seven factors were retained, explaining 47.6% of total variance. The first three factors accounted for 28.2% of cumulative variance. Domains included perceived limited applicability of research, doubts about methodological quality, organisational constraints, difficulties interpreting evidence, accessibility barriers, cultural resistance, and implementation workload. Organisational and applicability-related domains showed the highest contribution.
Conclusions: Barriers to research implementation in hospital physiotherapy practice are multidimensional and predominantly organisational and contextual.
Implications: Targeting organizational and interpretative barriers may enhance implementation of evidence-based physiotherapy and reduce clinical variability in hospital settings.
Funding acknowledgements: None declared.

SERVICE DELIVERY/EMERGING ROLES

P058

THE SUBJECTIVE EFFECTIVENESS OF USING MOBILE APPLICATIONS TO INCREASE PATIENT ADHERENCE TO HOME EXERCISE PROGRAMS IN MALTA

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Mobile health applications are increasingly being integrated into healthcare as tools to support patient engagement and improve adherence to home exercise programmes (HEPs). This undergraduate research study investigated the effectiveness of the PhysiApp® mobile application in enhancing patient compliance with HEPs in Malta, while also exploring patients' perceptions of the app and their overall experience using it. 45 participants were recruited using convenience sampling. The study adopted a quantitative research design. Data was collected through a standardised questionnaire that gathered self-reported information on app usage, adherence to prescribed exercises, and perceptions of specific application features. The data collected was analyzed using descriptive statistics. The findings demonstrated high levels of satisfaction with the application. Overall, 89% of participants recommended the app with an average rating of 4.53/5. Exercise demonstration videos (4.65/5) and reminder notifications (3.71/5) were identified as valuable features that supported adherence and correct exercise performance. However, five participants reported technical issues that negatively affected their compliance. The study concluded that PhysiApp® can be an effective tool for improving adherence to home exercise programmes. Despite limitations including a small sample size, single-clinic setting, and reliance on self-reported data, the findings support integrating app-based HEPs into physiotherapy practice. Future research should explore a larger sample across multiple clinics to generalise findings and address app-related challenges. This can help promote mobile applications to be used within more clinics to help streamline the service and achieve higher adherence rates while also keeping up with the ever-growing digital health advancements.

Funding acknowledgements: None declared.

SPORT AND SPORTS INJURIES

P057

PHYSICAL AND NEUROCOGNITIVE PROFILES IN ADOLESCENT BASKETBALL PLAYERS

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Background: Adolescent basketball involves rapid direction changes, jumping, and contact situations that increase lower limb injury risk. Beyond physical factors, neurocognitive functions such as reaction time and processing speed may influence neuromuscular control and injury susceptibility.
Purpose: To profile the physical and neurocognitive characteristics of adolescent basketball players and to explore associations between these variables and previous lower limb injury.
Methods: A cross-sectional study was conducted in 13–17-year-old female basketball players (N = 17). Data collection included a structured questionnaire (training exposure, injury history), Lower Quarter Y-Balance Test, Agility T-Test, Basketball Jump Shooting Accuracy Test, Free Throw Accuracy Test, and the ImPACT neurocognitive assessment. Group comparisons and correlation analyses were performed.
Results: Eight players reported lower limb injuries in the previous year (mean rehabilitation time 5.38 ± 4.31 weeks). Injured athletes were significantly younger ($p = 0.031$) and tended to demonstrate higher visuo-motor speed scores ($p = 0.037$). Significant correlations were observed between the Y Balance composite score and Agility T-Test performance ($r = -0.7$). Free throw accuracy (%) showed a moderate correlation with visuo-motor speed ($r = -0.36$) and impulse control ($r = 0.38$).
Conclusion: Physical and neurocognitive parameters appear interrelated in adolescent basketball players. Further studies with larger samples are needed to confirm these findings.
Implications: Integrating neurocognitive elements into physiotherapy-led injury prevention programmes may enhance neuromuscular control and reduce lower limb injury risk in youth basketball.
Funding acknowledgements: None declared.

P017

FOOT CORE STABILITY AS A FACTOR ASSOCIATED WITH KNEE INJURY FREQUENCY IN PADEL PLAYERS

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Introduction: The practice of padel in Chile has grown significantly, leading to an increase in the incidence of injuries, especially to the knee joint due to changes of direction and jumps. The concept of footcore refers to the functional interaction of the intrinsic muscles of the foot to provide stability and absorb loads. The objective of this study is to identify footcore stability, the prevalence of knee injuries, and the level of sports practice among amateur padel players in the Ñuble Region of Chile.
Method: Using a quantitative methodology, a non-experimental cross-sectional design, and a descriptive scope, the footcore stability of 34 padel players was evaluated through strength, proprioception, and balance tests. Knee injuries and sports practice were measured using a questionnaire developed by researchers and validated by experts.
Results: The results indicate that padel is practiced most frequently, 2 to 3 times per week, at an intermediate level, with a low prevalence of injuries. Functional tests revealed that a significant percentage of players exhibit weakness in the intrinsic muscles of the foot, which impacts dynamic stability and postural control during changes of direction and jumps.
Conclusion: This study confirms that core foot stability is a determining factor in the musculoskeletal health of padel players, and strengthening it is a key tool for reducing the incidence of knee injuries in the Ñuble region.
Funding acknowledgements: None declared.

P086

VASTUS MEDIALIS INJURY BY INDIRECT MECHANISM IN FOOTBALL, A CASE SERIES

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Background: Quadriceps injuries are common in sports, particularly affecting the rectus femoris1, while vastus medialis (VM) injuries are rarely reported and usually associated with contusions2,3 and have not previously been described in the literature.
Purpose: This case series aims to characterize indirect mechanism VM injuries in football players and to propose evidence-informed assessment recommendations, imaging strategies, and return-to-play (RTP) guidelines.
Methods: A three-year retrospective analysis of football players who were diagnosed with VM injury by indirect mechanism was performed. Clinical assessment was performed 24 hours after injury, and diagnosis was confirmed within 3 days using Magnetic Resonance Imaging. All cases were managed in a standard way, based on the FC Barcelona clinical practice guideline4 for muscle injuries, and RTP time and reinjury rates were recorded in the club database.
Results: four professional football players were included. Myofascial injuries presented higher frequency and shorter RTP time (16 days mean) than myotendinous injuries (26 days). Two injury mechanisms were identified: Deceleration and progressive loading. Conclusion(s): The VM is a muscle that can also be injured by indirect mechanisms. These are good prognosis injuries, if managed correctly, as they are clinically well tolerated injuries. The findings should be taken with caution, requiring further sampling and studies.
Implications: This is the first study to present a VM injury case series in football players and could be the starting point for future research with more representative samples, in other sports disciplines, to compare the results with this case series in football.
Funding acknowledgements: None declared.

WOMEN'S HEALTH

P028

SHAPING BIRTH OUTCOMES: THE ROLE OF MIND–BODY INTERVENTIONS ON MODE OF DELIVERY

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Background: Safe, non-pharmacological strategies to improve birth outcomes are a growing focus in perinatal physiotherapy. Yoga and Pilates, as Mind-body Interventions (MBIs), are being incorporated into prenatal exercise programmes for their effects on musculoskeletal conditioning, respiratory control and stress management. Still, it is not well understood whether these approaches have a meaningful effect on how women deliver.
Purpose: The primary aim was to evaluate the effects of structured prenatal Yoga and Pilates programmes on mode of delivery. A secondary objective was to bring together the available evidence by means of an umbrella review and an updated meta- analysis of randomized controlled trials (RCTs).
Methods: MEDLINE, EMBASE, the Cochrane Database, and Web of Science were searched from inception to August 2025. Studies were included if they assessed structured Yoga or Pilates intervention during pregnancy and reported delivery mode outcomes. Methodological quality of systematic reviews was evaluated using AMSTAR 2, and risk of bias in RCTs was appraised with the Cochrane RoB2 tool.
Results: Women who followed prenatal Mind-Body programmes showed higher rates of vaginal delivery and fewer caesarean sections when compared to standard prenatal care [OR: 0.22; 95% CI (0.14, 0.31)]. These results held across studies, even though intervention protocols differed in duration, frequency, and content.
Conclusions: Prenatal Yoga and Pilates appear to favour birth outcomes by promoting vaginal delivery. Further high-quality RCTs with standardized protocols are needed.
Implications: Integrating MBIs into prenatal physiotherapy programmes may represent a safe and accessible strategy to support maternal health and improve childbirth outcomes.
Funding acknowledgements: None declared.

P082

DIFFERENCES IN PERCEIVED MOBILITY LIMITATIONS BETWEEN LEVELS OF PAIN IN WOMEN WITH ENDOMETRIOSIS

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Background: Endometriosis is widely recognized as a painful condition, yet the relationship between pain intensity and disability remains underexplored. Understanding women's perception of their mobility limitations is fundamental for enhancing clinical assessment in Physiotherapy.
Purpose: To identify differences in perceived mobility limitations between women with endometriosis who report no or mild pain and those experiencing moderate or severe pain. Secondarily, to compare their functional performance through the 30-second sit-to-stand test (30CST).
Methods: Observational study from women from a specialized unit of the University Hospital "Virgen de la Arrixaca" (Murcia, Spain). Data on clinical variables, a tailored questionnaire on perceived mobility limitations (MobEndo), and the 30CST were collected. Participants were classified into two groups: (0–3 NRS) no/mild pain, and (>3 NRS) moderate–severe pain. All questionnaires were completed online one week before menstruation.
Results: Seventy-one women participated. Age and BMI were similar between groups. Significant differences were found in disability scores and functional performance. Women in the moderate-severe pain group showed substantially higher disability scores across all dimensions (e.g., total score 23.9 vs. 1.39; $p < 0.001$) and performed fewer repetitions in the 30CST (15.24 vs. 18.77; $p = 0.008$).
Conclusion: Moderate or severe levels of pain in women with endometriosis are associated with marked increases in disability and reduced functional capacity.
Implications: Movement difficulties appear from moderate pain intensity and beyond, and they should be considered in the Physiotherapy assessment and the design of therapeutic strategies among women with endometriosis.
Funding acknowledgements: None declared.

P042
ELECTROACUPUNCTURE VERSUS MECOBALAMIN FOR FUNCTIONING IN BREAST CANCER WITH CHEMOTHERAPY-INDUCED PERIPHERAL NEUROPATHY: A META-ANALYSIS
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Background: Chemotherapy-induced peripheral neuropathy (CIPN) is a common complication in breast cancer associated with functional impairment and reduced quality of life. The effectiveness of mecobalamin is limited, and the comparative effects of electroacupuncture remain unclear.
Purpose: To evaluate the effects of electroacupuncture compared with mecobalamin across functioning domains of quality of life in breast cancer patients and CIPN.
Methods: A systematic review and meta-analysis were conducted following PRISMA guidelines. PubMed, Scopus, CENTRAL, Web of Science, PEDro, and SPORTDiscus were searched. Randomized controlled trials comparing electroacupuncture with mecobalamin and reporting quality of life functioning domains were included. Random-effects meta-analysis using the Hartung–Knapp method estimated standardized mean differences. Risk of bias was assessed using RoB 2.
Results: Two studies (four comparisons) were included. The pooled effect across functioning domains showed statistically significant differences favoring electroacupuncture (SMD 0.40; 95% CI: 0.25 to 0.55; $I^2 = 43.0\%$). Domain-specific analyses showed significant improvements in physical (SMD 0.65; 95% CI 0.36 to 0.95; $I^2 = 0\%$) and cognitive functioning (SMD 0.46; 95% CI 0.19 to 0.74; $I^2 = 0\%$), but not in emotional, social, or role functioning. Risk of bias showed some concerns.
Conclusion: Electroacupuncture improved overall functioning domains, with effects in physical and cognitive functioning but not in emotional, social, or role functioning, compared with mecobalamin in patients with breast cancer and CIPN.
Implications: Electroacupuncture may provide domain-specific benefits, particularly in physical and cognitive functioning, while effects on broader psychosocial domains remain uncertain. Larger, high-quality trials are required to confirm these findings.
Funding acknowledgements: None declared.

P064
DIRECT BRAIN STIMULATION FOR NEUROGENIC LOWER URINARY TRACT SYMPTOMS: A SYSTEMATIC REVIEW AND META-ANALYSIS
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Background: Direct brain stimulation (DBS) is a non-invasive conservative treatment for lower urinary tract symptoms (LUTS) secondary to neurological conditions. However, to date, there are no meta-analyses of the effectiveness of DBS for neurogenic LUTS.
Purpose: To evaluate the effectiveness of DBS for improving neurogenic LUTS.
Methods: Electronic searches of English and Chinese databases were conducted from inception to September 2025. The PEDro scale, the Cochrane risk-of-bias tool, and the Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) tools were used for quality appraisal of the included studies.
Results: Of the 1127 potentially relevant studies, three randomized controlled trials met the eligibility criteria and were included in the review. Meta-analyses of data revealed a significant effect of DBS in improving maximum cytometric capacity (MCC; -0.623 [95% CI: -1.019, -0.226]; $p = 0.002$; $n = 184$) and decreasing residual volume (RC; -1.074 [95% CI: -1.463, -0.684]; $p < 0.00$) compared to a control condition. The mean estimate of the effect was moderate for MCC and large for RV. Meta-analyses revealed a nonsignificant effect of DBS on urination frequency compared with the control condition (-0.313 [95% CI: -0.758, 0.132]; $p = 0.168$; $n = 124$). The evidence for these effects was derived from studies with good to excellent methodological quality, low to moderate GRADE evidence quality, with low to some concerns of bias.
Conclusions: DBS is beneficial for improving neurogenic LUTS; however, its effect on urine frequency remains inconclusive. Further high-quality research to confirm its effectiveness in this population is warranted.
Implications: DBS is safe for neurogenic LUTS and can be considered for clinical use.
Funding acknowledgements: Department of Rehabilitation Sciences, The Hong Kong Polytechnic University (PolyU): seed funding for forming world-class research groups (PolyU, non-UGC [ZZZA]).

P044
PERCUTANEOUS VS TRANSCUTANEOUS TIBIAL NERVE STIMULATION IN IDIOPATHIC OVERACTIVE BLADDER: A PRAGMATIC RCT
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Background: Transcutaneous and percutaneous tibial nerve stimulation (TNS-t and TNS-p) may be similarly effective in women with overactive bladder (OAB). This study compared their effectiveness.

Methods: A pragmatic, single-blind randomised controlled trial compared TNS-t and TNS-p in women with idiopathic OAB over six weeks, including an education programme. Urinary symptoms, health-related quality of life (HRQoL), satisfaction, and adverse events were assessed.
Results: One hundred fifteen women completed the trial (TNS-t: n = 56; TNS-p: n = 59). Both groups improved urinary symptoms and HRQoL (e.g., daytime frequency MD: -1.9 vs. -1.7 voids/day; ICIQ-SF: -2.0 vs. -2.1), with no significant between-group differences at any follow-up. Satisfaction was high in both groups, and no serious adverse events occurred.
Conclusions: TNS-t and TNS-p are equally effective and safe in improving symptoms and HRQoL in women with idiopathic OAB.
Implications: TNS-t offers a safe, non-invasive alternative to TNS-p, supporting broader implementation and reinforcing physiotherapy-led, education-based management of OAB.
Funding acknowledgements: None declared.

P095

OPTIMAL STRENGTH TRAINING VOLUME FOR POSTPARTUM DIASTASIS RECTI ABDOMINIS: A DOSE–RESPONSE META-ANALYSIS

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Background: Diastasis recti abdominis (DRA) persists as a chronic condition after delivery in numerous women. However, no consensus exists on the optimal exercise dose required to elicit meaningful improvements.
Purpose: To conduct a systematic review with meta-analysis to investigate the dose–response relationship between strength training volume and the reduction of postpartum DRA. Methods: We searched PubMed, Cochrane, Web of Science, CINAHL, EMBASE, and Scopus from inception to 24 May 2025 for Randomized Controlled Trials (RCTs) evaluating dynamic strength training in postpartum women. Two reviewers independently screened, extracted data, and assessed bias. A random-effects pre-post meta-analysis and one-stage dose–response meta-analysis using restricted cubic splines were conducted.
Results: 12 RCTs were included. Strength training programs produced a significant reduction in inter-recti distance (SMD = -2.37; 95% CI: -3.91 to -0.82; I^2 = 95%), demonstrating a positive linear dose–response relationship (p for nonlinearity < 0.001). A minimum threshold of approximately 5,000 accumulated repetitions was identified to significantly reduce DRA (SMD = -1.60; 95% CI: -1.72 to -1.49), while around 44,000 repetitions per program was required to maximize benefits (SMD = -8.20; 95% CI: -8.39 to -8.02).
Conclusion: Strength training is effective for postpartum DRA. For instance, to approximate the optimal dose, a 12-week program comprising four weekly sessions, each including nine exercises performed for five sets of 20 repetitions, could be implemented.
Implications: Prescribing strength training in postpartum DRA with a precise volume target enables clinicians to design standardized yet adaptable protocols tailored to individual patient needs.
Funding acknowledgements: A.T-B acknowledges predoctoral funding (FPU24/03315). Other authors received no funding for this work.

P069

CLINICAL CHARACTERISTICS OF WOMEN WITH AND WITHOUT MYOFASCIAL PELVIC PAIN AFTER CHILDBIRTH

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Background: Pelvic floor dysfunctions and myofascial pelvic pain (MPP) may affect women's health-related quality of life (HRQoL) after childbirth.
Purpose: To describe and compare sociodemographic, obstetric, pelvic floor function, and symptom characteristics of women with and without MPP after childbirth.
Methods: Participants with (n = 28) and without (n = 28) MPP were included. Outcome measures: age, body mass index, newborn weight and length, episiotomy, physical activity, dyspareunia, contraction awareness, fatigue, basal and maximal tone (vaginal dynamometry), muscle strength (Oxford scale), symptoms (Pelvic Floor Distress Inventory-PFDI20), HRQoL impact (Pelvic Floor Impact Questionnaire-PFIQ7), and sexual function (Female Sexual Function Index-FSFI). Parametric and non-parametric tests were used to compare groups.
Results: Fifty-six postpartum women were included. Descriptive sociodemographic and obstetric data were: 34.4 ± 5.0 y, 25.2 ± 5.4 kg/m², newborn weight 3.16 ± 0.73 kg, length 49.8 ± 2.1 cm, episiotomy 61.8%, physical activity 64.2%, dyspareunia 28.6%, pelvic floor contraction awareness 96.2%, and fatigue 89.8%. Pelvic floor muscle strength (3[2–3] vs 3[2–3], Oxford scale), basal (222.5[217.5–247] vs 227.5[214.5–236] mmHg) and maximal tone (379.6 ± 205.7 vs 407.6 ± 196.3 mmHg) were similar between groups. However, women with MPP showed significantly higher Pelvic floor symptom burden (46.0 ± 29.0 vs 17.3 ± 16.1, PFDI20 total) and greater HRQoL impact (19.1[4.8–50.0] vs 0[0–4.8], PFIQ7 total). Sexual function didn't differ between groups, although women with MPP presented higher pain affect (0[0–2] vs 4.6 [0–5.8], FSFI Pain Score).
Conclusions: Women with MPP after childbirth present greater symptoms and HRQoL impact despite similar pelvic floor muscle tone and strength.
Implications: Identifying clinical characteristics associated with MPP may help optimise interventions in the postpartum period.
Funding acknowledgements: This study was funded by Research Grants from the Illustrious Professional College of Physiotherapists of the Community of Madrid.

P022

EFFECTIVENESS OF PELVIC FLOOR PHYSIOTHERAPY VS CO_2 LASER IN BREAST CANCER SURVIVORS WITH GENITOURINARY SYNDROME OF MENOPAUSE

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Background: Genitourinary syndrome of menopause (GSM) is highly prevalent in breast cancer patients. Hormonal treatments are often contraindicated, highlighting the need for non-hormonal alternatives.
Purpose: To compare the effectiveness of multimodal pelvic floor physiotherapy (MPFPT) vs fractional CO_2 laser therapy on pelvic floor symptoms in breast cancer patients with GSM.

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Methods: A preliminary randomized controlled study. Participants were allocated to an MPFPT group (MPFPTG) or a CO_2 laser group-CO_2G. Outcomes included pain (Numeric Rating Scale-NRS), muscle strength (Oxford scale), muscle tone (dynamometry), symptoms (Pelvic Floor Distress Inventory short form-PFDI20), vaginal health (Vaginal Health Index-VHI), sexual function (Female Sexual Function Index-FSFI), self-efficacy (Broome scale), and treatment satisfaction (NRS). Data were analyzed using paired t-test or Wilcoxon test (intra-group) and independent t-test or Mann–Whitney U test (intergroup) ($p < 0.05$).
Results: Twenty women were included (MPFPTG, n=10: 57.8 ± 6.65 years, 25.12 ± 5.00 kg/m²; CO_2LG, n = 10: 53.4 ± 3.60 years, 24.90 ± 4.00 kg/m²). The MPFPTG improved pain (NRS: −5.8; p = 0.0013), strength (Oxford scale: +1.0; p = 0.0011), urinary symptoms (PFDI-20UDI: p=0.0049; PFDI20 total:p = 0.0217), and vaginal health (VHI: +3.1; p = 0.0009), with no changes in tone, sexual function, or self-efficacy. The CO_2LG showed no significant changes. Between groups, MPFPTG achieved greater pain reduction (NRS: −5.8 vs −1.9; p = 0.0317) and satisfaction (NRS:p = 0.014).
Conclusions: MPFPT showed greater pain reduction than CO_2 laser, while no between-group differences were found in other outcomes.
Implications: MPFPT may represent a cost-effective non-hormonal option for GSM in breast cancer patients.
Funding acknowledgements: This study was funded by Research Grants from the Illustrious Professional College of Physiotherapists of the Community of Madrid.

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CARDIORESPIRATORY

EP050 - SC1

EFFECT OF NMES ON QUADRICEPS MUSCLE STRENGTH AND ENDURANCE IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE PATIENTS

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Neuromuscular electrical stimulation (NMES) is gaining interest in the management of individuals with COPD. As understanding increases regarding structural muscle changes that occur with respiratory deterioration, treatment options are being explored to maintain and improve strength and endurance in patients limited by poor exercise tolerance, increased dysponea, and restricted participation in rehabilitation. Using a randomized controlled trial (RCT) design, 33 participants admitted to hospital with an acute exacerbation of COPD (AECOPD), classified as moderate to severe according to the MRC score, were recruited and randomly allocated to an experimental or control group. Isometric quadriceps strength was assessed using a hand-held dynamometer (HHD), and quadriceps endurance was evaluated using the Quadriceps Endurance Test. Rectus femoris cross-sectional area (CSA), width, and thickness were measured via ultrasound. All outcome measures were recorded at baseline and at hospital discharge following the intervention. The experimental group received 30 minutes of daily NMES applied to the quadriceps muscles throughout their hospital stay, in addition to standard physiotherapy provided by ward physiotherapists. The control group received standard physiotherapy alone. All measures were repeated before discharge. Statistically significant improvements in rectus femoris thickness bilaterally ($p < 0.001$) and right-sided width ($p = 0.017$) were observed in the experimental group. In contrast, significant declines in rectus femoris width were recorded in the control group (left: $p = 0.006$; right: $p < 0.001$). Daily NMES during hospitalisation for AECOPD resulted in significant improvements in quadriceps strength, endurance, and muscle morphology, supporting its use as an adjunct to standard physiotherapy to maintain and enhance muscle performance.

Funding acknowledgements: None declared.

EP052 - SC1

IMPACT OF MICS VS. STERNOTOMY ON MUSCLE STRENGTH, KINESIOPHOBIA, AND FUNCTIONAL CAPACITY

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Background: Cardiac surgery often leads to a decline in physical function due to surgical stress and immobilization. While median sternotomy is the standard approach, it frequently induces kinesiophobia—fear of movement—due to perceived sternal instability, which significantly delays early functional recovery.
Purpose: This study aimed to compare the impact of Minimally Invasive Cardiac Surgery (MICS) versus median sternotomy on peripheral muscle strength, kinesiophobia levels, and functional capacity during the early postoperative period.
Methods: In this prospective study, 46 patients (30 Sternotomy, 16 MICS) were evaluated. Outcome measures included peripheral muscle strength (handgrip and knee extension via digital dynamometry), functional capacity (30-Second Sit-to- Stand test), and kinesiophobia (Tampa Scale for Kinesiophobia) assessed preoperatively and on the postoperative 5th day.
Results: Both groups showed similar significant declines in postoperative muscle strength ($p > 0.05$). However, the MICS group demonstrated significantly better preservation of functional performance ($p = 0.008$) and lower increases in kinesiophobia scores ($p = 0.008$) compared to the sternotomy group. A significant negative correlation was found between kinesiophobia and functional capacity ($r = -0.311$, $p = 0.035$).
Conclusions: MICS offers a distinct advantage in preserving functional capacity by minimizing movement-related fear rather than preventing physiological muscle strength decline. Future research should focus on long-term functional independence and the efficacy of specific psychological interventions.
Implications: Functional limitations after sternotomy are driven more by kinesiophobia than muscle weakness. Physiotherapy protocols should integrate early kinesiophobia screening and targeted "fear-reduction" strategies to optimize mobilization and functional independence in cardiac rehabilitation.

Funding acknowledgements: None declared.

EP101 - SC2

REHABILITATING RESPIRATORY FUNCTION IN PARKINSON'S DISEASE PATIENTS: A SCOPING REVIEW

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Background: Patients with Parkinson's disease (PD) exhibit airway obstruction, reduced flows, and diaphragmatic dyskinesia1. Despite significant dyspnea, standardized protocols to manage these respiratory motor dysfunctions and prevent complications remain critically lacking.
Purpose: This scoping review maps rehabilitative interventions for respiratory disorders in PD to identify strategies that enhance vital capacity, expectoration efficiency, and overall respiratory function.
Methods: A systematic search was conducted (2021–2026) in PubMed, Cochrane Library, and Scopus using keywords: ("Parkinson's Disease" OR "Parkinsonism") AND ("Respiratory muscle training" OR "Chest physical therapy") AND ("Vital Capacity" OR "Forced Expiratory Volume"). Inclusion criteria: randomized controlled trials (RCTs) in English published in indexed journals. Reviews and non-RCTs were excluded. Following PRISMA guidelines, 15 studies were included and assessed using the Cochrane Risk of Bias tool.
Results: Respiratory Muscle Training (RMT) significantly improves Maximal Inspiratory Pressure (MIP), Maximal Expiratory Pressure (MEP), and UPDRS scores. While Threshold Inspiratory Muscle Training (TIMT) and Expiratory Muscle Strength Training (EMST) enhance functional outcomes and speech breathing, standard spirometric parameters like Forced Vital Capacity (FVC) typically remain unchanged.

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Conclusion: RMT efficacy underscores the need for standardized protocols within neurological rehabilitation to improve clinical outcomes in PD.
Implications: Integrating RMT into PD standard care is essential to enhance cough efficiency and endurance. Personalized protocols are necessary to preserve respiratory health and reduce long-term pulmonary complications.
Funding acknowledgements: None declared.

CRITICAL CARE

EP045 - SC1
THE EFFECTS OF EARLY MOBILIZATION ON MECHANICALLY VENTILATED TRAUMA PATIENTS
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Background: Mechanical ventilation (MV) is a life-saving, yet high-risk intervention that can cause significant complications with prolonged use, including limb and respiratory muscle weakness and impaired functional status. Early mobilization (EM) in MV patients is essential to prevent complications, promote faster recovery, reduce days in the intensive care unit (ICU), and assist in the weaning process.
Purpose: To study the effects of a protocol-based EM versus standard EM on length of ICU stay, MV duration, and frequency of adverse events in MV patients.
Methods: 70 ICU trauma patients on prolonged MV (≥72hours) were randomly separated into two groups: experimental (EG), where we applied the Surgical Intensive Care Unit optimal mobilisation score protocol for EM, and a control group (CG), where we applied standard ward EM. Length of ICU stay, MV duration, and frequency of adverse events during EM were compared at discharge.
Results: Despite a lack of statistically significant intergroup difference, patients in the EG spent an average of 3.55 days less in the ICU and an average of 4 days less on MV; a higher frequency of adverse events was noted in the EG, but all were transient, with no need for further medical management.
Conclusions: EM in MV patients is feasible for reducing days in the ICU and duration of MV in trauma patients.
Implications: EM in MV patients should be implemented through protocols, safety criteria and teamwork for best results.
Funding acknowledgements: None declared.

EP047 - SC1
FEASIBILITY AND INTER-RATER RELIABILITY OF THE GERMAN VERSION OF THE INTENSIVE CARE UNIT MOBILITY SCALE (IMS)
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Background: The Intensive Care Unit Mobility Scale (IMS) is an accredited tool assessing mobility across professions. A German version of the IMS has been translated in accordance with the guidelines.
Purpose: The objective was to evaluate the feasibility and reliability of the German version by physiotherapists and nurses in the intensive care unit.
Methods: The study followed a prospective observational approach. To test feasibility, physiotherapists and nurses utilized the IMS scale and completed a modified 9-item questionnaire. To test inter-rater reliability, 100 patients were independently assessed by a physiotherapist and a nurse. Spearman's correlation coefficient was used for the statistical analysis, with exploratory analyses of subgroups by disease severity, mechanical ventilation, and professional experience.
Results: Sixteen physiotherapists and 16 nurses rated the overall purpose of the IMS as clear (87%) and the feasibility of completing it within five minutes as possible (97%). Complete IMS scores were available for 101 patients, with a median score of 3 (IQR 0–5) for both professions. Overall agreement was strong ($\rho = 0.785$; 95% CI: 0.693–0.851; $p < 0.001$), with correlations for the subgroups ranging from $\rho = 0.619$–0.969, all of which were statistically significant.
Conclusion: The German IMS system can be easily implemented in clinical practice and is well accepted among physiotherapists and nurses working in intensive care units.
Implications: The use of the German IMS can support structured movement assessment and communication among physiotherapists with other professionals, as well as early mobilization in intensive care settings.
Funding acknowledgements: None declared.

EP046 - SC1
EARLY PHYSIOTHERAPY DURING AWAKE VV ECMO IN AN ADOLESCENT: PRESERVING FUNCTION WITHIN A LIMITED THERAPEUTIC WINDOW
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Background: Early rehabilitation and mobilization (ERM) is a key component of intensive care physiotherapy, aiming to prevent physical deconditioning, delirium, and psychological distress. Although awake extracorporeal membrane oxygenation (ECMO) may enable active mobilization, evidence in adolescent populations remains limited.
Purpose: To assess the feasibility, safety, and functional impact of a structured physiotherapy programme during awake veno-venous (VV) ECMO in an adolescent.
Methods: We report a 13-year-old boy with severe respiratory failure secondary to pulmonary Langerhans cell histiocytosis requiring femoro-femoral VV ECMO as a bridge to lung transplantation. Interventions were individualized according to functional and medical status, fatigue, and psychosomatic condition. Safety was ensured through continuous hemodynamic and respiratory monitoring, cannula protection, and predefined stop criteria.
Results: Physiotherapy started within 24 hours post-cannulation. During 24 days of awake ECMO, 22 days included physiotherapy, 17 of which were active, with some days having two sessions. Mobilization progressed from in-bed exercises to sitting, supported standing, assisted ambulation, and robotic-assisted cycling, with 1-3 physiotherapists involved. No major adverse events occurred. Functional capacity was maintained alongside high engagement and perceived competence. Following clinical deterioration, the patient was sedated, transferred, and successfully transplanted. He remains ambulatory with ongoing rehabilitation needs.
Conclusion: Awake VV ECMO represented a therapeutic window for safe, individualized physiotherapy, preserving function and patient agency. Implication: Clinical insights from similar cases may define the development of rehabilitation approaches within pediatric ECMO practice.
Funding acknowledgements: None declared.

DISABILITY AND REHABILITATION

EP054 - SC1
COMPLEX DECONGESTIVE THERAPY IN A PATIENT WITH LYMPHEDEMA STAGE III, RENAL TRANSPLANTATION, LIVER CIRRHOSIS AND OBESITY: A CASE REPORT
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Background: Secondary lymphedema (LE) may develop after renal transplantation (RT); liver cirrhosis (LC) is a contributing factor. Complex decongestive therapy (CDT), combining manual lymphatic drainage (MLD), compression therapy (CT), exercise, skin care, and patient education (PE), is recommended. Morbid obesity exacerbates LE. Patients report problems in daily life activities, and quality of life (QoL) is reduced.
Purpose: This case report describes CDT in a patient with secondary LE, RT, LC, and obesity.
Methods: Case: 63-year-old male. Kidney failure/hemodialysis 4/2005; RT 12/2005. LC 2007; venous insufficiency (VI), arterial hypertension, obesity (BMI 38.1). Outpatient CDT 70´ with thigh-high CT started 9/2023. Shingles 8/2024, inguinal hernia 3/2025. Patient applies stockings class II 12-14h/d, intermittent pneumatic compression 1x/d. Exercises: stationary cycling; leg exercises; diet prescription. Outcome Measures: leg circumference, volume, BMI, QoL.
Results: Leg volume -52%, BMI 34.5. Infections/hospital admissions required therapy breaks/adjustments. QoL improved 4.3→6.5/10. Good CT/diet compliance, unsatisfactory exercise adherence.
Discussion: LE after RT may follow lymph-vessel damage and/or immunosuppression; obesity is a contributing factor. As obesity is associated with VI, losing weight is recommended. Lymphatic dysfunction and flow deceleration follow LC. Infections/additive diagnoses required therapy breaks/adjustments and explain volume fluctuations. Therapeutic focus needs rapid adjustments and diligent re-evaluation. Comorbidities require an open view for yellow-/red-flags. Exercise adherence needs improvement through patient education. Losing weight and leg volume had positive effects on his mobility.
Conclusion: CDT is successful for LE stage III aggravated by several comorbidities.
Implications: Lymph therapists must apply all CDT components for edema improvement.
Funding acknowledgements: None declared.

EP048 - SC1
DYNAMICS OF BRAIN-MUSCLE INTERACTION WITH NEUROMUSCULAR FATIGABILITY: SYSTEMATIC REVIEW
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Background: Neuromuscular fatigability impairs motor performance in both healthy and neurological populations. Corticomuscular coherence (CMC), derived from EEG and EMG recordings, reflects the brain-muscle interaction during movement.
Purpose: This systematic review aims to investigate how neuromuscular fatigability influences CMC in both healthy individuals and individuals with neurological disorders.
Methods: A systematic search of PubMed, Web of Science, and Embase was conducted (until 02/02/2026). Eligible studies investigated CMC changes related to fatiguing tasks in healthy or neurologically impaired participants. Two reviewers independently screened, extracted data, and assessed risk of bias.
Results: Fifteen non-randomized studies were included (mostly neurologically healthy adults, n = 174; neurological conditions, n = 14). Fatiguing tasks varied by muscle group and characteristics. Neuromuscular fatigability was linked to heterogeneous changes in CMC, most often reductions in beta-band coherence, though preserved or increased beta-band CMC occurred during sustained or low- to moderate-intensity contractions. No consistent or limb-specific pattern emerged, with responses influenced by task demands, contraction intensity, muscle group, and fatigue stage. Limited evidence from neurological populations suggested lower CMC and greater disruption compared with healthy controls.
Conclusion: Fatigue-related changes in CMC reflect task- and context-dependent adaptations rather than a uniform loss of corticomuscular coupling. Reductions in CMC may reflect diminished efficacy of corticospinal synchronization, whereas preserved or increased coherence may represent stabilization to maintain motor output with fatigue.
Implications: By synthesizing how neuromuscular fatigue reshapes CMC across different experimental contexts and highlighting key methodological limitations, this review provides a framework to inform future rehabilitation or neuromodulation trials targeting fatigability.
Funding acknowledgements: Fonds Wetenschappelijk onderzoek (FWO) (1114526N, 11PEU24N, and 11G9622N) & EU HORIZON TARGET project (101136244).

EP053 - SC1
EXERCISE-BASED SYNCHRONOUS TELEREHABILITATION FOR AXIAL SPONDYLOARTHRITIS: A GRADE-ASSESSED SYSTEMATIC REVIEW AND META-ANALYSIS
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Background: Exercise therapy is effective for Axial Spondyloarthritis (axSpA)—a chronic inflammatory condition. However, transportation barriers restrict access to in-person rehabilitation. Synchronous telerehabilitation (real-time video calls) offers a viable, customized alternative. This review evaluates its efficacy in axSpA.
Purpose: This review evaluates the effects of synchronous telerehabilitation exercise on disease activity, physical function, spinal mobility, and quality of life in adults with axSpA.
Methods: Seven databases were searched until February 2026. Independent pairs of reviewers screened studies, assessed risk of bias using RoB2, and evaluated quality of evidence using the GRADE approach. A random-effects model was used.
Results: Five trials (n = 306) were included. Three studies raised some concerns, and two had a high risk of bias. For physical function, synchronous telerehabilitation was superior to traditional care or no intervention (MD = -0.54; 95% CI: -1.05, -0.03; P = 0.04). No significant differences were found for disease activity (MD = -0.58; 95% CI: -1.18, 0.02; P = 0.06), quality of life (MD = -1.17; 95% CI: -3.04, 0.70; P = 0.22), or spinal mobility (MD = 0.10; 95% CI: -0.26, 0.46; P = 0.60). Certainty of evidence was very low for all outcomes due to high risk of bias, imprecision, and inconsistency.
Conclusions: Synchronous telerehabilitation may be a viable alternative for improving physical function in patients with axSpA, but not for disease activity or mobility.
Implications: Although promising, the most effective exercise type remains unclear. Future research must prioritize rigorous methods to improve evidence certainty.
Funding acknowledgements: None declared.

EP135 - SC2
PHYSIOTHERAPY AND HEALTH PROFESSIONALS' PERCEPTIONS OF DISABILITY MANAGEMENT AND INCLUSION: A CROSS-SECTIONAL STUDY
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Background: People with disabilities frequently face barriers when accessing healthcare and physical activity services. Understanding professional perceptions regarding disability management is crucial to improve service accessibility and quality of physiotherapy practice.
Purpose: To analyse the perceptions of physiotherapy, health, and sport professionals regarding the management and inclusion of people with disabilities and to identify professional factors associated with these perceptions.
Methods: A cross-sectional study was conducted using a structured questionnaire ad hoc administered to professionals working in health and sport environments. Descriptive statistics were used to summarize sociodemographic and professional characteristics. Relationships between variables were explored using Chi-squared tests, Mann–Whitney U, and Kruskal–Wallis tests. Statistical significance was determined at $p < 0.05$.
Results: Fifty-two professionals participated (mean age 42.4 ± 10.3 years; mean professional experience 15.4 ± 8.3 years). Most participants were women (78.8%) and worked in the public sector (57.7%). Most respondents reported previous experience working with people with physical or sensory disabilities (80.8%). Significant differences were observed between gender and perceptions regarding the adequacy of public institutional facilities for disability management ($p = 0.007$). Academic qualifications were significantly associated with perceptions of inclusion programmes in the health sector ($p = 0.020$) and with professional experience working with people with disabilities ($p = 0.003$).
Conclusions: Experience working with people with disabilities is common among health and sport professionals. However, differences in perceptions remain according to gender and academic training.
Implications: Strengthening education in disability management and promoting interdisciplinary collaboration may improve physiotherapy practice and promote more inclusive environments for health and physical activity.
Funding acknowledgements: None declared.

EP051 - SC1
THE RELATIONSHIP BETWEEN HAND GRIP STRENGTH, TRUNK CONTROL, AND FUNCTIONAL PERFORMANCE IN INDIVIDUALS WITH MILD INTELLECTUAL DISABILITY
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Background: Motor impairments and decreased functional independence are common in mild intellectual disability (MID). Handgrip strength is often used as a general indicator of strength, but its relationship to trunk control and functional performance in MID remains unclear.
Objective: To investigate the relationship between handgrip strength, trunk control (core muscle endurance), and functional performance in adolescents with intellectual disability.
Methods: This cross-sectional study included 51 participants aged 12–18 years (Mean Disability Group: n = 24; Control Group: n = 27). Handgrip strength (dominant and non-dominant hand) was measured using a dynamometer. Trunk endurance was assessed using McGill core endurance tests (back extension, flexor, and lateral bridge). Functional performance was assessed using the Timed Up and Walk Test (TUG) and the Timed Stair Climb-Descent Test (TSADT).
Results: Compared to the control group, the MID group showed significantly lower grip strength, weaker functional performance (longer TUG and TSADT times), and decreased trunk endurance (all $p < 0.05$). In regression models, grip strength did not significantly predict TUG, TSADT, or McGill endurance results ($p > 0.05$), whereas group status (MID vs. control) was a consistent independent predictor of functional performance and trunk endurance ($p < 0.01$).
Conclusion: Clinically significant deficits in functional performance and trunk endurance are observed in adolescents with intellectual disabilities; however, these results cannot be explained solely by grip strength.
Implications: Grip strength alone cannot explain trunk control and functional performance; therefore, combine McGill core endurance tests with functional tests such as TUG and TSADT in clinical assessments.
Funding acknowledgements: None declared.

EP049 - SC1
RESPONSE EVALUATION TO VESTIBULAR REHABILITATION: HOW SELF-REPORT QUESTIONNAIRES CAN HELP US TO IMPROVE CLINICAL DECISION-MAKING
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Background: The evaluation of clinical protocols should be one of the main pillars of physical therapy practice, and self-reported questionnaires can help us to assess them. Besides, there is evidence that vestibular rehabilitation (VR) can improve vestibular symptoms; there can be some differences on the response to those treatments regarding individual characteristics that should be studied. Purpose. The main objective was to find clinical characteristics that could differentiate patients who improved with VR in contrast to those who did not, considering clinical history and self-reported questionnaires.
Methods: A retrospective study of patients who underwent VR was conducted. Sociodemographic and pathological data were collected. Self-reported questionnaires were completed at the beginning and 1-2 months after finishing the treatment. Those who improved more than the minimal detectable change of the Dizziness Handicap Inventory (DHI) or Activities Balance and Confidence Scale (ABC) were classified as responders.
Results: 57 patients were included. Neither age, sex, nor clinical diagnostic classification was able to differentiate responders from non-responders. Besides, there was a difference ($p < 0.05$) in the initial DHI and ABC between those groups. Two cut-off points were calculated to differentiate groups considering DHI (≥ 36, AUC = 0,77) and ABC (≤78.12, AUC = 0,86) with high sensibility and specificity (82.86%, 63,64%/91.43%, 72.73%).
Conclusions: A DHI above 36 and ABC under 78.12 are going to be a good evolution predictor of VR treatment.
Implications: Self-reported questionnaires can be used to improve clinical decision-making for the recommendation of VR treatment.
Funding acknowledgements: None declared.

EP074 - SC1
HILL AND STAIR ASSESSMENT INDEX – RELIABLE TOOLS TO ASSESS PATIENTS WITH TRANSFEMORAL AMPUTATION?
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Background: Many patients with lower limb amputation require to negotiate uneven surfaces to fully participate in everyday activities. Hill Assessment Index (HAI) and Stair Assessment Index (SAI) were developed to assess characteristics of ramp and stair ascent and descent. Studies assessing reliability in patients using non-microprocessor controlled knees are lacking.

Purpose: To assess the intra- and inter-rater reliability of HAI and SAI in patients with transfemoral amputation.
Methods: One week before discharge, patients were independently assessed by two physiotherapists on a ramp (7 m, 4°) and a flight of 12 stairs. Within 24 hours first physiotherapist reassessed the patients. Agreement was calculated using Cohen's Weighted Kappa (95% confidence interval).
Results: We included 45 patients (13 women; mean age 61.7 ± 13.4 years) with unilateral transfemoral amputation, rehabilitated in a national rehabilitation institute between 2021 and 2023. They were using prostheses with manual lock knees (n = 9), non-fluid-controlled knees without manual lock (n = 16), and microprocessor-controlled knees (n = 10). Intra-rater reliability (n = 45) for HAI was 0.85 (0.76–0.93) and 0.94 (0.90–0.98), and for the SAI, 0.95 (0.88–1) and 0.96 (0.90–1) for ascend and descend, respectively. Inter-rater reliability (n = 32) for HAI was 0.93 (0.87–1) and 0.94 (0.88–1), and for SAI, 1 and 0.97 (0.92–1) for ascend and descend, respectively.
Conclusion: HAI and SAI achieved an excellent degree of intra- and inter-rater reliability.
Implications: HAI and SAI should be considered reliable tools for assessing ability to negotiate ramps and stairs in patients using different types of prosthetic knees.
Funding acknowledgements: None declared.

EDUCATION

EP110 - SC1
CHANGES IN ANTI-FAT ATTITUDES AMONG UNDERGRADUATE PHYSIOTHERAPY STUDENTS
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Background: Obesity is associated with negative mental and physical impacts. Physiotherapists play an important role in the management of these patients, but social stigma can influence treatment. There are no previous studies about weight stigma among physiotherapy students considering the academic year. Purpose: To assess the differences in attitudes and beliefs towards people with obesity among physiotherapy students at CEU San Pablo University according to their academic year.
Methods: A cross-sectional study was carried out using a questionnaire with 55 undergraduate physiotherapy students enrolled at the faculty in all academic years. After ethical approval, each participant completed an ad hoc questionnaire including demographic variables and the Anti-Fat Attitudes (AFA) questionnaire in its validated Spanish version. AFA score and its sub-domains were analyzed and compared with the demographic data of participants.
Results: The mean standardized AFA total score was 2.4; by subdomains, 1.68 in Dislike, 3.12 in Fear of Fat, and 3.37 in Willpower. Most participants were women older than 21 years old from the fourth year with a normal BMI. Younger students with a higher BMI tend to show higher weight bias. No correlation could be made between academic courses and the importance of weight bias.
Conclusions: Explicit weight bias could be observed among physiotherapy students, especially males. Studying in a higher course does not necessarily induce lower weight bias. Further research is needed to collect more participants.
Implications: The health care and teaching system should implement changes to improve students' and professionals' knowledge and treatment of patients with obesity.
Funding acknowledgements: None declared.

EP112 - SC1
BEYOND THE CHECKLIST: FORMATIVE ROLE OF SUMMATIVE OSCES IN PHYSIOTHERAPY EDUCATION
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Background: Growing societal demands concerning newly qualified health professionals led higher education institutions to seek increasingly effective ways to prepare students. Purpose: Our goal was to assess undergraduate physiotherapy students' clinical competence in a classroom context using the Objective Structured Clinical Examination (OSCE) for summative and formative feedback. Methods: Eighty-nine third-year physiotherapy students were assessed in a nine-station OSCE, each lasting six minutes (five minutes for task performance, one minute for reading instructions and station transitioning). Through blueprinting, a wide range of relevant skills were mapped against learning outcomes.
Results: Checklists and a 0-5 global rating scale were used to rate: 1) technical skills, namely clinical history of present health condition and symptom's impact on daily life activities (mean = 0.58, SD = 0.11, IQR = 0.15), gathering information on respiratory symptoms (mean = 0.68, SD = 0.16, IQR = 0.20); 2) procedural skills, namely clinical orthopedic tests (mean = 0.75, SD = 0.17, IQR = 0.31), muscular tests (mean = 0.50, SD = 0.21, IQR = 0.31), accessory joint mobilization and muscle stretching (mean = 0.49, SD = 0.14, IQR = 0.23), muscle activation awareness and muscle strengthening exercises (mean = 0.65, SD = 0.18, IQR = 0.30), exercise instructing (mean = 0.38, SD = 0.22, IQR = 0.30), lung auscultation (mean = 0.62, SD = 0.19, IQR = 0.34) and bronchial hygiene techniques (mean = 0.51, SD = 0.17, IQR = 0.22); 3) communication (mean = 0.73, SD = 0.12, IQR = 0.19); 4) professional behavior (mean = 0.59, SD = 0.14, IQR = 0.21). Conclusions: The OSCE was a feasible and comprehensive approach to assess clinical competence, revealing areas where students performed better and others requiring curricular reinforcement. Combined use of checklists and global rating scales enabled actionable formative feedback, identifying student performance gaps and supporting targeted learning. Implications: Results highlight the summative OSCEs' role as an assessment-for-learning tool in physiotherapy education.
Funding acknowledgements: CIAFEL, Faculty of Sport, University of Porto is funded by FCT through grant UIDB/00617/2020.

EP105 - SC3
NEUROMOTION: INNOVATION IN DISSEMINATION OF MOVEMENT NEUROSCIENCE AND NEUROREHABILITATION
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Background: Advances in movement neuroscience and neurorehabilitation contrast with limited societal understanding of these fields. This gap hinders empowerment of people with neurological conditions, prevention strategies, and recognition of the physiotherapist's role within the rehabilitation process.
Purpose: To present NEUROMOTION as an innovative model of dissemination and knowledge translation in physiotherapy, aimed at bringing movement neuroscience closer to patients, families, children, and the wider community.
Methods: The project is structured into thematic modules (motor control, balance, respiration, cognitive functions, and applied technology),

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developed through visual materials, physical simulators, and experiential learning activities. Content is integrated into a mobile interactive exhibition space adaptable to healthcare, educational, and community environments. The model combines scientific rigor, accessibility, and a multisensory pedagogical approach.
Results: Initial implementation enabled the development of reusable educational materials and deployment of activities across diverse settings, promoting intergenerational participation and practical understanding of the relationship between movement and brain health. The initiative enhanced visibility of the physiotherapist as a facilitator of the neurorehabilitation process and as an active agent in health education.
Conclusions: A modular and interactive dissemination model represents an effective strategy to reduce the gap between research and society within physiotherapy.
Implications: The model is scalable and transferable to other European contexts, strengthening scientific culture, prevention strategies, and professional recognition.
Funding acknowledgements: Funded by the University of Salamanca (Knowledge Transfer Project, 2025) and College of Physiotherapists of Castilla y León (2025).

EP111 - SC1
EXPLORATORY AND COMPARATIVE ANALYSIS OF BIOMECHANICS EDUCATION IN HUMAN MOVEMENT SCIENCES IN SPAIN: TOWARDS SHARED UNDERSTANDING
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Background: Biomechanics is a cornerstone of Human Movement Sciences and a foundational component of disciplines including Physiotherapy, Podiatry and Sport Sciences. It provides essential knowledge for understanding human motion offering tools for study and supporting evidence-based exercise prescription. Despite being common across these degrees, little is known about its delivery or coordination, limiting shared understanding and coherent training and potentially fueling unnecessary debates in exercise prescription.
Purpose: The aim of the study was to compare Biomechanics courses across three Spanish degrees, identifying commonalities and discipline-specific differences and discussing its role as a transversal core discipline.
Methods: Descriptive analysis was conducted using publicly available course guides from 121 undergraduate programs in Spain. Data were summarized for each degree program and compared across disciplines.
Results: Courses generally comprise 6ECTS (150hours) in the first or second year. Course character varies by discipline: basic in Sport Sciences and Physiotherapy but mainly obligatory in Podiatry. Core content includes Kinematics, Kinetics and structural Biomechanics. Physiotherapy focuses on clinical applications and tissue mechanics, Sport Sciences on Physics, and Podiatry on lower-limb function. Recommended readings and assessment methods differ across disciplines. Technology integration shows variation: video-based kinematic analysis is common whereas advanced laboratory instruments are mainly limited to research.
Conclusions: Biomechanics education is grounded in shared scientific principles, but its delivery and theoretical foundations differ substantially across disciplines. Variations may lead to uneven student understanding, highlighting the need for coordinated curricular strategies to ensure coherent and effective training of future professionals.
Implications: Recognizing these patterns can support alignment, foster shared understanding and strengthen interdisciplinary collaboration, preparing graduates to apply biomechanical principles.
Funding acknowledgements: None declared.

EP114 - SC1
PHYSIOTHERAPY STUDENTS' PERCEPTIONS OF ARTIFICIAL INTELLIGENCE IN PHYSIOTHERAPY EDUCATION
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Background: Artificial intelligence (AI) is increasingly integrated into physiotherapy education offering new learning opportunities. However, its use also raises questions related to ethics and the appropriate boundaries of responsible application.
Purpose: This study examined physiotherapy students' perceptions of AI use within their education.
Methods: Eight final-year physiotherapy students (three men, aged 23-26 years, mean age 24) participated in two group interviews. They had completed 154,5-198 ECTS (mean 184) of their 210 ECTS degree. All studied full-time, and their practical experience was primarily based on clinical placements. Data were analyzed using inductive qualitative content analysis.
Results: Six main themes were identified: Development of AI use, Limited utilization of AI in clinical placements, Uncertainty about AI use boundaries, Benefits of AI in learning, Risks of AI use, and Integration of AI into physiotherapy practice. Students reported growing confidence in using AI, although its use in clinical placements was limited by contextual and ethical uncertainties. AI supported learning through improved information retrieval and structuring complex content. Students also noted risks, including overreliance, and issues related to academic integrity. AI was further seen as a potential future tool for physiotherapists, provided that competence and guidance are strengthened.
Conclusion: Students recognized clear educational benefits of AI but also expressed concerns about risks and appropriate use. Strengthening AI competence within physiotherapy education is needed to ensure safe and purposeful use.
Implications: Educational programs should provide clearer guidance and structured competence development to support responsible integration of AI in both learning and clinical practice.
Funding acknowledgements: Finnish Work Environment Fund, "The Use of Artificial Intelligence and Future Opportunities in Physiotherapy - From Evidence-Based Knowledge to National Recommendations".

EP108 - SC3
THE EVOLUTION OF COMPLEXITY IN REHABILITATION: IMPLICATIONS FOR THERAPEUTIC COGNITIVE EXERCISE IN PHYSIOTHERAPY
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Background: The idea of complexity has become increasingly important in rehabilitation sciences, especially within patient-centered approaches. In physiotherapy, the framework of Therapeutic Cognitive Exercise (ETC) emphasizes the interaction between motor, sensory, and cognitive processes. Over time, the understanding of complexity has evolved from linear biomedical models toward multidimensional perspectives that recognize the dynamic interaction between biological, psychological, and contextual factors.

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Purpose: This narrative review aims to explore the evolution of the concept of complexity in relation to Therapeutic Cognitive Exercise (ETC) and to discuss its implications for physiotherapy theory and clinical practice.
Methods: A narrative review of the literature was conducted using PubMed to identify theoretical papers, conceptual frameworks, and empirical studies addressing complexity in rehabilitation sciences, neurocognitive approaches, and physiotherapy. The selected literature was analyzed to describe how the concept of complexity has evolved and how it relates to the principles underlying ETC.
Results: The literature highlights a progressive shift from reductionist perspectives toward systemic and multidimensional models of rehabilitation. Within this framework, ETC integrates sensory perception, cognitive processing, and motor control, emphasizing the active role of the patient in the rehabilitation process. Complexity is reflected in the dynamic interaction between the individual, the task, and the environment, requiring adaptive clinical reasoning and individualized therapeutic strategies.
Conclusion: The evolution of the concept of complexity provides a theoretical foundation that supports the neurocognitive principles underlying ETC in physiotherapy.
Implications: Recognizing complexity may enhance clinical reasoning, support individualized rehabilitation programs, and promote a more integrated approach to physiotherapy practice.
Funding acknowledgements: None declared.

EP107 - SC3
STRENGTHENING GERIATRIC PHYSIOTHERAPY EDUCATION: DEVELOPMENT AND PILOT OF COURSES IN SRI LANKA – EU CAPAGE PROJECT
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Background: Rapid population ageing in Sri Lanka has increased the burden of chronic disease, frailty and disability, highlighting the need for a healthcare workforce with geriatric-specific competencies. However, undergraduate physiotherapy education lacks structured training in geriatric assessment, interdisciplinary care and clinical decision-making. The EU co-funded CAPAGE project addresses this gap by developing competency-based curricula adapted to local contexts.
Aim: To describe the development and pilot implementation of two undergraduate geriatric physiotherapy courses. A secondary objective was to evaluate their acceptability and perceived educational value.
Methods: A multi-phase approach was used, including needs analysis, literature review, and expert consultation. Two courses were developed: a 2-credit Geriatric Assessment for Physiotherapy module and a 3-credit Clinical Practice in Geriatrics module. Content was refined through double-blind expert review. A pilot involving students from Europe and Sri Lanka included lectures, practical sessions, and case-based learning. Evaluation used a 5-point Likert questionnaire with descriptive analysis.
Results: Expert review supported integration of standardized assessment tools and acute care considerations. Pilot results showed high satisfaction, with no negative ratings. Over 90% of students agreed on the clarity of learning outcomes, while practical sessions achieved 100% positive engagement. Content relevance was rated highly, with minor suggestions for improving teaching resources. The courses were also compiled into an open-access online teaching manual.
Conclusions: The courses were well accepted and aligned with core geriatric competencies.
Implications: This model supports integration of geriatric education into physiotherapy curricula, while the open-access manual enhances scalability and transferability across academic and clinical settings.
Funding acknowledgements: Funded by the European Union; views expressed are those of the authors and do not necessarily reflect EU positions.

EP113 - SC1
DEVELOPMENT AND VALIDATION OF THE TRAINEESHIP EVALUATION QUESTIONNAIRE (TEQ) FROM THE PHYSIOTHERAPY STUDENT'S PERCEPTION
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Background: High-quality clinical placements are essential for developing professional competencies in physiotherapy education. However, psychometrically robust, discipline-specific instruments to comprehensively evaluate students' perceptions of placement quality remain limited, constraining quality assurance and benchmarking.
Purpose: To develop and evaluate the measurement properties of the Traineeship Evaluation Questionnaire (TEQ).
Methods: A multicenter cross-sectional study was conducted among undergraduate physiotherapy students from six Italian universities. The TEQ was developed through expert review and cognitive interviews. Structural validity was assessed using exploratory factor analysis. Internal consistency, test–retest reliability, construct validity (against a validated comparator), and feasibility (including floor and ceiling effects) were evaluated.
Results: A total of 436 students participated. Exploratory factor analysis supported a unidimensional structure (62.3% variance explained). The TEQ demonstrated excellent internal consistency (Cronbach's $\alpha = 0.932$) and test–retest reliability (ICC = 0.916). Construct validity was confirmed by strong correlations with a validated instrument assessing clinical supervisor competencies ($r = 0.874$, $p < 0.001$). Floor effects were negligible, while ceiling effects were substantial. Completion time was under ten minutes.
Conclusion(s): The TEQ is a valid and reliable instrument for assessing clinical placement quality in physiotherapy education. Its unidimensional structure supports use of a global score.
Implications: The TEQ enables standardized evaluation of clinical placements, supporting quality assurance, benchmarking, and evidence-informed improvements. Its adoption may contribute to harmonizing clinical education standards internationally.
Funding acknowledgements: None declared.

EDUCATION: CONTINUING PROFESSIONAL DEVELOPMENT

EP106 - SC3
COMMUNICATION IN PAIN NEUROSCIENCE EDUCATION: DESIGN AND DEVELOPMENT OF A TRAINING PROGRAMME FOR PHYSIOTHERAPISTS
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Background: Pain Neuroscience Education (PNE) is widely used in physiotherapy for the management of chronic musculoskeletal pain (CMP). However, physiotherapy education often emphasizes pain knowledge while giving less attention to how clinicians communicate this information during consultations.
Purpose: To design and develop an educational programme combining PNE with communication training relevant to physiotherapy practice.
Methods: Programme development followed the ADDIE instructional design framework. A needs assessment included a literature review and two online surveys involving physiotherapists and patients to explore educational needs related to pain assessment, pain management knowledge, and clinical communication in physiotherapy consultations and the development of therapeutic physiotherapist–patient relationships. Findings informed learning objectives and guided the curriculum design. Following development, the programme was reviewed by experts in CMP and healthcare education.
Results: The resulting programme was developed as a structured PNE-based curriculum integrating pain-related knowledge with communication skills training. The curriculum includes two modules: 1) Pain Education and Enhancement; 2) Communication Skills, delivered through six units covering neurophysiology of pain, pain assessment and management, and communication in CMP, including empathy and Motivational Interviewing (MI) to enhance pain management and shared decision-making. The programme incorporates blended learning, case-based learning, simulated clinical scenarios, and structured feedback. Expert evaluation indicated consistently high ratings across programme components (Mean scores:4.15–4.92/5).
Conclusions: The programme provides an educational framework integrating PNE with communication skills training for physiotherapists managing CMP.
Implications: Integrating communication training within PNE programmes may strengthen physiotherapists' ability to conduct patient-centered CMP consultations, support patient self-management, motivate lifestyle changes, and facilitate shared decision-making.
Funding acknowledgements: None declared.

EP115 - SC1
PREPARING CLIMATE-LITERATE PHYSIOTHERAPISTS: INTEGRATING CLIMATE AND SUSTAINABILITY INTO PHYSIOTHERAPY EDUCATION
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Background: Climate change is increasingly recognized as a major determinant of health and a growing challenge for healthcare systems. Physiotherapists contribute to health promotion, prevention, and rehabilitation and therefore require competencies to address climate-related health risks and support sustainable healthcare delivery. In Austria, a 2024 legislative amendment introduced climate literacy (CL) as a professional competence, creating a need for systematic curricular integration.
Purpose: This project aimed to develop and implement a structured approach for integrating CL into the curriculum and to prepare future physiotherapists to address climate-related health challenges in professional practice.
Methods: A structured curriculum development process was conducted during programme reaccreditation at the University of Applied Sciences Burgenland. Curriculum mapping was used to identify opportunities for CL across modules and to align learning outcomes with existing course structures.
Results: CL has been implemented in the curriculum since 2025. Two courses were introduced: an interprofessional course addressing climate change, health impacts, and healthcare system challenges, and an advanced physiotherapy-specific course focusing on climate-related health risks, sustainable physiotherapy practice, and emission reduction in clinical settings. CL was embedded as a cross-sectional topic across the curriculum. Faculty development workshops supported teaching staff, and concise teaching resources facilitated integration. Continuous optimization includes course evaluations, curriculum mapping updates, and structured feedback from students and staff.
Conclusions: A structured curriculum development process enabled systematic integration of CL within physiotherapy education.
Implications: As climate change increasingly affects healthcare systems, integrating CL into physiotherapy education is essential to prepare future physiotherapists for climate-related health challenges.
Funding acknowledgements: None declared.

EP119 - SC1
FUTURE PHYSIOTHERAPISTS' VIEWS ON TELEREHABILITATION: OPPORTUNITIES AND CHALLENGES FOR CLINICAL PRACTICE
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Background: Telerehabilitation has emerged as an important strategy to improve access, continuity of care, and efficiency in rehabilitation services. As digital health technologies become increasingly integrated into clinical practice, it is essential to understand how future health professionals perceive their potential implementation. This study aimed to explore physiotherapy students' perceptions of the advantages and barriers associated with telerehabilitation.
Methods: A qualitative descriptive study was conducted with 78 fourth-year undergraduate physiotherapy students from three different years (2024–2026). The study was embedded within regular academic activities, as part of a training session on digital health and rehabilitation technologies. During the activity, students were invited to anonymously provide open-ended written comments regarding the perceived advantages and potential barriers to implementing telerehabilitation in clinical practice. Participation was voluntary, and responses were collected without any identifying information to ensure anonymity. The qualitative data were analyzed using thematic analysis.
Results: Students identified several perceived advantages of telerehabilitation, the main one being improved accessibility for patients with mobility limitations or those living in remote areas. Among the barriers identified, the lack of physical contact, both for assessment and treatment, and the potential lack of digital skills among professionals and patients stood out.
Conclusions: Physiotherapy students recognize both opportunities and challenges related to telerehabilitation. However, relevant aspects, such as patient autonomy, safety considerations, and legal or regulatory issues, were rarely mentioned. Integrating discussions and practical experiences related to digital health within undergraduate education may help prepare future professionals to effectively incorporate telerehabilitation into clinical practice.
Funding acknowledgements: None declared.

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EDUCATION: METHODS OF TEACHING AND LEARNING

EP103 - SC3

SERVICE-LEARNING IN PHYSIOTHERAPY EDUCATION: AN INTERDISCIPLINARY PROGRAMME SUPPORTING INFORMAL CAREGIVERS OF PEOPLE WITH DISABILITIES

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Universidad de Salamanca

Background: Service-learning has emerged as an active educational methodology that integrates academic training with social engagement. However, in physiotherapy education, there are limited structured experiences that simultaneously evaluate both student learning outcomes and community impact.
Purpose: To describe and evaluate an interdisciplinary service-learning project integrated into the physiotherapy curriculum aimed at supporting informal caregivers of persons with disabilities.
Methods: This educational project was developed in collaboration with local associations. Physiotherapy students and students from other health disciplines participated through final degree projects, clinical placements, and course-based activities. Interventions were designed to improve caregivers' physical health and overall well-being. Student learning outcomes were assessed using a professional performance rubric, competency self-assessment tools, and satisfaction questionnaires. Community impact was evaluated through pre–post measures of caregiver burden and well-being.
Results: Students demonstrated improvements in clinical competencies, interprofessional communication, and professional reasoning. High levels of student satisfaction and perceived meaningful learning were observed. Caregivers reported improvements in physical and emotional well-being following the intervention.
Conclusions: Service-learning represents an effective strategy for developing professional competencies in physiotherapy while addressing real societal needs.
Implications: The structured integration of service-learning projects into physiotherapy curricula may strengthen competency-based education and enhance social responsibility within European physiotherapy training programs.
Funding acknowledgements: This project was funded by the University of Salamanca through its Service-Learning Projects programme.

EP104 - SC3

INNOVATION IN PEDIATRIC PHYSIOTHERAPY: SIMULATION AND FAMILY-CENTERED APPROACH

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Background: Training in Pediatric Physiotherapy often focuses on theoretical motor milestones, overlooking the variability of real development and the complexity of contemporary family models. It is essential to train professionals capable of applying Family-Centered Care.
Purpose: To integrate social diversity and empathetic clinical reasoning into the study of neurodevelopment, as well as to develop communication and conflict-resolution skills in complex pediatric settings.
Methods: A hybrid methodology was applied: Flipped Classroom using the docuseries Babies to identify developmental variants, followed by discussions and clinical simulation sessions (Role-Playing) in which students assumed the roles of therapists and different family profiles. At the end, students completed a satisfaction survey.
Results: The mean scores for each item (out of 5) were: 4.9 for 'The practice helped me understand the influence of the family on neurodevelopment'; 4.9 for 'I understood the importance of the physiotherapist adapting interventions to the user's family model'; 4.6 for 'The time allocated for the different phases was adequate'; 4.7 for 'I am satisfied with my participation in the project'; and 4.7 for 'I would like similar activities to be conducted in othercourses'.
Conclusions: Simulation proved more effective than theory for internalizing clinical responsibility. Students expressed interest in extending these activities to other courses, and increasing the time allocated to each phase is recommended.
Implications: This innovation humanizes technical training, promoting more inclusive clinical practice. The results support applying this methodology in other healthcare areas where the therapeutic alliance with the family is key to treatment success.
Funding acknowledgements: None declared.

EP116 - SC1

COLLABORATION BETWEEN HIGHER EDUCATION AND WORKING LIFE TO ENHANCE INNOVATION, KNOWLEDGE TRANSFER AND PRACTICAL SOLUTIONS IN PT HE

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Arcada UAS

Background: Knowledge-based innovation has become central to competitiveness in higher education. Following the triple helix model, higher education institutions (HEIs) collaborate with public and private sectors to enhance knowledge transfer and innovation. In Finland, Universities of Applied Sciences (UAS) educate physiotherapists at the bachelor's and master's level. UAS, in particular, emphasize competency-based learning and strong integration, emphasizing themselves as key actors in innovation ecosystems.
Purpose: This study examines how knowledge management (KM) practices influence knowledge-based innovation within the Finnish HEI collaboration landscape. Using an action research approach, the study combines practical implementation with theoretical reflection on knowledge creation and use. The analysis is based on two case studies: one in social and healthcare, and another involving an intermediary organization that facilitated knowledge sharing by reducing cognitive barriers between HEIs and industry.
Results: The findings highlight the importance of the "proximity paradox" in collaboration. While closer relationships improve communication and knowledge exchange, excessive proximity may limit diversity and novelty. Absorptive capacity plays a key role in balancing these tensions. Additionally, group supervision models in UAS master's education are perceived as effective in supporting active learning and peer collaboration.
Conclusions: The study concludes that different phases of knowledge-based innovation require distinct organizational support. Intermediaries can enhance collaboration by increasing cognitive and organizational proximity, though this alone does not guarantee improved innovation outcomes.
Implications: Effective collaboration between HEIs and working life can transform knowledge into practical solutions, contributing to social and economic value creation.
Funding acknowledgements: The authors received funding from A.F. Lindstedts & Svenska Handelsinstitutet Foundation.

GLOBALISATION: HEALTH SYSTEMS, POLICIES AND STRATEGIES

EP124 - SC1

BARRIERS TO PHYSIOTHERAPY ACCESS FOR PEOPLE WITH LYMPHOEDEMA IN PORTUGAL: PHYSIOTHERAPISTS' PERSPECTIVES

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Background: Lymphoedema is a chronic, disabling condition that can reduce function, quality of life and social participation. Timely, evidence-informed physiotherapy is important, yet access may be limited by individual, professional and system-level barriers.
Purpose: To explore physiotherapists' perceptions of barriers that limit help-seeking and access to physiotherapy for people with lymphoedema in Portugal.
Methods: Exploratory descriptive study using an online, closed-ended questionnaire with Likert-scale responses (1–5). The survey was disseminated via social media. Eligible participants were physiotherapists trained in Portugal and currently practicing clinically in Portugal. Descriptive statistics were used.
Results: Of 233 responses, 149 physiotherapists were included (mean age 37.8 years; 90.6% women). Most worked predominantly in private practice (78.5%), and 67.1% reported treating people with lymphoedema. Specific training was limited (47.0% reported only undergraduate training; 15.4% reported none). Only 15.5% reported knowing the gold-standard treatment. Perceived barriers included limited public knowledge of where to seek care (65.1%), limited access to specialized professionals (54.8%), and limited access to gold-standard care (63.7%). Participants perceived low confidence among health professionals in diagnosing lymphoedema (26.1% agreement) and suboptimal referral to physiotherapy after diagnosis (34.9% agreement).
Conclusions: Physiotherapists report substantial knowledge/training gaps and access barriers that may contribute to delayed and inconsistent lymphoedema care in Portugal.
Implications: Targeted continuing education, clearer referral pathways and funded education/self-management programmes may improve earlier access and long-term outcomes.
Funding acknowledgements: None declared.

HEALTH PROMOTION AND WELLBEING/HEALTHY AGEING/PHYSICAL ACTIVITY

EP141 - SC3
EFFECTS OF TRAINING TYPE ON PELVIC FLOOR MUSCLES IN PORTUGUESE TRACK AND FIELD ATHLETES: A CROSS-SECTIONAL DESCRIPTIVE SURVEY
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Background: High-impact sports, such as athletics in all its disciplines, are a risk factor for pelvic floor dysfunctions. Continuous ground impact and/or abdominal contractions that increase intra-abdominal pressure, together with the impact on the pelvic musculature, may lead to urinary incontinence (UI).
Purpose: To describe and compare the prevalence, type, and severity of self-reported UI, and prevention strategies among Portuguese male and female athletes across different disciplines.
Methods: This cross-sectional study included 51 athletes (27 females, 24 males) registered with the Portuguese Athletics Federation. Data were collected using the International Consultation on Incontinence Questionnaire–Short Form (ICIQ-UI-SF) and the King's Health Questionnaire (KHQ).
Results: ICIQ-UI-SF results show that 59.26% of female athletes reported UI, whereas the prevalence among male athletes was 8.33%. The highest prevalence of UI among female athletes was found in throwing (100%). Stress urinary incontinence (SUI) was the most common type among female athletes in running and jumping disciplines, with a prevalence of 25%. When analyzing athletes together (n = 18), the prevalence in running disciplines (p = 0.017) showed a significant difference compared with the other disciplines. The KHQ domains with the highest scores indicated the impact of UI on quality of life (45.83 ± 20.64).
Conclusions: More than half of the female athletes in this study reported UI, particularly SUI, with prevalence being higher during training.
Implications: These findings highlight the need to implement specific training strategies and preventive approaches to reduce pelvic floor muscle dysfunction and improve early detection of urinary incontinence among track and field athletes.
Funding acknowledgements: This work was supported by FCT - Fundação para a Ciência e Tecnologia, I.P., under project reference UID/4585/2025 (DOI: https://doi.org/10.54499/UID/04585/2025).

EP144 - SC1
EXAMINING THE RELATIONSHIP BETWEEN CAMPUS ENVIRONMENT, SELF-PERCEIVED BARRIERS, AND PHYSICAL ACTIVITY LEVELS IN YOUNG ADULTS
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Background: University students spend a substantial part of their daily lives on campus, making campus environments important determinants of physical activity (PA).
Purpose: To evaluate campus environmental conditions as determinants of PA and examine their relationship with perceived barriers and PA levels among university students.
Methods: A total of 210 students from four universities participated. Sociodemographic data were collected. Ten campus-related environmental factors were assessed (yes/no; total score out of 10). Perceived barriers were evaluated using the Self-Perceived Barriers for Physical Activity Questionnaire. PA levels were measured with the short form of the International Physical Activity Questionnaire (IPAQ).
Results: The mean age was 20.16 ± 2.15 years (133 females). Most participants were of normal weight (76.5%). The mean environmental score was 6.70 ± 1.81, indicating a moderately supportive campus. Bicycle paths and encouragement to use sports facilities were the least supported factors. "Fatigue/laziness" was the most reported barrier, although overall barrier levels were low. Regarding PA, 44.5% were highly active, 40.5% moderately active, and 15% had low PA. Environmental score was associated with moderate-intensity PA (p = 0.018). "Fatigue/laziness" and "responsibilities /time constraints" were negatively associated with moderate and vigorous PA and positively associated with sedentary behavior (p < 0.05).
Conclusions: Supportive campus environments and low perceived barriers were accompanied by generally high PA levels. Environmental factors were particularly related to moderate-intensity PA.
Implications: Physiotherapists should adopt an ecological approach addressing environmental support and modifiable barriers. Universities should strengthen active campus design and promote facility use to sustain PA among students.
Funding acknowledgements: None declared.

EP148 - SC1
ASSOCIATIONS BETWEEN INTEROCEPTIVE AWARENESS, FATIGUE, AND MOOD AMONG PHYSICAL THERAPY AND REHABILITATION STUDENTS: A PILOT STUDY
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Manisa Celal Bayar University

Background: Interoceptive awareness is a concept representing an individual's perception of internal bodily states and is associated with physical, cognitive, and psychosocial processes.
Purpose: The aim of this study was to examine the associations between interoceptive awareness, physical and mental fatigue, and mood in physical therapy and rehabilitation students.
Methods: In this cross-sectional study, interoceptive awareness (Multidimensional Assessment of Interoceptive Awareness-II: MAIA-2), physical fatigue (Fatigue Severity Scale: FSS), mental fatigue (Mental Fatigue Scale: MFS), and mood (Depression Anxiety Stress Scale: DASS) were evaluated through an online survey in 25 physical therapy and rehabilitation students.
Results: The mean age was 19.80 ± 1.50 years (62% were female). MAIA-2 was negatively correlated with MFS ($r = -0.490$, $p < 0.05$), FSS ($r = -0.417$, $p < 0.05$), and DASS total score ($r = -0.589$, $p < 0.05$). For DASS subscales, MAIA-2 showed a strong negative correlation with anxiety ($r = -.635$, $p < 0.01$) and a moderate negative correlation with stress ($r = -.490$, $p < 0.05$), with no significant association with depression.
Conclusion: The findings of this study indicate that higher interoceptive awareness is associated with lower levels of physical and mental fatigue, as well as lower anxiety and stress.
Implications: Promoting interoceptive awareness among students may represent a potential target for future interventions.
Funding acknowledgements: None declared.

EP175 - SC2
THE IMPACT ON MOTIVATION AND ENGAGEMENT OF DYNAMIC DIFFICULTY ADJUSTMENTS IN EXERGAMES: A SYSTEMATIC REVIEW
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Background: Adherence to physiotherapy exercises remains a major challenge, limiting treatment effectiveness. Exergames, videogames requiring physical exercise, can improve adherence by enhancing motivation, the key mechanism of action, and increasing engagement. However, long-term adherence remains difficult. A promising method is dynamic difficulty adjustments (DDAs) in exergames, which automatically modify game difficulty with real-time player performance, and may enhance motivation and engagement.
Purpose: This study investigates which DDAs are used within exergames and how they affect patient's motivation and engagement.
Methods: A systematic search (PubMed, Web of Science, Scopus) identified studies with DDA-enhanced exergames reporting outcomes on motivation or engagement. Data on study characteristics, population, DDA method, and outcomes on motivation/engagement were extracted, and risk of bias was assessed.
Results: Seven studies were included (n = 217 with-DDAs, n = 209 without-DDAs) involving healthy adults and persons with neurological disorders aged 10–57 years; three reported results on motivation and four on engagement. DDA methods included gaming scores/points (n = 3), attention (n = 1), and movement metrics (n = 3). Results were inconsistent: one study found a significant difference favoring DDAs for motivation and one for engagement; others found non-significant or without-DDAs-favored effects.
Conclusion: Current evidence on DDAs in exergames is inconclusive. While some studies show potential benefits for motivation and engagement, overall results remain inconsistent. Further research is needed to determine which DDA methods are most effective and how to implement them.
Implications: Understanding DDAs influence on motivation and engagement may guide development of effective, user-centered exergames in physiotherapy and may improve long-term adherence.
Funding acknowledgements: None declared.

EP152 - SC1
MEASURING FATIGABILITY IN AGEING AND CLINICAL POPULATIONS: DEVELOPMENT AND VALIDATION OF A NOVEL MULTI-TASK PROTOCOL
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Background: Fatigue is a highly prevalent clinical parameter and a key attribute of vitality capacity within the Healthy Ageing framework. Within its construct, fatigability refers to fatigue that develops in response to an activity. Current assessments predominantly rely on isolated or single-modality tasks, inadequately capturing the demands of everyday functioning.
Purpose: This study developed and validated FATIG'AGE, the first standardized, ecologically valid, multi-task protocol to assess fatigability across ageing and clinical populations.
Methods: Using an iterative design approach, FATIG'AGE was co-created to induce progressive perceived fatigability within a one-hour timeframe. An initial protocol was developed from focus group discussions, then repeatedly refined through user testing and structured feedback in 15 participants (older adults with and without mobility limitations and individuals after stroke). Subsequently, the final protocol was validated in 30 participants (older adults without mobility limitations, individuals after stroke, and older adults with sarcopenia).
Results: Tasks were perceived as safe and representative of everyday activities. The protocol consistently elicited increasing perceived exertion. Differences in performance metrics revealed discriminative potential, with lower fatigability in older adults without mobility impairments compared to those with sarcopenia and individuals after stroke.
Conclusion: FATIG'AGE is a standardized, ecologically valid, multi-task protocol for assessing fatigability across older adults and clinical populations. Situated within the Healthy Ageing framework, it provides a structured approach to evaluate fatigability as a key component of vitality capacity during everyday functioning.
Implications: FATIG'AGE offers a practical and meaningful tool to characterize individual fatigability profiles or evaluate interventions targeting fatigue in daily life.
Funding acknowledgements: This research was supported by the Strategic Basic Research project REVALEXO (grant no. S001024N), funded by the Research Foundation Flanders.

EP146 - SC1
MOTIVATIONAL FACTORS AIMING TO REDUCE SEDENTARY BEHAVIOR VERSUS INCREASE PHYSICAL ACTIVITY IN THE CHRONIC PAIN CONTEXT
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Background: Chronic musculoskeletal pain (>3 months) is a major public health issue associated with reduced quality of life, increased work absenteeism, and significant socioeconomic costs. At the same time, sedentary behavior (SB) has risen globally, even among individuals meeting physical activity (PA) guidelines.

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Purpose: This scoping review examined motivational factors influencing reductions in SB and increases in PA in adults with chronic musculoskeletal pain, and whether these factors are primarily intrinsic or extrinsic.
Methods: This review followed PRISMA-ScR guidelines and was registered with the Open Science Framework. Peer-reviewed studies published in English (2015–2025) were identified via Web of Science, Scopus, and PubMed. Eligible studies addressed motivational factors related to PA and SB in adults with chronic musculoskeletal pain. Motivational factors were categorized as intrinsic or extrinsic.
Results: Nineteen studies identified 36 motivational factors (31 for PA, 18 for SB), with overlap between behaviors. Extrinsic motivators predominated overall. PA-related strategies combined intrinsic factors (e.g., enjoyment, perceived health benefits) with extrinsic support such as goal-setting, education, and social support. In contrast, SB reduction relied mainly on extrinsic strategies, including prompts and environmental cues, with limited intrinsic influences.
Conclusions: Extrinsic motivational factors were more commonly used compared to intrinsic factors in both PA and SB contexts. While extrinsic strategies seem effective, strengthening intrinsic drivers may yield more durable improvements in PA and SB.
Implications: Tailored interventions that balance both motivational types are recommended, and future research should explore their interaction to optimize outcomes.
Funding acknowledgements: None declared.

EP036 - SC2
DESIGNING A LIFESTYLE INTERVENTION PROGRAM TO PROMOTE PHYSICAL ACTIVITY IN THE RETIREMENT TRANSITION AND BEYOND
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Background: The transition from work to retirement is an important opportunity to promote healthy behaviors and support active ageing. However, few interventions specifically target this life stage, particularly in Malta.
Purpose: To design a lifestyle intervention aimed at promoting physical activity and reducing sedentary behavior among individuals transitioning to retirement in Malta.
Methods: A qualitative, multi-stakeholder approach underpinned by a pragmatic framework was adopted. Stage one involved three focus groups (n = 14) with human resources managers, individuals with lived experience of retirement transition, and gerontology experts. Discussions were guided by the COM-B model and analyzed using reflective thematic analysis. In stage two, findings and a prototype intervention were presented at a national conference and refined through stakeholder discussions (n = 34), followed by further thematic analysis.
Results: Five themes emerged: early preparation, linking physical activity to well-being, social support, personalization, and a lifelong perspective. Stakeholder validation identified four further considerations: workplace readiness, community and societal involvement, inclusive and adaptive programme design, and incentivization. These informed a conceptual intervention model integrating behavioral, social, and organizational components.
Conclusions: A multi-stakeholder, theory-informed approach enabled development of a comprehensive intervention framework. Future work should focus on implementation and evaluation in practice.
Implications: The model provides a foundation for physiotherapy practice, health promotion, and policy supporting active ageing through the retirement transition.
Funding acknowledgements: None declared.

EP145 - SC1
DEVELOPMENT AND EVALUATION OF HOP-IN AND LET'S GET MOVING IN A PHILIPPINE GOVERNMENT FINANCIAL INSTITUTION
Carlos Olegario
University of the Philippines Manila

Background: Physical inactivity is a leading risk factor for noncommunicable disease mortality. Despite WHO recommendations of 150 minutes of moderate-intensity activity weekly plus muscle-strengthening on two or more days per week, workplace implementation remains challenging. In a large Philippine government financial institution (~12,000 office workers), nearly half of surveyed employees (49%; n = 138/282) reported no participation in muscle-strengthening activities.
Methods: "HOP-In and Let's Get Moving!" was designed using the COM-B model, Theoretical Domains Framework, and Behavior Change Wheel to improve employee capability, opportunity, and motivation for an active lifestyle. A needs assessment informed the design, highlighting muscle-strengthening and social support as key intervention areas. The 8-week physical therapist-led program included fitness assessments, group exercise sessions, and educational workshops on goal-setting and barrier management, held weekly in the company gym after work hours. Evaluation was guided by the RE- AIM framework.
Results: The program reached only 0.37% of potential participants (n = 44/12,000), with most attending just 1–2 sessions. Despite limited reach, participants reported improvements in physical activity levels, motivation, and perceived health benefits. Group exercise fostered colleague camaraderie and enhanced engagement. Primary barriers included scheduling conflicts, low workshop attendance, and incomplete assessments.
Conclusions: Future programs should adopt participatory design, offer flexible scheduling, and strengthen organizational support through protected activity time. Addressing both individual behavior and organizational policy would improve program success. Clinical Implications: Clinical expertise in exercise programming and behavior change provides a strong foundation for workplace health promotion, enabling clinicians to partner with management in building healthier workplace systems.
Funding acknowledgements: The author received monetary funding from the institution for the run of the program.

EP151 - SC1
SINGLE-LEG HOP TEST FOR DISTANCE IN HEALTHY INDIVIDUALS 40 YEARS AND OLDER
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Background: Locomotor functions, such as strength and balance, decline with age, potentially leading to functional limitations and reduced quality of life. Functional assessments with normative values for healthy individuals are therefore essential. The Single Leg Hop Test for Distance (SLHTD) is a potential measure of strength but has been scarcely investigated in those aged 40 years and older.
Purpose: The primary aim of this study is to provide normative values for the SLHTD in individuals aged 40 years and older. A secondary aim is to investigate the influence of age, gender, BMI, physical activity, and leg dominance on jump distance, as well as to compare different jump protocols.
Methods: The cross-sectional study analyses data from 88 healthy individuals aged 40-80 years. The statistical analysis includes group comparisons as well as correlation and regression analyses. Recruitment is ongoing.
Results: The study provides sex-specific normative values for the SLHTD across different age groups. Age and BMI are negatively correlated with jump distance (ρ = -0.48 and -0.36, respectively, $p < 0.01$), while men achieved higher jump distances overall than women ($r = 0.33$). There was no correlation between physical activity and jump distance. Arms use significantly increased jump distance, while there were no significant differences between the dominant and non-dominant foot.
Conclusion: The SLHTD is sensitive to the influences of age, gender, and BMI.
Implications: The normative values collected simplify the early detection of age-atypical deviations, relevant for screening and prevention of functional limitations.
Funding acknowledgements: None declared.

EP147 - SC1
PERCEIVED RELATIONSHIPS BETWEEN PHYSICAL ACTIVITY, SLEEP QUALITY, AND SELF-ESTEEM AMONG HEALTHY YOUNG ADULTS IN THE UNITED KINGDOM
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University of Brighton

Background: Physical activity, sleep quality, and self-esteem are well-established determinants of health and wellbeing among young adults. Existing literature demonstrates that each factor independently contributes to overall health; however, much of this evidence is derived from quantitative studies examining variables in isolation.
Purpose: To explore how healthy young adults who use wearable tracking devices perceive the interrelationship between physical activity, sleep quality, and self-esteem.
Methods: A qualitative, exploratory design was adopted, with ten healthy young adults who regularly used a wearable device (released in 2020 or later) recruited. Semi-structured interviews were conducted remotely via Microsoft Teams, audio-recorded and transcribed verbatim. Data were analysed using Virginia Braun and Victoria Clarke's (2006) six-phase reflexive thematic analysis.
Results: Five overarching themes were identified: 1) Sleep Quality as a Perceived Foundation for Daily Functioning, 2) The Role and Influence of Wearable Technology, 3) Motivators and Barriers Influencing Physical Activity Patterns, 4) Self-Esteem in Relation to Daily Demands and Internal Self-Perceptions and 5) Perceived interconnection Between Sleep Quality, Self-Esteem, and Physical Activity.
Conclusions: Sleep quality emerged as the core variable linking physical activity and self-esteem within the experiences of young adults highlighting a dynamic and two-way relationship between these factors. Also, wearables, while motivating, can also be a source of anxiety and stress.
Implications: Interventions targeting young adults should be more holistic and adopt an integrated approach, simultaneously addressing sleep, physical activity, as well as psychological wellbeing rather than looking at them individually. Future research should explore these relationships longitudinally and in more diverse populations.
Funding acknowledgements: None declared.

EP039 - SC2
BODY COMPOSITION AND INFLAMMATION AS CLINICAL MODIFIERS IN PHYSIOTHERAPY
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Background: Physiotherapy increasingly needs to account for inflammation and body composition as modifiers of pain, recovery, load tolerance, and treatment response. This supports a shift toward precision physiotherapy and lifestyle care.
Purpose: Using the PABTOX cohort as a clinical case example, this Charla aims to show how oncology rehabilitation can inform broader physiotherapy reasoning around body composition, physical activity, treatment tolerance, inflammatory burden, and lifestyle-related recovery capacity.
Methods: PABTOX is a Kom op tegen Kanker-funded observational cohort study in people with breast cancer receiving weekly paclitaxel. It combines pharmacokinetic sampling, body composition assessment using DXA and BIA, accelerometry, toxicity grading, and patient-reported outcomes. This session translates these methods alongside evidence on chronic low-grade inflammation, visceral adiposity, inactivity, sleep and stress.
Results: PABTOX findings, currently under review, will be used to illustrate how body composition and physical activity may help explain inter-individual variation in treatment tolerance, functional burden and recovery capacity. These findings will be framed within lifestyle-related inflammatory mechanisms relevant to physiotherapy.
Conclusions: Body composition and inflammatory context should be considered clinically relevant modifiers, not peripheral lifestyle variables.
Implications: Physiotherapists can translate this into practice through exercise dosing, body composition assessment, lifestyle screening, recovery monitoring and interprofessional referral.
Funding acknowledgements: The PABTOX study was funded by Kom op tegen Kanker, grant number KotK_VUB/2022/13163/1.

INNOVATIVE TECHNOLOGY: INFORMATION MANAGEMENT, BIG DATA AND ARTIFICIAL INTELLIGENCE

EP174 - SC2
CLINICAL 3D PRINTING IN NEUROREHABILITATION: PERCEIVED IMPACT ON SERVICE USERS AND PROFESSIONALS
Georgina Domenech-Garcia
Fundació Aspace catalunya

Background: 3D printing in clinical rehabilitation enables the delivery of personalized assistive solutions for individuals with complex neurodevelopmental and neurological conditions. Since 2022, Fundació Aspace Catalunya has operated an interdisciplinary 3D printing service, developing individualized adaptations to support daily activities and clinical practice. Evaluating the service's perceived value is essential to inform its integration within person-centered and integrated care models.

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Purpose: The primary aim was to analyze the perceived value of a rehabilitation 3D printing service from the perspective of its users. Secondary objectives included assessing its usefulness, impact on daily activities and clinical practice, user experience, and overall contribution to care.
Methods: An anonymous, voluntary survey was conducted with professionals and service users involved in co-design and utilization of personalized 3D-printed assistive devices.
Results: Participants reported a high perceived value of the 3D printing service, aligned with person-centered and integrated care principles. Users noted increased engagement in therapy, enhanced trust in the interdisciplinary team, and strong willingness to recommend the service. Beyond technical functionality, the service facilitated collaboration, personalization, and shared decision-making.
Conclusions: Clinical 3D printing strengthens integrated care models by enhancing user experience, professional collaboration, and perceived value. Future efforts should focus on sustainably scaling the service while maintaining personalization.
Implications: Integrating 3D printing into rehabilitation practice can enhance patient engagement, support collaborative care, and guide physiotherapy education, service management, and policy development. The approach promotes a unified, efficient, and sustainable care model aligned with Fundació Aspace Catalunya's philosophy.
Funding acknowledgements: None declared.

EP171 - SC2
DIGITAL CLINICAL DECISION SUPPORT TO ENHANCE GUIDELINE-ADHERENT PHYSIOTHERAPY FOR INPATIENTS WITH ACUTE STROKE
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Background: Evidence-based practice guidelines are frequently underutilized in routine physiotherapy practice. This challenge is particularly pronounced in large clinical settings, such as university hospitals, where numerous practitioners work across multiple teams.
Purpose: This project aimed to implement a clinical decision support system (CDSS) to promote guideline-concordant physiotherapy and improve quality of care for inpatients with acute stroke.
Methods: A core group developed a standardized physiotherapy treatment algorithm for post-stroke treatment. The recommendations were based on current clinical practice guidelines with expert consensus. Subsequently, a web-based application, a CDSS, was implemented that centrally hosted the algorithm, enabled regular updates, and ensured access for all physiotherapists involved in stroke rehabilitation in the acute phase.
Results: The implementation of a CDSS provides over 70 physiotherapists in the department with immediate access to structured, evidence-based treatment recommendations at the point of care. Recommendations are made on examination, type and intensity of treatment, outcome measurements with their cut-off or MCID scores, and the use of assistive devices. The system supports consistent clinical decision-making while maintaining flexibility for individualized patient care.
Conclusion: Combining a consensus-based treatment algorithm with a CDSS can be a practical and effective strategy for improving guideline adherence in large physiotherapy departments. Structured training and continuous feedback mechanisms are essential for promoting user acceptance and sustainably improving the quality of care. Implication: This model could serve as a transferable approach for other clinical departments and institutions seeking to systematically implement evidence-based guidelines.
Funding acknowledgements: None declared.

EP170 - SC2
THE TRANSPARENCY PARADOX: CLINICAL VALIDATION AND EXPLAINABILITY DRIVE AI ADOPTION IN PHYSIOTHERAPY
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Background: AI-based clinical decision support systems are proposed for physiotherapy practice, yet adoption drivers remain unclear. Whether transparency about AI limitations facilitates or hinders uptake has not been empirically tested.
Purpose: To quantify the relative importance of five attributes—diagnostic precision, explainability, clinical validation, professional control, and transparency about limitations—on adoption preferences among Spanish physiotherapists.
Methods: A discrete choice experiment used a full-profile 2^5 conjoint design (15 profiles; five choice tasks; three hypothetical AI alternatives each). Participants selected the most trustworthy system per task. An aggregated logit model with effects coding (−1/+1) in R provided relative importance weights. Subgroup models were run by professional status, experience, AI familiarity, sex, and age.
Results: 185 physiotherapists completed the survey (925 choices; McFadden $R^2 = 0.225$; $p < 0.001$). Clinical validation was the dominant attribute (29.2%; OR = 2.24), followed by explainability (26.8%; OR = 2.09) and professional control (24.6%; OR = 1.97). Diagnostic precision ranked fourth (9.6%; OR = 1.30). Transparency about limitations showed a significant negative effect (OR = 0.77; $p < 0.001$): systems disclosing limitations were less likely to be selected. This transparency paradox was most pronounced among students ($\beta = -0.418$) and physiotherapists with high AI familiarity ($\beta = -0.382$).
Conclusions: Physiotherapists prioritize clinical validation and interpretability over technical performance. The transparency paradox is a structural ethical challenge requiring regulatory and educational responses beyond system design.
Implications for physiotherapy: Clinical validation and explainability should be prioritized in AI system development. Professional education must normalize uncertainty acknowledgement as a quality indicator to promote responsible AI adoption.
Funding acknowledgements: This work was supported by Spain's Ministry of Science, Innovation and Universities (Grant PID2024-156166OA-I00, CONFIIA project).

EP172 - SC2
ACCEPTABILITY OF AI-BASED VIRTUAL ASSISTANT AMONG PEOPLE WITH MULTIPLE SCLEROSIS AND PHYSIOTHERAPY PROFESSIONALS
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Background: Virtual assistants (VA) have recently been introduced into rehabilitation. They are typically built using LLMs (Large Language Models) utilizing RAG (Retrieval-Augmented Generation) architecture. It is common that they are developed exclusively by technology experts. To ensure the applicability of a virtual assistant in rehabilitation contexts, its development necessitates close collaboration between physiotherapy experts and those in the technology sector. VA integration in the rehabilitation process requires early-phase evaluation of acceptability from both rehabilitees and physiotherapists.
Purpose: This study explores the acceptability of the specifically for MS focused virtual assistant among people with MS (pwMS) and rehabilitation professionals.

Methods: Separate focus group interviews were conducted with pwMS and with rehabilitation experts following hands-on testing of the VA. Data were analyzed using qualitative content analysis.
Results: Rehabilitee acceptability was supported by perceived usefulness, usability, and fast access to understandable information. Trust was central but ambivalent, shaped by limited source transparency. Emotional reactions spanned reassurance to cautious skepticism. Experts viewed acceptability as conditional and dependent on information reliability, source transparency, and professional relevance. VA was useful for general information and patient support but insufficient for in-depth expert knowledge or decision-making.
Conclusions: To enhance the acceptability of VA, a 3-month pilot study in the MS rehabilitation process will be conducted using the second version of VA with validated information sources and a second solution architecture that has been adapted using an instruction fine-tuning method.
Implications: Physiotherapists and rehabilitees should co-design VAs with the technology sector, verify sources, and use VAs as a supportive tool—not decision-makers—in MS rehabilitation.
Funding acknowledgements: The project was funded by the Interreg Baltic Sea Region Program, #CO66.

EP061 - SC2
RELIABILITY OF 4D MOTION CAPTURE SYSTEM VERSUS UNIVERSAL GONIOMETRY FOR UPPER-LIMB ROM: A PILOT STUDY
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Background: Upper-limb range of motion (ROM) assessment is fundamental in musculoskeletal evaluation and rehabilitation outcome monitoring. Traditional tools such as universal goniometry are widely used to measure ROM due to their simplicity and low cost. However, they are examiner-dependent and lack digitization. Markerless 4D (3D+Time) motion capture system (MoCap) offers a non-invasive digital alternative, but its reliability compared to clinical standards requires validation.
Purpose: This pilot study investigated the intra-session reliability and feasibility of a markerless 4D-MoCap for assessing shoulder abduction and elbow flexion ROM compared to universal goniometry.
Methods: Twelve healthy participants performed three repeated trials of shoulder abduction and elbow flexion. This number was selected based on the rule of thumb by Julious (2005) (1). ROM was extracted from 4D-motion frames via manual 2D digitization in ImageJ and compared with universal goniometry. Intra-session reliability was assessed using Intraclass Correlation Coefficients (ICC) with a two-way mixed-effects model.
Results: For shoulder abduction, the 4D motion capture system demonstrated good reliability (ICC = 0.762; CI = [0.370, 0.923]; $p < 0.001$). However, for elbow flexion it exhibited relatively poor reliability (ICC = 0.443; CI = [0.063, 0.767];$p = 0.024$).
Conclusion: Markerless 4D-MoCap is feasible for shoulder ROM assessment. However, significant reliability limitations exist for elbow flexion when using manual 2D digitization.
Implications: Findings suggest that while 4D-MoCap is promising for large-joint assessment, future research should focus on automated joint tracking to improve accuracy for complex joints such as the elbow, reduce processing time, and validate in larger sample sizes to enhance the clinical applicability of markerless motion analysis.
Funding acknowledgements: None declared.

EP173 - SC2
COULD ARTIFICIAL INTELLIGENCE IMPROVE STRENGTH IN PATIENTS WITH MULTIPLE SCLEROSIS VERSUS THE TRADITIONAL EXERCISE METHOD?
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Background: Multiple sclerosis (MS) is a neurodegenerative, immune-mediated disease of the central nervous system and the most common cause of disability in young adults. Muscle weakness is one of the main symptoms, and evidence suggests that strength training may help control or improve it. Tele-exercise has emerged as a strategy to improve accessibility by enabling home-based exercise programs. Within this context, Artificial Intelligence (AI) tools may facilitate monitoring, tracking, and individualized exercise guidance.
Purpose: To evaluate changes in muscle strength (estimated maximum strength and strength endurance) in people with MS, comparing outcomes between a conventional tele-exercise program and an AI-based application.
Design: Randomized controlled clinical trial; single-blind design; control group (CG) and experimental group (EG). Estimated sample: 58 participants.
Methodology: Participants completed three weekly strength-training sessions over 20 weeks. The EG performed the program using an AI- powered application, while the CG followed a conventional method based on paper instructions with video support. Assessments were conducted at baseline, at 10 weeks, and at 20 weeks. Primary outcomes included estimated maximum strength (based on eight repetitions) and strength endurance (maximum repetitions performed in 30 seconds).
Results: No statistically significant differences were found between groups in maximum strength or strength endurance. However, significant intragroup improvements were observed in several primary and secondary variables.
Conclusions: AI-based tele-exercise was not superior to the conventional method but showed comparable effectiveness.
Implications: AI-supported tele-exercise may represent an accessible tool to complement physiotherapy and improve remote exercise monitoring. Further research with larger samples and standardized protocols is required.
Funding acknowledgements: None declared.

EP117 - SC1
INNOVATION AND TEACHING EXCELLENCE: EVALUATION OF LEARNING OUTCOMES AND EFFICACY OF ANATOMAGE IN THE PHYSIOTHERAPY DEGREE
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Background: Technological tools like the Anatomage virtual dissection table for the assessment of preclinical skills increase motivation and provide deep three-dimensional (3D) visualization, overcoming several limitations of traditional education.
Purpose: To evaluate the efficacy of Anatomage in developing the competencies of students in the Physiotherapy Degree, analyzing its empirical impact within specific subjects of the discipline.
Methods: An empirical evaluation of the Anatomage table was conducted with 358 students enrolled in the "Physiotherapy Degree" in ten subjects. A specific assessment rubric was designed for

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preclinical practices. Complementarily, student and teacher satisfaction was evaluated through an official internal quality questionnaire for the Physiotherapy Degree.
Results: High student satisfaction, with an estimated 84% indicating positive perception. Satisfaction scores regarding 3D spatial understanding and applying knowledge to clinical scenarios are projected to reach a mean of 4.17 ± 0.78 out of 5. Students' clinical confidence is also expected to increase significantly (mean 3.87 ± 1.01). In preclinical assessments, students using Anatomage are anticipated to achieve higher academic performance (mean 33.0 ± 2.4) compared to theoretical methods (mean 26.6 ± 4.8). Furthermore, similarity in case reports is expected to drop to 4.17% compared to 12.62% in traditional formats.
Conclusion: Anatomage technology as a complementary teaching resource is highly effective in improving practical competencies, long-term knowledge retention, and the overall performance of Physiotherapy students.
Implications: Integrating immersive technological tools and specific assessment rubrics within Physiotherapy teaching guides helps connect abstract theoretical knowledge with active experimentation and clinical reasoning for future professionals.
Funding acknowledgements: None declared.

EP177 - SC2
FULLY IMMERSIVE VIRTUAL REALITY PHYSICAL EXERCISES FOR PATIENTS WITH SUBSTANCE USE DISORDERS IN CONFINED FACILITIES
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The rehabilitation of patients with substance use disorders SUD involves confinement to inpatient facilities with structured daily routines and limited access to sports and recreational outdoor activities. This is very prevalent globally, where there is limited space for outdoor activities for people who are undergoing rehabilitation. Those restrictions might exacerbate physical inactivity and negative emotions and cravings among those patients, particularly in resource-limited economies. Being in a confined space increases the risk of a sedentary lifestyle and worsens withdrawal symptoms, depression, and suicide risk. Physical exercise works by boosting dopamine signaling and enhancing neuroplasticity. Previous studies confirmed the acute efficacy of virtual reality VR exercises in patients with SUD but not specifically while incorporating physical exercises in confined rehabilitation facilities. This study is proposed to assess the efficacy of VR exercises in the treatment of patients with SUD receiving rehabilitation in confined facilities.
Funding acknowledgements: None declared.

MENTAL HEALTH

EP028 - SC1
PARENTAL EXPERIENCES OF ENCOURAGING HEALTHY HABITS AND MAINTAINING RELATIONSHIPS WITH CHILDREN FACING SCHOOL ABSENTEEISM
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Background: Problematic school absenteeism is closely linked to mental health difficulties that complicate school reintegration. Affected children often reduce physical activity and increase screen time, influencing mental well-being.
Purpose: This study explored parents' experiences of how physical activity and screen time affect the mental health of children with current or past problematic school absenteeism.
Methods: Twelve parents of children aged 13–20 years participated in semi-structured digital interviews. Data were analyzed using qualitative content analysis.
Results: Parents described challenges in maintaining healthy routines due to emotional strain, child resistance, and practical barriers. Screen time was perceived as both supportive—providing social contact—and detrimental, contributing to isolation and inactivity. Physical activity was viewed as beneficial but difficult to initiate during periods of anxiety, exhaustion, or school-related stress. Parents emphasized guilt, uncertainty, and the importance of acknowledging each child's individual capacity.
Conclusion: Individualized support promoting manageable physical activity and balanced screen habits may strengthen mental health and resilience in this group.
Implications: Physiotherapists' expertise in physical activity and behavioral medicine is crucial. Their competence supports the creation of flexible, tailored activity plans that adjust to fluctuating mental health and energy levels. Strategies such as graded activity, enjoyable low-pressure movement, and home-based options can help children re-engage in physical activity while reducing stress for families.
Funding acknowledgements: None declared.

EP130 - SC2
BODY AWARENESS IN PAIN RELIEF IN PATIENTS DIAGNOSED WITH POST-TRAUMATIC STRESS DISORDER. A SYSTEMATIC REVIEW
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Background: Childhood trauma is a major public health concern and is associated with an increased risk of developing posttraumatic stress disorder (PTSD) and chronic pain in adulthood. In recent years, body awareness-based interventions have emerged as potential therapeutic approaches within the biopsychosocial model, aiming to address both psychological and somatic aspects of trauma.
Purpose: To analyze the effectiveness of body awareness-based interventions in reducing chronic pain and psychological symptoms of PTSD in adults with a history of childhood trauma.
Methods: A systematic review was conducted following PRISMA guidelines. Literature research was performed in PubMed, Scopus, Web of Science, and PsycINFO. Randomized controlled trials involving adults with PTSD or a history of childhood trauma who received body awareness or mind–body interventions were included.
Results: A total of 3411 studies were identified, of which 7 randomized clinical trials met the inclusion criteria. Sample sizes ranged from 30 to 303 participants. Interventions included yoga, mindfulness-based therapies, mind–body skills programs, breathing techniques, and hyperbaric oxygen therapy. Overall, results suggested improvements in PTSD symptoms, chronic pain, emotional regulation, and quality of life.
Conclusions: Body awareness-based interventions appear to be a promising complementary approach for reducing chronic pain and trauma-related symptoms in individuals with a history of childhood trauma. Nevertheless, the current evidence remains limited and heterogeneous, highlighting the need for larger and more methodologically robust randomized controlled trials.
Implications: Body awareness interventions could be an effective intervention to alleviate the symptoms of chronic pain and PTSD symptoms.
Funding acknowledgements: None declared.

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EP142 - SC3

PRELIMINARY RESULTS ON THE EFFECTIVENESS OF EXERCISE ON HEALTH AND WELLBEING IN PREGNANT AND POSTPARTUM WOMEN

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Introduction: Pregnancy and postpartum are two key stages in a woman's life when quality of life may be affected. Physical exercise supervised by physiotherapists has proven to be effective in other stages of life; however, few studies have simultaneously addressed the impact of exercise throughout both pregnancy and the postpartum period.
Objective: To evaluate the effectiveness of physical exercise performed during pregnancy and the postpartum period in improving postpartum depression, urinary incontinence, and lumbopelvic pain.
Methods: This study follows a prospective, longitudinal, and pre-experimental design, with a sample of 25 pregnant women performing supervised physical exercise twice a week. Participants received an exercise intervention from their enrollment until 40 days postpartum, alongside a video guide on immediate postpartum care. Postpartum depression was measured using the Edinburgh Postnatal Depression Scale; lumbopelvic pain was assessed via the Visual Analogue Scale (VAS) and the Oswestry Disability Index; and urinary incontinence symptoms and impact were evaluated using the ICIQ-SF, UDI-6, and IIQ-7 questionnaires. Statistical analysis comparing means for related samples was performed, with all tests conducted at a 95% confidence interval.
Results: Significant improvements were found for depression, pain, and incontinence variables between the 32nd week of pregnancy and the 40th day postpartum.
Conclusion: Quality of life, postpartum depression, lumbopelvic pain, and urinary incontinence: a greater number of clinical trials in this field are necessary.
Implications: These findings aim to provide stronger evidence about pain and mental health management in pregnant and postpartum women.
Funding acknowledgements: None declared.

EP149 -SC1

TRAUMA-INFORMED PHYSICAL ACTIVITY FOR YOUNG PEOPLE WITH MENTAL HEALTH CHALLENGES

Arnaud Philippot, KULEUVEN

Arnaud Philippot[1,2,3], *Irène Ibanez*[1], *Marine Coppens*[1,2], *Denis Grogna*[1], *Vincent Dubois*[1], *Tine Van Damme*[3], *Davy Vancampfort*[3,4,5]
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Background and Objectives: Traumatic experiences constitute a significant barrier to physical activity (PA) participation among adolescents with mental health challenges. Community-level PA coaches play a pivotal role in shaping inclusive and psychologically safe sporting environments; however, most receive no formal training in trauma-informed approaches. This study aimed to evaluate the acceptability, appropriateness, and feasibility of trauma-informed PA training for community- level coaches, and to assess its short- and long-term effectiveness on coaches' confidence, knowledge, and real-world practice.
Methods: A mixed-methods design, grounded in implementation science, was employed. A three-hour interactive workshop was delivered to community PA coaches in Brussels, co-facilitated by mental health professionals and young adults with lived experience of adolescent depression. Quantitative outcomes - including acceptability, appropriateness, feasibility (AIM, IAM, FIM), and coaches' confidence and knowledge (Visual Analog Scale) - were assessed at pre-training, immediately post-training, and at six-month follow-up. Qualitative semi-structured interviews conducted at six months post-training explored sustained impact across Kirkpatrick's four evaluation levels.
Results and Discussion: Findings suggest that the training was well-received and perceived as appropriate and feasible for community PA settings. Coaches demonstrated significant improvements in confidence and knowledge, with gains largely maintained at follow-up. Qualitative data highlighted meaningful behavioral changes in coaching practice and enhanced capacity to foster psychologically safe environments for adolescents with trauma histories.
Conclusion: Targeted trauma-informed training represents a scalable, effective approach to building coach capacity and promoting equitable PA participation for vulnerable youth. We suggest briefly presenting the results and transforming the training from this study into a clinical workshop for the congress: Abstract of the clinical workshop.
Funding acknowledgements: The author(s) received Huoshen Funds and Innoviris Funds.

MUSCULOSKELETAL

EP021 - SC1

PHYSIOTHERAPY-RELATED COGNITIVE AND PERSONALITY FACTORS IN MOVEMENT AND DISEASE PROGRESSION IN FIBROMYALGIA: A LONGITUDINAL STUDY

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Background: Fibromyalgia is a chronic nociplastic pain condition with persistent pain, fatigue, and disability. Physiotherapy is central to management, yet outcomes vary. Movement-related cognitions and personality traits may shape movement engagement and symptom trajectories, but longitudinal evidence in routine physiotherapy contexts is limited.
Purpose: To examine whether movement-related cognitive factors predict clinical progression at 6 and 12 months, and whether personality-related traits moderate these trajectories.
Methods: A longitudinal observational study was conducted in adults with fibromyalgia (n = 64) (CEIM_CHUC_2024_27). Baseline assessments included fear of movement (TSK), pain catastrophizing (PCS), pain self-efficacy (PSEQ), and personality-related variables, including neuroticism, resilience, and coping style, which were measured at baseline, 6 months, and 12 months. Longitudinal regression models were used to evaluate associations and interaction effects.
Results: Higher baseline fear of movement and catastrophizing were associated with poorer outcomes at both 6 and 12 months (β = 0.31–0.42; $p < 0.01$). Greater self-efficacy predicted more favorable functional progression ($\beta = -0.28$; $p = 0.002$). Subgroup analyses revealed that participants with higher neuroticism and lower resilience showed significantly poorer symptom trajectories, whereas adaptive coping profiles were associated with improved functional

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outcomes over time (interaction $p < 0.05$). These effects were more pronounced at 12 months.
Conclusions: Both movement-related cognitive factors and personality-related traits contribute to longitudinal disease progression in fibromyalgia.
Implications: Physiotherapy interventions incorporating cognitive-behavioral principles and personalized strategies may enhance long-term outcomes by addressing individual psychological profiles.
Funding acknowledgements: None declared.

EP065 - SC1
WHY IS IT IMPORTANT TO ASSESS KNEE ANTERIOR LAXITY TOGETHER WITH KNEE ROTATIONAL LAXITY?
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Background: Increased knee anterior laxity is an important risk factor to consider when managing knee ligament or traumatic knee injuries, particularly in relation to the anterior cruciate ligament. However, not only increased knee anterior laxity but also rotational laxity, when present, can lead to instability and may be among the most important factors in delayed return to sport in both amateur and professional athletes.
Purpose: The purpose of the study was to explore a possible correlation between rotational and anterior knee laxity.
Methods: Knee anterior laxity and rotational laxity were assessed using a DYNEELAX® arthrometer in 73 healthy subjects without knee pathology (39 females and 34 males), and the correlation analysis was conducted between rotational laxity and anterior laxity.
Results: The Pearson correlation coefficient for knee anterior laxity at 134 N with external rotation is 0.157 (-0.075, 0.374), and at 200 N is 0.276 (0.049, 0.476). The Pearson correlation coefficient for knee anterior laxity at 134 N with internal rotation is 0.171 (-0.062, 0.386), and at 200 N is 0.270 (0.042, 0.471). There is a probable correlation between rotational laxity and the knee anterior laxity test at 200 N ($p < 0.05$).
Conclusions: Based on the Pearson correlation coefficients, weak positive relationships between anterior laxity and tibial rotation are evident.
Implications: The assessment of the integrity of the intra-articular structures of the knee is crucial in clinical practice. Future studies should investigate the clinical significance of anterior and rotational laxity measured in patients with knee pathology.
Funding acknowledgements: The authors acknowledge the financial support from the Slovenian Research Agency (research core funding no. P3-0388 and P3-0154).

EP129 - SC2
ONE-TIME CONSULTATION PHYSICAL THERAPY AS A DIY SOLUTION
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Background: Clinical experience shows that in some cases the first consultation is enough to solve musculoskeletal problems. This fact has led us to develop a novel service of a one-time consultation based on a visual-health platform.
Purpose: Establishing a one-time online physical therapy consultation service for patients with musculoskeletal problems who need tools for continuous self-care.
Methods: The target population includes HMO members aged 18-70 who are scheduled for a set of frontal physical therapy visits. The consultation is provided on the Zoom platform. A diagnostic examination is performed during the visit involving diverse issues like overweight, diabetes, sleep, medications, menopause, and emotional status. Moreover, the participant is provided with physical exercises, referral to a support group, smoking cessation, and regular physical activity recommendations.
Results: Since January 2025, 1600 HMO members have received the service. During the waiting time for the visit, participants are provided with tools for self-management. Operational data show that 55% of the consultants canceled future visits. Analysis of the time invested in an online, one-time consultation compared to the time invested in a similar consultation provided with a frontal visit shows an efficiency of 42%.
Conclusions: In more than half of our cases, a one-time online consultation led to cancellation of future visits. This new service is emerging as a personalized resolution for a Zoom-oriented population looking for a quick and effective solution (Do It Yourself).
Implications: On a professional level, the new service positions the physical therapist as a consultant, being the first line for musculoskeletal problems.
Funding acknowledgements: None declared.

EP057 - SC2
COMPARISON OF THE DRY NEEDLING METHOD WITH CLASSICAL METHODS AND THE SHOCKWAVE METHOD IN THE TREATMENT OF HEAD, NECK AND SHOULDER PAIN
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Introduction: Myofascial Pain Syndrome (MPS) in the cervical and shoulder regions, caused by active trigger points, significantly impairs functional capacity and is frequently associated with pain catastrophizing. Although classical physiotherapy is a standard treatment, dry needling (DN) and radial shockwave therapy (RSWT) have emerged as effective adjunctive modalities. This study compared the clinical effectiveness of these three approaches using functional and psychological outcome measures.
Methods: Ninety-nine patients with cervical MPS were allocated into three groups: standard physiotherapy (SP), DN + SP, and RSWT + SP. Treatments were administered twice weekly for five weeks (10 sessions). Outcomes included the Neck Disability Index (NDI), Pain Catastrophizing Scale (PCS), cervical Range of Motion (ROM), and muscular force measured with a hand-held dynamometer. Assessments were performed at baseline, after 5 sessions, and after 10 sessions. Statistical analysis included ANCOVA, MANCOVA, paired t-tests, and LSD post hoc testing (IBM SPSS v26.0).
Results: After 5 sessions, RSWT demonstrated the greatest short-term improvement (PCS: 36.55→24.18; NDI: 27.91→16.09; ROM: +19.27°; strength: +1.18). DN showed slower early changes (PCS: 36.91→30.18; NDI: 27.82→21.36; ROM: +14.73°; strength: +0.91). After 10 sessions, DN achieved the largest long-term gains (PCS: 17.27; NDI: 13.82; ROM: +28.36°; strength: +1.82). Standard physiotherapy showed moderate improvements (PCS: 36.36→20.00; NDI: 27.97→16.91; ROM: +18.18°; strength: +1.09).
Conclusion: RSWT + SP provided superior short-term outcomes, while DN + SP produced greater long-term functional and strength improvements.
Funding acknowledgements: None declared.

EP058 - SC2
LASER THERAPY VERSUS DRY NEEDLING IN THE TREATMENT OF UPPER TRAPEZIUS MYOFASCIAL PAIN SYNDROME: A SYSTEMATIC REVIEW AND META-ANALYSIS
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Background: Myofascial pain syndrome (MPS) is a major contributor to musculoskeletal disorders in the general population, with a lifetime prevalence of up to 85%. (1) Dry needling and laser therapy are common treatment methods (2–4), but the superiority of one over the other remains uncertain.
Purpose: We aimed to compare the effectiveness of DN and laser therapy in improving pain and function in people with upper trapezius MPS.
Methods: Seven databases were searched from inception to July 2025. Two reviewers independently screened the titles, abstracts, and full text of the retrieved studies. We used RoB2 to assess the quality of the included studies and the GRADE framework to assess the certainty of evidence. Random-effects meta-analyses were conducted, and effects were quantified at short-term (≤ 12 weeks).
Results: Eight trials were included (n = 353), all of which were at high risk of bias. No statistically significant difference between DN compared with LLLT or HILT in reducing pain intensity (MD: -0.38; 95% CI: -1.65 to 0.90; P = 0.56; I2 = 94%), (MD: -0.33; 95% CI: -0.83 to 0.18; P = 0.21; I2 = 0%), or function (MD = -1.66; 95% CI: -4.16 to 0.83; P = 0.19; I2 = 0%).
Conclusion: No significant difference exists between the two interventions. However, the certainty of evidence is very low to low.
Implications: Future studies should focus on long-term follow-up, especially investigating the effects of HILT and DN, with standardized parameters, application techniques, specification of chronicity, the type of trigger points, and proper blinding.
Funding acknowledgements: None declared.

EP109 - SC3
DIFFERENCES IN HAND GRIP STRENGTH BETWEEN PHYSIOTHERAPY STUDENTS WITH AND WITHOUT SYMPTOMS OF LOW BACK PAIN

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Background: Hand grip strength (HGS) is widely recognized as a reliable indicator of overall muscle function and has important clinical implications.
Purpose: This study aimed to examine whether differences in HGS exist between students with and without symptoms of low back pain (LBP) and whether pain intensity is associated with HGS.
Methods: A cross-sectional study was conducted among physiotherapy students (N = 223; 63% female), with a mean age of 21.5 ±1.4 years and a body mass index of 23.5 ± 3.9 kg/m². Participants completed a questionnaire on demographic characteristics and the presence of LBP in the past three months, including pain intensity assessed using a visual analogue scale. HGS of the dominant hand was measured three times, and the maximum value was used for analysis. An independent samples t-test compared students with and without LBP, Fisher's exact test assessed sex differences, and Pearson's correlation coefficient (r) evaluated the association between pain intensity and HGS.
Results: The proportion of students with symptoms of LBP in the past 3 months was 68.6%, with higher prevalence among female participants (p < 0.001). Students with LBP had significantly lower HGS than those without symptoms (34.8 ± 10.7 kg vs. 40 ± 12.5 kg; p = 0.002). A weak negative correlation was observed between pain intensity and HGS (r = -0.150, p = 0.025).
Conclusion: Students with LBP exhibit lower HGS, which may also be associated with greater pain intensity.
Implications: Further research should explore whether HGS screening could contribute to LBP prevention.
Funding acknowledgements: This research was funded by the Faculty of Kinesiology Osijek, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia.

EP118 - SC1
PREVALENCE OF HANDGRIP STRENGTH ASYMMETRY AND SEX DIFFERENCES AMONG PHYSIOTHERAPY STUDENTS

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Background: Handgrip strength (HGS) is a simple and reliable indicator of upper limb muscle function and overall physical health. Differences between dominant and non-dominant hand strength may indicate a potential risk of functional impairments.
Purpose: This study aimed to examine differences in HGS between the dominant and non-dominant hand and to assess sex-related differences in HGS asymmetry among physiotherapy students.
Methods: A cross-sectional study included 223 students (63% female; mean age 21.5 ± 1.4 years; body mass index 23.5 ± 3.9 kg/m²). HGS was measured three times for each hand, and the highest value was used for analysis. Asymmetry was calculated as the percentage difference between dominant and non-dominant hand strength and categorized as small (≤10%), moderate (10–20%), or large (≥30%).
Results: The dominant hand showed greater strength than the non-dominant hand (36.4 ± 11.5 kg vs 33.4 ± 11.4 kg). In males, HGS was 48.0 ± 9.6 kg (dominant) and 45.0 ± 9.5 kg (non-dominant), while in females it was 29.6 ± 5.6 kg and 26.6 ± 5.7 kg, respectively. Small asymmetry was observed in 61% of males and 41.8% of females, moderate in 24.4% and 36.9%, and large in 14.6% and 21.3%, respectively. Mean asymmetry was greater in females (12.6% ± 12.7%) than males (7.7% ± 13.6%; p = 0.008).
Conclusion: Physiotherapy students showed low to moderate HGS asymmetry. Females demonstrated greater asymmetry.
Implications: Assessing HGS asymmetry may provide additional insight into upper limb function and could help identify individuals at risk of future functional impairments.
Funding acknowledgements: This research was funded by the Faculty of Kinesiology Osijek, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia.

EP131 - SC2
ILLNESS PERCEPTIONS AS A MISSING CLINICAL TARGET IN COMMON MUSCULOSKELETAL DISORDERS: A QUALITATIVE CSM SYNTHESIS

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Background: Although scientific progress has moved toward biopsychosocial models, clinical practice for musculoskeletal (MSK) disorders remains dominated by a biomedical approach. Patients

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interpret persistent pain as structural damage or wear and tear, which shapes their expectations for recovery.
Purpose: This report synthesizes evidence from qualitative studies regarding illness perceptions in patients with common MSK conditions (such as chronic low back pain and osteoarthritis), using the Common Sense Model (CSM).
Methods: A semantic search was conducted in academic databases. Forty-two sources were selected based on qualitative design, an adult population with chronic pain, and application of CSM dimensions. Data were extracted focusing on identity, cause, timeline, consequences, control, and emotional representations of illness.
Results: Patients maintain biomedical perceptions, attributing their pain to injuries, posture, or aging. They view their conditions as chronic and progressive, which generates feelings of hopelessness and fear. Emotional representations are pervasive but are rarely addressed by professionals. Additionally, contradictory communication from clinicians and beliefs held by family members reinforce avoidance behaviors and disability. Half of the reviewed sources explicitly applied the CSM, demonstrating that this model offers a coherent but incomplete clinical implementation framework for understanding the patient experience.
Conclusions and Implications: The CSM helps to understand the patient's lived experience. There is a mismatch between professional models and patients' ingrained beliefs, fueled by interactions focused on physical aspects. Physiotherapists should actively integrate all dimensions of the CSM into consultations, especially emotions and self-efficacy, using empathetic and consistent communication to promote active and empowered pain management.
Funding acknowledgements: None declared.

EP064 - SC2
ASSESSMENT PRACTICES IN CLINICAL PILATES: AN E-SURVEY OF PHYSIOTHERAPISTS IN SÃO PAULO, BRAZIL
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Clinical Pilates is widely used by physiotherapists for the management of musculoskeletal disorders. Although evidence supports its effectiveness in reducing pain and disability, there is limited consensus regarding standardized assessment in clinical practice. A biopsychosocial framework based on the International Classification of Functioning, Disability and Health (ICF) may support clinical assessments. This study aimed to investigate assessment methods used by physiotherapists practicing Clinical Pilates in São Paulo, Brazil. This cross-sectional descriptive study was conducted using an electronic survey (e-survey) developed on the REDCap platform. The questionnaire followed CHERRIES recommendations and included structured questions addressing sociodemographic and professional characteristics and clinical assessment practices. Survey items were organized according to ICF domains, including body structure and function, activity and participation, and personal factors such as mental health. The survey was distributed through communication channels of the Regional Council of Physiotherapy and Occupational Therapy of São Paulo (CREFITO-3) and professional networks. A total of 171 responses were received. After eligibility screening, 101 questionnaires were considered valid, with 91 physiotherapists reporting clinical practice with Pilates. Most respondents (84%) reported performing patient assessments before Pilates interventions; however, 60% used non-standardized methods and only 19% used validated instruments. Pain, muscle strength, flexibility, posture and range of motion were the most frequently assessed domains, while mental health and quality-of-life assessments were rarely reported. Although physiotherapists commonly perform patient assessments in Clinical Pilates practice, standardized tools remain infrequently used. These findings highlight the need for greater integration of standardized biopsychosocial assessment tools in Pilates-based physiotherapy practice.
Funding acknowledgements: This study was supported by CNPq, CAPES and FAEPA.

EP069 - SC1
EFFECTS OF AURICULAR TRANSCUTANEOUS VAGUS NERVE STIMULATION IN A WOMAN WITH LONG-STANDING FIBROMYALGIA: A CASE REPORT
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Background: Fibromyalgia (FM) is a central sensitization syndrome characterized by chronic widespread pain and autonomic dysfunction, yet evidence for transcutaneous vagus nerve stimulation (tVNS) in long-standing severe FM remains scarce.
Purpose: To evaluate the multidimensional clinical and physiological effects of a 20-session auricular tVNS protocol in a 68-year-old woman with 20 years of FM evolution (FIQ-R: 82.2) and characterize the longitudinal autonomic response pattern.
Methods: A standardized auricular tVNS protocol (biphasic current, 25 Hz, 450 µs) was applied over 20 sessions. Outcomes included FIQ-R, SF-36, BAI, BDI-II, PSQI, and McGill at sessions 1, 10, and 20. HRV recordings (RMSSD, HF, LF/HF) were obtained pre- and post-stimulation each session.
Results: Improvements were observed in FM impact (FIQ-R: −15.2%), quality of life (SF-36: +61.8%), pain (McGill VAS: −22%), and depressive symptoms (BDI-II: −28.6%). A transient worsening at session 10 coincided with peak stimulation intensity and reduced resting RMSSD (−68.2%), followed by progressive recovery. Sleep quality showed no change.
Conclusions: Auricular tVNS is safe and effective for severe, long-standing FM. The transitional adjustment phase warrants investigation in controlled trials.
Implications: Clinicians should anticipate temporary symptom exacerbation during tVNS in chronic FM to prevent early dropout. The dissociation between functional improvement and resting HRV challenges autonomic indices as sole response predictors, with implications for physiotherapy outcome monitoring.
Funding acknowledgements: None declared.

EP015 - SC2
INTERRUPTING THE CHRONIC PAIN TRAJECTORY: THE IMPORTANCE OF EARLY PHYSIOTHERAPY IN TEMPOROMANDIBULAR DISORDERS
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Background: Temporomandibular disorders (TMD) are a common cause of orofacial pain, affecting approximately 5–12% of the population and occurring frequently in females (1). The etiology of TMD is multifactorial, involving biomechanical, neuromuscular, biopsychosocial, and biological contributors (2). Although physiotherapy plays a central role in management through manual therapy, therapeutic exercise, and patient education, it frequently occurs after symptoms progress toward chronicity, increasing clinical complexity and rehabilitation burden.
Purpose: This project aimed to examine whether early physiotherapy intervention may prevent the progression of TMD from an acute presentation to chronic dysfunction. A secondary objective was to emphasize the importance of timely referral pathways and advocate for earlier integration of physiotherapy within interdisciplinary management.

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Methods: A retrospective observational analysis was conducted to evaluate the association between timing of physiotherapy and chronic symptom burden in patients with TMD.
Results: All cases presented as chronic TMD at intake. Referral delays ranged from 1 to 70 months post-diagnosis. Longer delays were associated with greater clinical complexity and increased treatment duration, whereas earlier referrals required fewer sessions. These findings support the impact of delayed referral on chronicity and treatment burden.
Conclusion(s): Delayed management may contribute to central sensitization, maladaptive motor control patterns, cervical compensation, and increased psychosocial burden. Early physiotherapy intervention may therefore play a critical role in interrupting the transition from acute dysfunction to chronic musculoskeletal pain and improving functional outcomes.
Implications: Structured early referral pathways support early referral and screening of TMD to reduce chronicity, decrease healthcare utilization, and optimize rehabilitation outcomes.
Funding acknowledgements: None declared.

EP068 - SC1
CAN HAND-GRIP STRENGTH PREDICT MOBILITY OUTCOMES AFTER SURGICAL TREATMENT FOR HIP FRACTURES?
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Background: Europe's aging population has led to an increase in hip fractures caused by low-energy falls and osteoporosis. While surgery is the standard for early mobilization, the rising volume of cases strains healthcare resources. There is a need for non-invasive tools at hospital admission to predict postoperative mobility and enhance discharge planning.
Purpose: The study aimed to examine the correlation between hand-grip strength at admission and mobility at discharge in patients undergoing hip fracture surgery.
Methods: This observational study involved 100 patients (mean age 81) cleared for full weight-bearing post-surgery. Grip strength was measured at admission, and mobility was assessed using the de Morton Mobility Index (DEMMI) on the first day after surgery (before rehabilitation) and at discharge on day six. The median hospital stay was 10 days, and the data were analyzed using simple linear regression.
Results: The average grip strength at admission was 19.89, while the average mobility improvement before rehabilitation and at discharge was 19.60 points on the DEMMI scale. A significant positive correlation was identified ($P < 0.001$), indicating that grip strength accounts for 24.4% of the variance in mobility scores.
Conclusions and Implications: Hand-grip strength is a key non-invasive biomarker for predicting mobility outcomes. Stronger grip strength is associated with improved discharge mobility, allowing clinicians to identify patients at risk of inadequate rehabilitation. While useful for group screening and optimizing hospital stays, it shouldn't be the only predictor for individuals. Future research should consider factors like nutrition and cognitive status.
Funding acknowledgements: None declared.

EP055 - SC2
PREVALENCE, PAIN SEVERITY, FUNCTIONAL DISABILITY, AND CONTRIBUTING FACTORS OF NECK PAIN IN KOSOVAR ADOLESCENTS
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Background: Neck pain is a common musculoskeletal complaint among adolescents, leading to functional limitations and early postural strain. With increasing sedentary behavior and electronic device use, identifying modifiable risk factors is essential.
Purpose: This study aimed to determine the prevalence, intensity, and disability of neck pain among Kosovar adolescents and to examine associations with lifestyle and biomechanical factors.
Methods: A cross-sectional study included 217 adolescents aged 15–18 years from the Medical High School "Dr. Ali Sokoli". Data were collected via a self-administered questionnaire on demographics, 12-month and 7-day neck pain prevalence, Visual Analogue Scale (VAS) for pain, Neck Disability Index (NDI), electronic device use, physical activity, sitting duration, and posture. Descriptive statistics and Chi-squared tests were applied.
Results: Twelve-month prevalence of neck pain was 63.6%, and 42.9% reported pain in the last 7 days. Moderate pain was most frequent (53.8%), followed by mild (25.8%) and severe (15.0%). Mean NDI for those with 7-day pain was 12.46 points (24.9%), indicating mild disability. No significant associations were found for device use or physical activity ($p > 0.05$). Prolonged sitting ($\chi^2 = 9.05$; $p = 0.029$) and forward-flexed posture during device use ($\chi^2 = 21.83$; $p < 0.001$) were significantly associated with neck pain.
Conclusions and Implications: Neck pain is common among Kosovar adolescents, with moderate intensity and mild disability. Biomechanical factors, rather than lifestyle factors, are key contributors. Early school-based screening, posture correction, ergonomic education, and reduced sedentary behavior are recommended for prevention and physiotherapy-led interventions.
Funding acknowledgements: None declared.

EP014 - SC2
DIFFERENTIAL EFFECTS OF OSTEOPATHIC TREATMENT AND EXERCISE IN MYOGENIC TMD: PAIN, FUNCTION, AND POSTURAL CONTROL
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Background: Temporomandibular disorders (TMD) are multifactorial conditions affecting pain, function, and sensorimotor control. Their impact on postural stability and the comparative effectiveness of rehabilitation strategies remain unclear, limiting evidence-based physiotherapy guidance and clinical decision-making.
Purpose: To compare the effects of osteopathic manipulative treatment (OMT) and a structured home-based exercise program on pain, function, cervical mobility, postural control, and quality of life in individuals with myogenic TMD, and to examine their effects on dynamic postural stability.
Methods: In this randomized controlled trial, adults with myogenic TMD were assigned to OMT (n = 24) or home exercise (n = 26). Pain intensity (VAS), pressure pain threshold, mandibular movements, cervical range of motion, postural stability, and quality of life were assessed pre- and post-intervention by a blinded assessor. OMT targeted cranio-cervical dysfunction through manual techniques, while the exercise group followed a structured, progressive home-based program.
Results: Both interventions improved pain and pressure pain threshold. OMT produced substantially greater pain reduction ($\Delta = 4.92$ vs. 1.31; $p < 0.001$; $d = 2.78$) and superior improvements in mandibular function, cervical ROM, and quality of life (moderate-to-large effects, $d = 0.62–1.00$). Exercise yielded moderate pain reduction ($d = 0.63$) and selectively improved postural sway velocity ($p = 0.027$; $d = 0.46$), indicating enhanced dynamic postural responsiveness. No between-group differences were observed in global postural stability.

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Conclusions: OMT demonstrated clinically meaningful superiority for pain and functional outcomes, whereas exercise preferentially enhanced dynamic postural control, highlighting distinct but complementary mechanisms.
Implications: A mechanism-based, multimodal approach integrating OMT with targeted exercise may optimize rehabilitation outcomes and improve patient-centered care in TMD.
Funding acknowledgements: None declared.

MUSCULOSKELETAL: LOWER LIMB

EP066 - SC1
PRESSOTHERAPY IMMEDIATELY AFTER KNEE ARTHROPLASTY: EFFECTS ON EDEMA AND FUNCTIONAL RECOVERY. EXPLORATORY CLINICAL STUDY
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Background: Post-operative edema is one of the possible consequences of knee arthroplasty (KA). Pressotherapy and antithrombotic exercises may improve recovery, but comparative data are limited.
Purpose: To evaluate and compare the effects of pressotherapy or antithrombotic exercises on edema, pain, joint range of motion (ROM), and functional performance after KA.
Methods: 67 patients (49 Female) undergoing elective KA were recruited and divided into three groups: pressotherapy (PG), antithrombotic exercises (EG), control (CG). All participants received antithrombotic prophylaxis and physiotherapy. Additionally, twice a day, for thirty minutes, PG underwent pressotherapy (I-Press, I-Tech Medical Division, Scorzè, Italy) while EG performed antithrombotic exercises. Limb circumferences, ROM, pain, and 20-meter walk time (20 mwt) were assessed on postoperative days 1 and 10.
Results: Both PG and EG showed significant reductions in mid-thigh circumference and perceived pain, as well as improvements in knee ROM and 20mwt. The CG also improved in knee ROM and 20mwt, but changes in mid-thigh circumference and pain were not significant. No significant between-group differences were observed for any outcome. Ankle ROM and calf circumference remained unchanged across all groups. In the last days of the study, EG reported boredom and fatigue.
Conclusions: Although between-group differences were not statistically significant, PG and EG showed more favorable trends than standard care alone. Pressotherapy is more efficient and less tiring for patients than antithrombotic exercises.
Implications: Pressotherapy has demonstrated consistent benefits in reducing edema and pain, supporting its use as a safe, efficient and potentially effective tool in early postoperative KA rehabilitation.
Funding acknowledgements: None declared.

EP067 - SC1
VALIDATION OF A LOW-COST CONTINUOUS FORCE MEASUREMENT SYSTEM FOR QUADRICEPS AND HAMSTRING STRENGTH IN HEALTHY YOUNG ADULTS
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Background: Assessment of muscle strength is fundamental to physiotherapy practice. Hand-held dynamometers (HHD) provide valid force measurement but remain costly in resource-limited settings. There is a need for an affordable and accurate tool for continuous force measurement, particularly in developing countries.
Purpose: To design, develop, and validate a low-cost CFMS for measuring quadriceps and hamstring muscle force in healthy young adults (18–25 years), and to compare its output against HHD and surface electromyography (sEMG).
Methods: An exploratory, cross-sectional two-phase study was conducted with 49 healthy adults. The CFMS integrated an S-beam load cell, HX711 amplifier, and ESP32 microcontroller. Concurrent validity was assessed against HHD in 25 participants. All 49 participants underwent simultaneous CFMS and sEMG recording during maximal voluntary isometric contractions. Pearson's correlation and Bland-Altman analysis were applied.
Results: CFMS showed very strong concurrent validity with HHD for knee extension ($r = 0.94$) and knee flexion ($r = 0.88$), with acceptable Bland-Altman agreement (bias: −1.34). Very strong correlations were observed between CFMS average force and sEMG RMS voltage (hamstrings: $r = 0.89$; quadriceps: $r = 0.86$) and mean rectified voltage. Time-to-peak force showed negligible correlations with all sEMG parameters.
Conclusions: The CFMS is a valid, reliable, and cost-effective tool for objective assessment of muscle strength. Future validation in clinical populations and dynamic conditions is recommended.
Implications: The CFMS offers an accessible solution for physiotherapy practice, education, and research in resource-constrained settings, enabling objective neuromuscular assessment without prohibitive costs.
Funding acknowledgements: This study was supported by a UGC Project Grant awarded by Veer Narmad South Gujarat University (VNSGU), Surat, India.

EP157 - SC1
PHYSIOTHERAPY MANAGEMENT OF ILIOTIBIAL BAND SYNDROME IN LONG- DISTANCE RUNNERS: A SYSTEMATIC REVIEW
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CESPU

Background: Iliotibial band syndrome (ITBS) is a common overuse injury in runners and the leading cause of lateral knee pain, with an incidence of 5–14%. Multiple physiotherapy approaches have been proposed for its management.
Purpose: To synthesize and appraise the evidence on the effects of physiotherapy interventions on pain and function in adult

long-distance runners with clinically diagnosed ITBS, and to explore the extent to which these interventions support return to running.
Methods: This systematic review followed PRISMA guidelines and was prospectively registered in PROSPERO (CRD42024533792). Electronic searches were conducted in PubMed, ScienceDirect, Web of Science, LILACS, and SciELO using terms related to ITBS, physiotherapy, and running, for studies published up to April 2024. Randomized controlled clinical trials including adult long-distance runners with clinically diagnosed ITBS and reporting outcomes on pain, function, or return to running were eligible. Methodological quality was assessed using the PEDro scale.
Results: Of 996 records identified, four studies met the inclusion criteria and showed at least moderate methodological quality. Interventions included hip strengthening, stretching programs, manual therapy (mobilization with movement and deep transverse friction), and radial extracorporeal shock wave therapy (RESWT). Overall, physiotherapy reduced pain and improved lower limb function. Hip abductor/external rotator strengthening, mobility training, and RESWT showed the most consistent benefits, although no study reported standardized outcomes on return to running.
Conclusions: Physiotherapy appears effective in reducing pain and improving function in runners with ITBS, though evidence remains limited.
Implications: High-quality trials with standardized and clinically meaningful return-to-running outcomes are needed.
Funding acknowledgements: None declared.

EP070 - SC1
DOES ADDING NEEDLING TO PNF IMPROVE PERFORMANCE? A SINGLE-BLIND RCT COMPARING DRY NEEDLING, ACUPUNCTURE, AND SHAM
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Background: Muscle tightness due to overuse increases the risk of injury and reduces range of motion (ROM), power, and explosive performance. While Proprioceptive Neuromuscular Facilitation (PNF) effectively reduces tightness, its impact on performance is unclear. Needling techniques may enhance these effects.
Purpose: To evaluate the combined effects of PNF with dry needling, acupuncture, or sham needling on ROM, balance, and jump performance.
Methods: Sixty-five active men (20 ± 2 years) with reduced knee ROM were randomly assigned to three groups: dry needling (n = 24), acupuncture (n = 22), or sham needling (n = 19). All participants received PNF for hamstrings and quadriceps once weekly for five weeks. Outcomes included passive knee extension (PKE), passive knee flexion (PKF), unipedal balance, and jump height. Within- and between-group changes were analyzed.
Results: All groups showed significant improvements in PKE, PKF, and jump height. Only the dry needling group showed significant improvement in unipedal balance (27%; $p < 0.001$). Between-group analysis revealed greater gains in the dry needling group for balance (8 ± 9° vs. 2 ± 12° and 0 ± 14°; $p = 0.001$) and jump height (9 ± 7 vs. 4 ± 5 and 3 ± 5; $p < 0.001$).
Conclusions: Combining dry needling with PNF enhances muscle performance more than acupuncture or sham needling.
Implications: Dry needling may be an effective adjunct in physiotherapy to improve performance in athletes requiring stability and explosive power. Further research is needed to confirm long-term effects.
Funding acknowledgements: None declared.

EP040 - SC2
PAIN, FUNCTIONAL PERFORMANCE AND FALL RISK IN OLDER ADULTS WITH AND WITHOUT KNEE OSTEOARTHRITIS
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Background: Knee osteoarthritis (KOA) is prevalent among older adults and is associated with pain, functional impairment, and increased fall risk. Evidence suggests individuals with and without KOA may have distinct clinical and functional profiles but it remains limited.
Purpose: To compare pain, functional performance, and fall risk between older adults (≥60 years) with and without KOA. To examine correlations among pain, function, and fall risk in individuals with KOA.
Methods: Cross-sectional study examining a stratified subsample (30 KOA, 30 non-KOA). Functional performance was assessed using motion capture during OARSI-recommended tasks: 5-Step Stair Climb Test (5-step SCT), Timed Up-and-Go (TUG), and 30-second Sit-to-Stand (30s-STS). Sociodemographic, comorbidity, depression, kinesiophobia, health status, physical function, stiffness, and pain data were collected.
Results: Preliminary analysis (n = 60; 69.0 ± 5.4 years) showed no significant differences in TUG or 5-stepSCT between KOA and non-KOA individuals. KOA group performed worse in 30s-STS ($p = 0.002$; $r \approx 0.40$). In the KOA group, higher pain was associated with lower 30s-STS score (rho = -0.315, $p = 0.014$) and higher BMI (rho = 0.310, $p = 0.016$), while better 30s-STS performance was associated with lower TUG (rho = -0.284, $p = 0.028$). KOA presence was not associated with increased fall risk (Fisher's $p = 0.492$).
Conclusion: KOA mainly impacts lower limb strength rather than mobility or stair performance. Pain and BMI influence functional outcomes.
Implications: 30s-STS may be more sensitive to early functional decline in KOA than mobility or stair tests. Interventions should focus on strengthening, pain, and weight management.
Funding acknowledgements: This work was supported by an educational grant provided by Xunta de Galicia, awarded to PhD students [ED481A-2023-047].

MUSCULOSKELETAL: SPINE

EP056 - SC2
CERVICAL PROPRIOCEPTION AND FEAR OF MOVEMENT IN CHRONIC NON-SPECIFIC NECK PAIN: A SYSTEMATIC REVIEW AND META-ANALYSIS
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Background: Chronic non-specific neck pain (NSNP) is a multifactorial neuromusculoskeletal condition influenced by both physical and psychological factors. Unlike low back pain, no previous review has systematically synthesized the associations between psychological factors and distinct domains of cervical motor and sensory function in chronic NSNP. Understanding these interactions may improve clinical reasoning and rehabilitation strategies under a biopsychosocial framework.
Purpose: To systematically synthesize and quantify associations between multiple domains of neck function (proprioception,

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kinematics, somatosensory function, and motor performance) and psychological features in individuals with chronic NSNP.
Methods: A systematic review and meta-analysis were conducted. Outcomes were categorized into clinically relevant meta-analytic pairs representing cervical proprioception, kinematics, somatosensory function, and motor performance in relation to psychological outcomes. Random-effects models were used to pool correlation coefficients (Pearson's r), and certainty of evidence was assessed using the GRADE approach.
Results: Eleven cross-sectional studies involving 437 participants were included, all presenting moderate risk of bias. A consistent association was identified between impaired cervical proprioception and higher levels of kinesiophobia ($r = 0.30$, $p < 0.05$). Associations between other domains of neck physical function and psychological outcomes were weak. Certainty of evidence was moderate for the proprioception–kinesiophobia association and very low for other outcome pairs.
Conclusions: This meta-analysis demonstrates a reproducible association between impaired cervical proprioception and kinesiophobia in chronic NSNP, suggesting a clinically meaningful link between sensorimotor dysfunction and psychological factors.
Implications: Findings highlight the importance of integrating sensorimotor assessment with psychological screening in physiotherapy management of chronic NSNP.
Funding acknowledgements: None declared.

EP034 - SC1
ASSOCIATION OF SCOLIOSIS TYPE AND CURVE SEVERITY WITH HEADACHE IN ADOLESCENT IDIOPATHIC SCOLIOSIS
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Purpose: This study investigated the relationship between scoliosis type and severity and headache frequency and features in individuals with Adolescent Idiopathic Scoliosis (AIS).
Methods: 65 adolescents (45 females, 20 males; median age 15.0) were included. Cobb angles were measured via the iPinPoint application. Headache variables were assessed using the HARDSHIP questionnaire. Statistical analyses included Kruskal–Wallis, Spearman's correlation, and binary logistic regression.
Results: Participants presented with lumbar (36.9%), double major (32.3%), thoracic (21.5%), and thoracolumbar (9.3%) curves. Cobb angles were significantly higher in thoracic and thoracolumbar types compared to lumbar and double major curves ($p < 0.05$). A significant positive correlation was found between Cobb angle and headache days per week ($r = 0.278$; $p = 0.025$). While headache duration and severity did not differ by type ($p > 0.05$), a Cobb angle ≥ 20° was significantly associated with headache worsening during movement ($p < 0.05$). Individuals whose headaches worsened with movement had a 6.157 times higher risk of having a Cobb angle ≥ 20° (OR = 6.157).
Conclusion: Greater scoliosis severity, particularly in thoracic and thoracolumbar regions, is associated with increased headache frequency. The finding that a 20° curvature threshold significantly increases the risk of movement-related headache intensity suggests that scoliosis severity contributes to somatic symptom burden.
Implications: Clinical evaluation of AIS, especially for curves ≥ 20°, should routinely screen for headaches as a symptomatic manifestation of spinal misalignment.
Funding acknowledgements: None declared.

EP169 - SC2
GERMAN RESEARCH AGENDA FOR PHYSIOTHERAPY IN BACK PAIN IN GENDER ISSUES (GRAPE GENDER)
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Background: Back pain is a leading cause of disability adjusted life years and sick leave worldwide and shows sex- and gender-related differences in health outcomes. In Germany, the diagnosis of back pain accounts for over one quarter of patients utilizing physiotherapy annually. However, gender differences are present in physiotherapy services. Research agendas may structure research on this topic.
Purpose: To identify and prioritize unanswered research questions on gender-sensitive physiotherapy for back pain in Germany and generate a stakeholder-driven research agenda.
Methods: The GRAPe Gender Priority Setting Partnership (PSP) applies the James Lind Alliance methodology. A multidisciplinary steering group (patients, carers, physiotherapists, health professionals) supervises the process. Research uncertainties are collected through a national online survey (open text), followed by coding and clustering of responses according to JLA methodology to develop indicative questions. Uncertainties are verified through evidence checking against systematic reviews and guidelines. A national ranking survey prioritizes remaining uncertainties, followed by a consensus workshop to identify the final prioritization.
Results: Respondents who submitted ≥1 uncertainty included patients and carers (45%), physiotherapists and other health professionals (50%), and other stakeholders (5%). Regarding gender, 77% identified as female, 14% as male, and 8% as diverse or preferred not to specify. Qualitative analysis generated ~140 research questions, which underwent evidence checking.
Conclusion: This PSP is the first national initiative in Germany integrating gender perspectives into physiotherapy research prioritization.
Implications: The resulting Top-10 priorities will guide research funding, support gender-sensitive clinical guideline development, and reduce evidence gaps in physiotherapy of back pain.
Funding acknowledgements: Funded by the Federal Ministry of Research, Technology and Space (BMFTR; funding code: 01GN2542)

EP008 - SC1
CULTURAL INFLUENCES ON CHRONIC LOW BACK PAIN PERCEPTION AND MANAGEMENT IN ITALIAN AND LEBANESE POPULATIONS
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Employer

Background: Sociocultural factors shape how individuals perceive and manage chronic low back pain (LBP). Understanding pain narratives across different cultural contexts is essential for developing culturally sensitive rehabilitation programs. Limited research has examined these experiences across distinct sociocultural settings.
Purpose: To describe the experiences of people with chronic LBP in Italy and Lebanon, and to explore how cultural values, beliefs, and practices influence their perception and self-management of the condition.
Methods: A qualitative approach was used to explore the lived experiences of people with chronic LBP. Thirty-six participants (17 from Lebanon, 19 from Italy) were recruited through purposeful sampling. Data were collected via semi-structured interviews and a structured survey. Inductive thematic analysis was conducted following established guidelines for qualitative research reporting.
Results: Six themes emerged: (1) culture as a lens for pain perception, (2) cultural expectations of endurance, (3) norms internalized as personal preferences, (4) religion as a coping strategy, (5) cultural

influence on perceived pain intensity, and (6) biomedical culture rooted in the community. Findings highlight how cultural beliefs shape pain perception and treatment- seeking behaviour, with religion playing a prominent coping role among participants from Lebanon.
Conclusion: Pain cannot be assessed or managed through a single biological or psychological lens. Cultural factors are integral to understanding and managing chronic LBP. Future research should explore these influences across broader and more diverse populations.
Implications: Physiotherapists should integrate cultural beliefs and religious coping strategies into clinical assessments to improve outcomes for people with chronic LBP in culturally diverse populations.
Funding acknowledgements: None declared.

EP012 - SC2
PSYCHOSOCIAL-LIFESTYLE QUESTIONNAIRES TO PREDICT FACILITATED CENTRAL PAIN PROCESSES IN PEOPLE WITH CERVICOGENIC HEADACHE
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Background: Early detection of facilitated central pain processes is important to optimise treatment outcomes in cervicogenic headache (CeH). Psychosocial-lifestyle questionnaires may offer a simple, non-invasive alternative to pain sensitivity testing, but their predictive value is unclear.
Purpose: To evaluate whether psychosocial-lifestyle questionnaires can predict facilitated central pain processes in adults with CeH.
Methods: In this cross-sectional study, 18 participants completed the Headache Impact Test (HIT-6), Depression Anxiety Stress Scale (DASS-21), Pittsburgh Sleep Quality Index (PSQI), and Central Sensitization Inventory (CSI). Facilitated central pain processes were determined using bilateral pressure pain thresholds at the suboccipital, erector spinae (L1), and tibialis anterior muscles. Receiver Operating Characteristic (ROC) curves, Area Under the Curve (AUC), sensitivity, specificity, and Matthews Correlation Coefficient (MCC) were used to assess the predictive capacity of the questionnaires.
Results: AUCs were unsatisfactory for HIT-6 (0.57), DASS-Stress (0.54), and PSQI (0.52), and acceptable for CSI (0.69) and DASS-Anxiety (0.64). A combined model (HIT-6, CSI, PSQI, DASS-Stress, and DASS-Anxiety) yielded a higher AUC (0.85). However, no questionnaire met the sensitivity + specificity threshold (≥1.5), and MCC values (0.43 to 0.10) indicated poor agreement between predictions and observations.
Conclusion: Despite moderate AUCs for some measures, overall predictive performance was low. AUC alone may overestimate accuracy; MCC provides a more reliable evaluation (sensitivity, specificity, precision, negative predictive value). Further research is needed to improve predictive models.
Implications: Psychosocial-lifestyle questionnaires alone are insufficient for identifying facilitated central pain processes in CeH. Clinicians should use caution and consider multidimensional assessment approaches in physiotherapy practice.
Funding acknowledgements: None declared.

EP060 - SC2
EVIDENCE FROM RANDOMIZED AND NON-RANDOMIZED TRIALS ON SCHROTH AND SEAS IN ADOLESCENT IDIOPATHIC SCOLIOSIS: A SYSTEMATIC REVIEW
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Background: Schroth exercises (SE) and the Scientific Exercise Approach to Scoliosis (SEAS) are widely used in managing mild to moderate Adolescent Idiopathic Scoliosis (AIS), but the supporting evidence remains unclear.
Purpose: This review compares the effectiveness of SE and SEAS in AIS and identifies which approach is supported by more high-quality RCTs and NRCTs published in the last decade.
Methods: Scopus, PEDro, PubMed, and Google Scholar were searched for RCTs and NRCTs with control groups evaluating SE and SEAS in AIS. Studies comparing these approaches with standard care (SC) or other physiotherapy interventions were included. Outcomes assessed included Cobb angle, trunk rotation (ATR), spinal mobility, trunk aesthetics, and quality of life (QoL).
Results: Fourteen studies met inclusion criteria (mean PEDro score 6.9/10, moderate quality). Comparisons included SE vs SEAS, core stabilization, Pilates, SC, Lyon exercises, and SEAS vs SC. Both SE and SEAS improved clinical and functional outcomes in AIS. SE was supported by more high-quality studies, showing consistent improvements in spinal parameters, trunk aesthetics, and QoL. Evidence for SEAS was more limited but demonstrated positive effects in preventing curve progression and improving function.
Conclusion: SE is supported by stronger evidence, showing consistent benefits across multiple outcomes. SEAS also provides benefits but is backed by fewer high-quality studies.
Implications: Both SE and SEAS effectively manage AIS, improving spinal alignment and QoL. SE shows stronger evidence, while SEAS is particularly useful in preventing curve progression and enhancing function. Clinicians should combine both individualized programs and monitor outcomes to optimize care.
Funding acknowledgements: None declared.

MUSCULOSKELETAL: UPPER LIMB

EP059 - SC2
ASSOCIATION OF PSYCHOSOCIAL RISK FACTORS WITH PAIN AND FUNCTIONAL OUTCOMES IN ROTATOR CUFF DISORDERS: A SYSTEMATIC REVIEW
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Background: Psychosocial factors play a critical role in sustaining pain and disability in shoulder conditions, affecting overall quality of life. In rotator cuff disorders (RCDs), understanding the role of psychosocial factors could inform management strategies.
Objectives: To evaluate the association between psychosocial factors and pain and function/disability in individuals with RCD.
Methods: Systematic searches were conducted in CINAHL, Embase, MEDLINE, PsycINFO, and Scopus databases. The PRISMA guidelines were followed. The outcomes were pain and function/disability. Methodological study quality was assessed using the Joanna Briggs Institute critical appraisal tool.
Results: Thirty-eight observational studies (n = 4845; 2024 male, 2170 female) comprising cohort, cross-sectional, case-control, and case series designs were included. Results were presented narratively due to heterogeneity. Over 73% of studies were of medium-high methodological quality. Among 14 psychosocial factors, fear-avoidance, pain catastrophisation, and sleep, with moderate strength of evidence, showed moderate to strong association with functional outcomes. Moderate to strong association, with limited strength of evidence, was observed between poor emotional health and pain severity and impaired function. Varying associations with limited strength were observed between remaining psychosocial factors and pain.

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Conclusion: Fear-avoidance, pain catastrophisation and sleep demonstrated moderate to strong associations with impaired function in individuals with RCDs. Poor emotional health showed a similar association with greater pain and functional impairment; however, supporting evidence was limited.
Implications: Understanding the influence of psychosocial factors can help clinicians screen individual psychosocial variables, enabling stratified care of patients with RCD. Prospective studies with long-term follow-up exploration of the association in RCDs are warranted.
Funding acknowledgements: This project received financial support from the Royal College of Surgeons Ireland Strategic Academic Recruitment (StAR) programme.

EP062 - SC2
TRAUMATIC HAND AND WRIST INJURIES: A RETROSPECTIVE ANALYSIS FROM A TERTIARY UNIVERSITY PUBLIC HOSPITAL IN BRAZIL
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Background: Hand and wrist injuries compromise upper limb function, which is essential for performing daily activities and maintaining independence. They represent a prevalent cause of emergency department visits and hospital admissions, imposing a substantial burden on patients' quality of life and on healthcare systems.
Purpose: To describe patients with traumatic hand and wrist injuries' sociodemographic profile, as well as their injury types, causes, and treatments.
Methods: This was an observational cross-sectional study (Ethical approval CAAE: 76144223.4.0000.5440). Data were collected from medical records of patients with wrist, hand, and finger trauma, classified by ICD-10 (S60-S69) during 2022, and were analyzed.
Results: Of the 709 traumas identified, 383 cases were of wrist, hand, and finger trauma. Most patients were men (77.8%) aged 26-30 years, single (47.5%), and students (29.8%), having low levels of education. Most traumas happened in Ribeirão Preto city (62.1%), by domestic (24.5%) and traffic accidents (16.2%). The main causes of trauma were accidents with machines and tools, glass and knife injuries, as well as car accidents. Fractures were the most common diagnosis (25.6%), most patients underwent surgery (76.8%), and some of them (49.3%) underwent physiotherapy.
Conclusions: This study shows a high prevalence of upper limb trauma in young adult men in the workplace and traffic context, requiring surgical treatment and limited physiotherapy access.
Implications: A better understanding of the epidemiological profile, mechanisms of injury, and treatment patterns is crucial to support preventive strategies and optimize clinical management.
Funding acknowledgements: Foundation of Support to Teaching, Research and Assistance of Clinical Hospital, Ribeirão Preto Medical School, University of São Paulo (FAEPA-HCFMRP).

NEUROLOGY

EP077 - SC1
WALKING DISTANCE AND ENDURANCE PREDICT LONG-TERM PHYSICAL ACTIVITY, PARTICIPATION AND QUALITY OF LIFE AFTER MILD STROKE
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Background: Stroke constitutes the third leading cause of disability globally, with increasing prevalence amplifying its socio-economic impact. Secondary prevention strategies depend on identifying modifiable determinants of lifestyle behaviors in the chronic phase of recovery.
Purpose: To examine whether walking distance and endurance predict physical activity levels, participation, and quality of life in stroke survivors more than six months after stroke.
Methods: Cross-sectional study including mild stroke survivors with preserved ambulation and no cognitive impairment, recruited from 20 rehabilitation centers across Spain (n = 110). Multiple regression models assessed the predictive value of walking distance and endurance on kilocalories expended during physical activity (Kcal/day), participation, and quality of life.
Results: Mean age was 61 ± 12 years; 35% female. Walking distance and walking endurance significantly predicted Kcal/day (R^2 = 39%), participation (R^2 = 34%), and quality of life (R^2 = 12%).
Conclusions: Walking endurance emerged as the strongest modifiable predictor of physical activity, participation, and quality of life in stroke survivors more than six months post-event.
Implications: Incorporating cardiovascular endurance training as a core component of neurorehabilitation protocols may enhance functional outcomes and contribute to sustainable secondary prevention. Future research should explore additional predictors and evaluate whether similar relationships exist during the acute and sub-acute recovery stages.
Funding acknowledgements: Research award grant from the COPTOCAM. Authors are members of the research group MOTUS (n. B60_23D).

EP089 - SC2
AEROBIC EXERCISE PRIMING COMBINED WITH DUAL-TASK GAIT TRAINING IN ANOXIC ENCEPHALOPATHY: A CASE STUDY
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Background: Anoxic encephalopathy results from cerebral oxygen deprivation and is associated with selective vulnerability of subcortical and limbic structures, often leading to combined motor and cognitive impairments. These deficits compromise functional mobility, increase fall risk, and limit responsiveness to rehabilitation. Dual-task gait performance is particularly affected due to cognitive–motor interference.
Purpose: This case study aimed to examine the effects of a physiotherapy intervention combining aerobic exercise priming with dual-task cognitive gait training on gait speed and functional mobility in an individual with anoxic encephalopathy.
Methods: A 65-year-old male with anoxic encephalopathy and vascular cognitive impairment completed a 5-week physiotherapy program including aerobic exercise priming followed by dual-task gait training. Gait speed and functional mobility were assessed using the 10-Meter Walk Test and the Timed Up and Go under single-task and dual-task conditions involving semantic fluency and mental flexibility.
Results: Improvements were observed in gait speed and functional mobility under both single-task and dual-task conditions. A convergence between single- and dual-task performance suggested reduced cognitive–motor interference, particularly during tasks involving mental flexibility. Post-intervention values indicated improved functional independence, reduced fall risk, and gait speeds compatible with limited community ambulation.
Conclusion: Although the specific contribution of each intervention component cannot be isolated, the combined approach yielded favorable functional outcomes.

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Implications: Integrating aerobic priming with dual-task gait training may represent a promising physiotherapy strategy to address cognitive–motor interference in neurorehabilitation.
Funding acknowledgements: None declared.

EP090 - SC2
IMMEDIATE EFFECTS OF MOTOR IMAGERY ON MUSCLE STRENGTH: A WITHIN-SUBJECT STUDY IN HEALTHY ADULTS
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Background: Motor imagery involves the mental simulation of movement without physical execution and activates neural networks associated with motor planning and execution. Although motor imagery has been widely studied in motor learning and rehabilitation, its immediate effects on muscle strength remain insufficiently explored, particularly regarding potential differences between muscle groups with distinct levels of cortical motor control.
Purpose: This study aimed to investigate the immediate effects of motor imagery on maximal muscle strength in upper and lower limb muscles with different levels of cortical involvement in healthy young adults.
Methods: A within-subject repeated-measures experimental design was conducted in healthy young adults. Maximal isometric strength of the non-dominant upper limb (hand grip) and lower limb (knee extension) was assessed under two conditions: without prior motor imagery and immediately after a motor imagery training session. Motor imagery ability was evaluated using the Movement Imagery Questionnaire–3, and maximal isometric strength was measured using a dynamometer.
Results: A small but statistically significant increase in hand grip strength was observed immediately after motor imagery training, whereas no significant changes were found in knee extension strength. Motor imagery ability was not significantly associated with strength variations.
Conclusions: Motor imagery induced immediate, muscle-specific effects on strength production, with greater sensitivity observed in upper limb muscles.
Implications: Motor imagery may be a useful complementary strategy in physiotherapy to enhance motor performance, particularly in tasks relying heavily on cortical motor control.
Funding acknowledgements: None declared.

EP091 - SC2
EFFECTS OF LOCALIZED MUSCLE FATIGUE ON DYNAMIC BALANCE IN HEALTHY YOUNG ADULTS: A RANDOMIZED CROSSOVER STUDY
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Background: Muscle fatigue is commonly associated with impaired postural control; however, recent evidence suggests that exercise performed to the point of fatigue may also induce short-term adaptive responses within the neuromuscular system. The effects of exercise-induced localized muscle fatigue on dynamic balance, particularly when different body segments are involved, remain insufficiently understood.
Purpose: This study aimed to investigate the effects of exercise protocols designed to induce localized muscle fatigue in the upper and lower limbs on dynamic balance in healthy young adults.
Methods: A randomized controlled crossover study was conducted in 32 healthy young adults. Dynamic balance was assessed using the Y Balance Test before and immediately after exercise protocols targeting either the upper or lower limbs and designed to induce localized muscle fatigue. Sessions were separated by at least 48 hours to minimize carry-over effects. Heart rate and perceived exertion were monitored to ensure the physiological response was predominantly muscular rather than cardiorespiratory.
Results: Following the exercise protocols, significant increases in reach distance were observed in the Y Balance Test across most directions, indicating short-term improvements in dynamic balance performance. No significant differences were found between upper- and lower-limb exercise protocols. No significant associations were observed between self-reported physical activity levels and balance changes.
Conclusions: Exercise protocols designed to induce localized muscle fatigue were associated with short-term improvements in dynamic balance.
Implications: Controlled exposure to localized fatigue may be considered in physiotherapy and training contexts to stimulate neuromuscular adaptations relevant for balance performance.
Funding acknowledgements: None declared.

EP013 - SC2
DO QUANTITATIVE SENSORY AND COGNITIVE FUNCTIONS CHANGE DURING THE HEADACHE-FREE PERIOD IN MIGRAINE?
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Background: Migraine involves persistent psychoneurobiological alterations extending beyond headache attacks, including during interictal periods. These changes may affect both pain processing and cognitive function.
Purpose: This study aimed to compare quantitative sensory testing (QST) outcomes and multidimensional cognitive functions between individuals with migraine during headache-free periods and asymptomatic controls.
Methods: This cross-sectional, observational, comparative study included 43 participants: 22 with interictal migraine and 21 controls. QST was assessed using a mechanical pressure algometer, including pressure pain threshold (PPT) measurements at segmental and extrasegmental sites and conditioned pain modulation (CPM) using a cold stimulus. Cognitive functions were evaluated with the Montreal Cognitive Assessment (MoCA), Stroop Test, Digit-Span Test, and Frontal Assessment Battery (FAB). Between-group comparisons were conducted using the Mann–Whitney U test, with significance set at $p < 0.05$.
Results: The migraine group exhibited lower PPT values at the left temporal bone midpoint and mean temporal bone ($p = 0.02$ and $p = 0.049$, respectively), indicating partial segmental hyperalgesia. CPM scores were higher in migraineurs than controls ($p = 0.003$), suggesting altered pain inhibition. Cognitive testing showed fewer errors in Part 4 of the Stroop Test ($p = 0.02$) but impaired Digit-Span performance, with lower forward and backward span scores and higher error rates (all $p < 0.001$). No significant differences were observed for MoCA or FAB scores ($p > 0.05$), indicating preserved global cognition and executive function.
Conclusions: Individuals with migraine show partial segmental hyperalgesia, enhanced CPM and selective cognitive alterations during interictal periods.
Implications: These findings suggest migraine involves neurobiological changes affecting pain modulation and specific cognitive subdomains even outside attacks. Assessment and interventions targeting sensory and cognitive functions are recommended to address these interictal alterations.
Funding acknowledgements: None declared.

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EP099 - SC2
FUNCTIONAL DISABILITY IN ALZHEIMER'S DISEASE: THE COMBINED ROLE OF COGNITIVE AND MOTOR IMPAIRMENTS
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Background: Cognitive impairment is considered a key determinant of functional disability in Alzheimer's disease (AD). However, motor impairments may also contribute to functional limitations, and their interaction with cognition across disability domains remains unclear.
Purpose: To investigate the interaction between cognition, motor function, and functional disability in people with AD.
Methods: This cross-sectional study followed STROBE guidelines and included 27 participants (mean age: 72.19 years) assessed in a single session by trained physiotherapists. Depressive symptoms were assessed using the Geriatric Depression Scale (GDS), balance with the Balance Evaluation Systems Test (BESTest), motor impairment with the Unified Parkinson's Disease Rating Scale - section III (UPDRS-III), lower-limb strength with the Five Times Sit-to-Stand Test (5 x STS), cognition with the Montreal Cognitive Assessment (MoCA), and disability with the World Health Organization Disability Assessment Schedule 2.0 (WHODAS). Data were analyzed using descriptive statistics, nonparametric tests, and linear regression.
Results: Delayed recall and language were the most impaired cognitive domains ($p < 0.001$). BESTest showed deficits in postural responses and anticipatory adjustments. Disability was highest in WHODAS cognition and activities of daily living domains ($p < 0.001$). Worse cognitive performance was associated with greater disability in self-reported cognition, self-care, and social participation ($p < 0.05$). Motor function independently predicted global disability, mobility, and activities of daily living ($p < 0.001$).
Conclusion: Functional disability in AD results from the interaction between cognitive and motor impairments.
Implications: Motor impairments may indicate early functional limitation, highlighting the need for integrated cognitive–motor assessment and rehabilitation.
Funding acknowledgements: This study was produced as part of the activities of FAPESP- Neuromathematics #2013/07699-0, and supported by grants #2025/02885-7, #2025/14403-7, and #2024/16868-4.

EP100 - SC2
A STRUCTURED 6-WEEK COMBINED RTMS AND PHYSIOTHERAPY PROTOCOL FOR SPINOCEREBELLAR ATAXIA
Luana Nunes[1]*, Gonçalo Cotovio*[1]*, Albino Oliveira-Maia*[2]*, Marcelo Mendonça*[1]*, Silvia Salvalaggio*[3]
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Spinocerebellar ataxias (SCA) are a heterogeneous group of rare neurodegenerative disorders characterised by progressive deterioration of balance, coordination and speech due to cerebellar and brainstem degeneration. SCAs affect up to 4/100,000 individuals. Evidence for rehabilitation is limited, but repetitive transcranial magnetic stimulation (rTMS) has emerged as a promising adjunct, with meta-analyses suggesting improved ataxia severity. However, combined use of rTMS and physiotherapy (PT) remains underexplored. To develop and implement an evidence-informed clinical protocol of combined treatment as part of clinical care, while evaluating feasibility and clinical effects. A 6-week protocol structured in two phases was designed for adults with SCA at the Digital Neurotherapeutics Centre, Champalimaud Foundation. In the first three weeks, participants received bilateral cerebellar rTMS (1Hz, 1200pulses/hemisphere at 100% motor threshold) with daily 1-hour PT. In the following three weeks, PT continued three times weekly. Outcomes include ataxia severity, functional mobility, balance, gait and upper limb function, measured at baseline, 3/6 weeks, and at 3/6/12-month follow-ups. Mid-assessment focuses on ataxia severity. One 53-year-old male with SCA3 completed phase one. Improvements were observed in the "International Cooperative Ataxia Rating Scale" (43 to 35) and "Scale for the Assessment and Rating of Ataxia" (16 to 13.5), exceeding the minimal clinically important difference (1.5) in the latter. Falls decreased from daily to five in the last week. This program presents a multimodal protocol combining rTMS and PT for people with SCA. In the absence of disease-modifying treatments, this may provide a relevant strategy and inform future investigations.
Funding acknowledgements: None declared.

EP086 - SC2
THERAPEUTIC EXERCISE IN NEUROLOGICAL PHYSIOTHERAPY: TOWARDS INDIVIDUALISED CLINICAL APPLICATION
Carlos Rodríguez López
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Background: Therapeutic exercise is recognized as a key intervention in neurological physiotherapy, with evidence supporting improvements in strength, mobility, fatigue, and functional capacity across neurological conditions. However, its translation into individualized clinical practice remains inconsistent, partly due to the heterogeneity and complexity of clinical presentations.
Purpose: To synthesize current evidence on therapeutic exercise in neurological physiotherapy and to explore its application within a clinically oriented framework focused on individualization.
Methods: A targeted critical synthesis of selected high-quality literature was performed, prioritizing systematic reviews, meta-analyses, and randomized controlled trials addressing exercise interventions in neurological populations, with emphasis on clinical applicability. The analysis focused on exercise type, dosing parameters, progression strategies, and functional outcomes. In addition, observational insights from routine clinical practice in a neurological rehabilitation setting were used to contextualize the applicability of the evidence.
Results: Evidence supports resistance and aerobic exercise interventions across neurological conditions. However, limitations persist, including inconsistent reporting of exercise dosage, lack of operationalized progression criteria, and limited guidance for individual adaptation. Clinical observations suggest that integrating functional performance, load tolerance, and movement-specific constraints, together with structured clinical profiling, may enhance the individualization of exercise prescription and support more consistent decision-making for clinicians.
Conclusions: While the evidence for therapeutic exercise in neurological physiotherapy is robust, its translation into individualized clinical practice remains limited. Bridging this gap requires structured approaches that integrate evidence with clinical reasoning and patient-specific profiling.
Implications: Developing clinically applicable frameworks that combine evidence-based exercise principles with structured clinical profiling may improve functional outcomes.
Funding acknowledgements: None declared.

EP085 - SC2
MUSCLE TONE IN REHABILITATION: ASSESSMENT, FUNCTIONALITY AND ABNORMALITIES: A SCOPING REVIEW
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Background: Muscle tone, commonly defined as "the resistance to passive stretch", is a complex and dynamic construct arising from hierarchical interactions within the neuromuscular system. Despite its clinical importance in rehabilitation, it lacks a universally accepted definition. Reliable assessment and management remain challenging due to physiological complexity and methodological limitations.
Purpose: This scoping review aimed to synthesize current evidence on the definition, pathophysiology, functional role, and assessment of muscle tone in rehabilitation.
Methods: A systematic search following PRISMA-ScR guidelines was conducted in MEDLINE (PubMed), Scopus, and EBSCO without time restrictions. Keywords included muscle tone, assessment, abnormal, and physiology. Eligible studies were full- text, peer-reviewed reviews focusing on muscle tone description, pathophysiology, and assessment. Clinical trials and case reports were excluded.
Results: Of 608 records identified, 13 reviews met the inclusion criteria. Muscle tone is a multidimensional construct regulated by spinal and supraspinal mechanisms, with pathological alterations varying across neurological conditions, complicating diagnosis and management. Assessment approaches remain heterogeneous. Clinical scales, such as the Modified Ashworth Scale, are widely used but subjective, whereas objective methods (including electromyography and myotonometers) provide quantification but face limitations in accessibility and standardization. The literature also revealed limited investigation of hypotonia compared to spasticity and rigidity.
Conclusions/Implications: Muscle tone remains a theoretical and clinical challenge in rehabilitation. Advances in objective assessment may improve diagnostic precision and monitoring, but clinical integration requires greater validity, reliability, and usability. Future research should prioritize standardized protocols and explore functional implications to enhance patient-centered rehabilitation.
Funding acknowledgements: None declared.

EP087 - SC2
BEYOND THE LESION: UNDERSTANDING MOTOR BEHAVIOUR AND FUNCTIONALITY IN NEUROLOGICAL PHYSIOTHERAPY
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Motor behaviour and functionality emerge from the continuous interaction between central and peripheral processes. Following neurological injury, biological and adaptive changes may profoundly modify this interaction and contribute to the motor phenotype observed in clinical practice. However, clinical interpretation in neurological physiotherapy often focuses primarily on the neurological lesion itself, potentially overlooking the influence of changes that develop and evolve over time. Neurological conditions are frequently associated with biological, somatosensory and tissue-related changes that may influence motor behaviour, functional performance and treatment response. These processes include alterations affecting peripheral tissues, the peripheral nervous system and the sensory-motor interactions that shape movement and functionality. Understanding their potential contribution may provide additional perspectives for interpreting the considerable heterogeneity observed among individuals with similar diagnoses. This workshop will explore current evidence related to central and peripheral adaptations following neurological injury and discuss their potential influence on motor phenotype and functionality. Through clinical cases, patient videos and audience discussion, participants will examine how biological, somatosensory and peripheral factors may contribute to the clinical presentation observed in neurological physiotherapy practice. The session aims to broaden clinical reasoning by encouraging a more integrative interpretation of motor behaviour and functionality. Participants will be invited to consider how central and peripheral processes may influence movement, contribute to individual motor phenotypes and support more individualized therapeutic decision-making.
Funding acknowledgements: None declared.

NEUROLOGY: MULTIPLE SCLEROSIS

EP176 - SC2
DESIGNING HOME-BASED MIXED REALITY TASKS FOR UPPER LIMB REHABILITATION IN MULTIPLE SCLEROSIS: A USER-CENTERED APPROACH (VIRTUAL DOMUS)
María Fernández Cañas[1], Selena Marcos-Antón[2], Carmen Jiménez-Antona[1], Sofía Laguarta-Val[1], Rosa María Ortiz-Gutiérrez[3], Cecilia Estrada-Barranco[4], Aitor Blázquez-Fernández[5], Patricia Martín Casas[3], Roberto Cano de la Cuerda[1]
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Background: Upper limb impairment in multiple sclerosis (MS) significantly impacts daily function. While mixed reality (MR) is a promising rehabilitation tool, current interventions often lack user-centered design or ecologically valid activities. The Virtual Domus project addresses this by developing household tasks in MR to enhance the relevance of physiotherapy.
Purpose: To evaluate the usability, tolerance, and perceived workload of specifically designed MR environments for upper limb rehabilitation, and to gather user feedback on their motivational value for future home-based co-designs.
Methods: This single-case study, following INVIRTUE guidelines, involved a person with MS using Meta Quest 3.0 MR glasses. She performed six Virtual Domus-MR tasks: radio/switch operation, oven programming, and opening taps. Usability, tolerance, and workload were assessed via the System Usability Scale (SUS), Simulator Sickness Questionnaire (SSQ), and NASA Task Load Index (NASA-TLX) during a 90-minute session.
Results: The participant was a 56-year-old woman with secondary progressive MS (EDSS 7.0, 11-year duration). SUS usability reached 100%, and NASA-TLX workload was 50%. SSQ indicated mild headache and eye strain. Suggested future tasks included using cutlery, zippers, spray dispensers, toothbrushing, and inserting keys into locks.
Conclusions: Virtual Domus-MR environments demonstrated excellent usability and acceptable tolerance. These findings support the feasibility of co-designed, user-centered MR interventions in developing meaningful activities for upper limb rehabilitation in people with MS.
Implications: MR is a feasible tool for task-oriented upper limb rehabilitation. Incorporating co-designed, ecologically valid home-based activities could enhance engagement and support the integration of MR technologies into physiotherapy practice.
Funding acknowledgements: 6th Research Grant Call awarded by the Illustrious Professional College of Physiotherapists of the Community of Madrid (Spain). Grant: 1-10-2025.

EP092 - SC2
FEASIBILITY OF A MIXED REALITY PROGRAM FOR UPPER LIMB REHABILITATION IN PEOPLE WITH MULTIPLE SCLEROSIS: A CASE SERIES
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[5]Asociación de Esclerosis Múltiple de Leganés (ALEM)

Background: Upper limb impairment in multiple sclerosis (MS) significantly affects daily function. Research on mixed reality (MR) for rehabilitation remains scarce. The low-cost commercial system Hands Physic Lab® offers MR-based exercises that can complement conventional physiotherapy.
Purpose: To investigate the effects of an MR program based on Hands Physic Lab®, combined with conventional physiotherapy, on manual ability, satisfaction, adverse effects, perceived workload, and adherence in people with MS.
Methods: This case series included seven participants with MS and upper limb impairment. They completed eight in-clinic sessions (2 ss/week, 20 minutes/session) using Meta Quest 3.0 MR glasses. The customized protocol included tasks such as interacting with buttons, switches, cubes, untangling cords, using tweezers, and functional tasks. Outcomes were assessed using ABILHAND (pre-post), Client Satisfaction Questionnaire (CSQ), QUEST 2.0, a Likert scale, System Usability Scale (SUS), Simulator Sickness Questionnaire (SSQ), and NASA Task Load Index (NASA-TLX). Adherence was registered.
Results: Seven people with MS were recruited (mean age 45.7; 33.3% men, 66.7% women, median EDSS 5.0). ABILHAND scores improved by 10%. Satisfaction was high (CSQ 3.85/4; Likert 4.43/5; QUEST 2.0 4.89/5). SUS reached 3.22/5, tolerance was acceptable (SSQ 13.19%), and perceived workload was moderate (NASA-TLX 5.1/10). 97.9% adherence (6/7); one patient: 50%.
Conclusion: Manipulative task-based MR using Hands Physic Lab® is feasible, well-tolerated, and associated with improved manual ability and high satisfaction.
Implications: These systems can be safely integrated into physiotherapy to enhance upper limb rehabilitation, patient engagement and support adherence in clinic-based rehabilitation.
Funding acknowledgements: None declared.

EP098 - SC2
DEVELOPMENT OF QUICK REFERENCE CARDS TO HELP GUIDE THE TREATMENT PROCESS FOR MULTIPLE SCLEROSIS
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Background: Multiple sclerosis is a complex neurological disease with a heterogeneous course and diverse functional impairments. Structured, evidence-based treatment planning is therefore essential for physiotherapists and occupational therapists.
Objective: This project aimed to develop interdisciplinary Quick Reference Cards (QRC) to support assessment, clinical decision-making, and treatment planning in people with multiple sclerosis.
Methods: The QRC was developed by physiotherapists and occupational therapists at Reha Rheinfelden using a structured interdisciplinary consensus process. Content was based on the International Classification of Functioning, Disability and Health (ICF), which guided the definition of relevant therapeutic domains. Assessment selection was informed by guidelines from the German Multiple Sclerosis Society, training content from the University of Basel's advanced specialization program, and relevant literature. The final content was reviewed in collaboration with faculty of the Master of Advanced Studies (MAS) in Neurophysiotherapy at the University of Basel.
Results: Practice-oriented QRCs were created that integrate key domains of multiple sclerosis therapy, including body functions and structures, mobility, upper limb function, postural control, balance, and gait. They also provide an overview of disease- related aspects, relevant assessments, symptoms, functional limitations, therapeutic priorities, treatment goals, and intervention recommendations. Their compact tabular format enables rapid use in clinical practice and supports structured decision-making across different levels of professional experience in inpatient and outpatient settings.
Conclusion/Clinical Implications: The QRC represents a practical tool for structured, evidence-based, and interdisciplinary therapy and may contribute to improved clinical processes and quality of care.
Funding acknowledgements: This investigation received funding from the Reha Rheinfelden.

NEUROLOGY: PARKINSON'S DISEASE

EP096 - SC2
COULD DEFICITS IN DUAL-TASK GAIT AND BALANCE PERFORMANCE BE EXPLAINED BY IMPAIRED IMPLICIT LEARNING IN PEOPLE WITH PARKINSON'S DISEASE?
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Automaticity is the ability to perform movements without attention directed toward their subcomponents. Previous evidence has confirmed a progressive difficulty to perform learned movements automatically. Although all the neural processes of motor automaticity are not fully understood, the main role of the implicit system in the process is a consensus. The aim was to investigate the relation between balance and gait performance under dual-task conditions with implicit learning capacity in people with PD. Fifty people with PD between stages 1 and 3 of the Hoehn and Yahr classification, and 25 healthy matched control individuals, were exposed to a probabilistic implicit learning experiment based on a computational game, and a gait and balance evaluation by Mini-BESTest. The procedures involved performing gait and balance evaluation under single- and dual-task conditions, five trials of the game in session 2, and the reassessment with the game in session 3. The ANOVA for repeated measures showed that people with PD were able to improve their performance in the game. However, the improvement was relatively greater for the control subjects as compared to that seen for people with PD. The decline in gait and balance performance under dual-task condition was correlated with the ability to improve performance in the game. The use of cognitive and motor assessment instruments for an early screening of balance and gait alterations is not feasible for most countries. A free and friendly game, which allows for massive data collection and is able to detect early abnormal decline in balance and gait performance, may be useful.
Funding acknowledgements: CAPES, Brazil (Grant number: 88882. 377008/2019–01). FAPESP Research, Innovation and Dissemination Center for Neuromathematics (Grant number: #2013/07699–0).

EP095 - SC2
AN EXPLORATORY ANALYSIS OF THE ICF IN THE RELATION BETWEEN GAIT AUTOMATICITY AND PEOPLE WITH PARKINSON'S DISEASE
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The gait in Parkinson's disease (PD) begins to show signs of deterioration in the early stages of the disease's evolution, requiring the accuracy to identify small signs of impairment in kinematic factors such as average speed. Assessment instruments have become increasingly sophisticated and easily accessible with better precision. The study sought 1) to describe gait kinematics data according to the results obtained by a two-dimensional movement analysis software, in three different distances and test conditions and 2) to investigate the software's predictive power to differentiate the PD classification stages based on the variable mean gait speed, comparing their results to those of the 10-meter walk test (10mWT), following the domains of the International Classification of Functioning, Disability and Health (ICF). Seventy-four older people with PD, distributed according to the Hoehn and Yahr Scale, underwent tests to assess cognitive, motor and mobility functions. Intergroup differences for PD-specific variables and mobility tests were shown. The gait assessment software was able to demonstrate differences in several variables, especially those related to speed, in order to distinguish people with PD at different stages of disease progression. The tests performed using the software showed greater accuracy and reliability than the 10mWT to differentiate the PD classification stages, based on postural instability and related to the variable speed gait average. The system was able to demonstrate that shorter gait performance distances can detect impairments in gait automaticity in people with PD.
Funding acknowledgements: CAPES, Brazil (Grant number: 88882.377008/2019–01). FAPESP Research, Innovation and Dissemination Center for Neuromathematics (Grant number: #2013/07699–0).

EP094 - SC2
ITALIAN VALIDATION AND CULTURAL ADAPTATION OF THE MODIFIED PARKINSON ACTIVITY SCALE (M-PAS): A CROSS-SECTIONAL STUDY
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Background: Parkinson's disease (PD) leads to early decline in functional autonomy, particularly affecting motor activities of daily living (ADL). Commonly used scales such as the MDS-UPDRS and PDQ-39 present limitations, including administration time, reliance on self-report, and limited specificity for motor ADLs. The Modified Parkinson Activity Scale (M-PAS) is a brief observational tool that has not yet been validated in Italian.
Purpose: To translate, culturally adapt, and validate the Italian version of the M-PAS, and to examine its psychometric properties in individuals with PD.
Methods: Individuals with PD (Hoehn and Yahr stages 1–3) were recruited at a tertiary care center in Rome. The M-PAS was translated and culturally adapted using forward and backward translation according to international guidelines. Internal consistency (Cronbach's α), inter-rater reliability (intraclass correlation coefficient, ICC), and construct validity (Pearson correlations with MDS-UPDRS and PDQ-39) were evaluated. Between-group differences were analyzed using ANOVA.
Results: The Italian M-PAS demonstrated excellent internal consistency ($\alpha = 0.92$) and high inter-rater reliability. Significant negative correlations were found with MDS-UPDRS scores ($p < 0.01$) and the mobility domain of the PDQ-39 ($p < 0.01$), supporting construct validity. Older individuals (>74 years) showed significantly greater impairment in chair transfer performance ($p = 0.037$).
Conclusions: The Italian version of the M-PAS is a reliable and valid tool for assessing motor ADLs in individuals with mild-to-moderate PD.
Implications: The M-PAS provides a brief, observational, and clinically feasible alternative for evaluating motor ADLs, supporting its use in physiotherapy assessment and rehabilitation planning.
Funding acknowledgements: None declared.

EP093 - SC2
ANNUAL COST OF PARKINSON'S DISEASE IN HONG KONG: A COST-OF-ILLNESS ANALYSIS
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Background: Parkinson's Disease (PD) causes movement impairments affecting balance, gait, and postural stability. There are no known cost-of-illness studies for People with Parkinson's disease (PwP) in Hong Kong.
Purpose: We aim to estimate the 12-month mean healthcare cost among PwP in Hong Kong.
Methods: This prospective cost-of-illness analysis was conducted among 109 community-dwelling PwP. The healthcare units used (e.g., general outpatient care) were obtained from the Client Service Receipt Inventory for rare genetic diseases and from self-reported questionnaires. The severity of PD, level of disability, balance confidence, concerns about falling, and quality of life were assessed using the MDS-Unified Parkinson's Disease Rating Scale (MDS-UPDRS), Hoehn and Yahr Scale, Activities-Specific Balance Confidence Scale (ABC), Falls Efficacy Scale- International (FES-I), and Short Form Health Survey (SF-36), respectively.
Results: The mean annual healthcare cost per PwP was HKD 104,411. Direct medical costs, dominated by drug expenses, accounted for the majority of total costs. Disease stage (HY; $r = 0.609$, $p = 0.016$), disease duration ($r = 0.600$, $p = 0.018$), disease severity (MDS-UPDRS Part I; $r = 0.618$, $p = 0.014$) and fear of fall (FES-I; $r = 0.657$, $p = 0.008$) positively correlated with total direct non-medical cost, while emotional well-being (SF-36; $r = -0.538$, $p = 0.039$) negatively correlated with total cost.
Conclusion: The mean healthcare cost of PwP living in Hong Kong is HKD 104,411 per year, with direct medical cost accounting for most of the expenses.
Implications: This study will identify the strengths and weaknesses of the current healthcare system for PwP in Hong Kong, highlighting the need for additional attention to benefit future services.
Funding acknowledgements: This study was supported by the Health and Medical Research Fund (HMRF), Health Bureau, Hong Kong (Project ID: 20211241).

NEUROLOGY: SPINAL CORD INJURY

EP102 - SC2
EFFECTIVENESS OF SELF-PERFORMED IMT IN IMPROVING INSPIRATORY MUSCLE STRENGTH, LUNG FUNCTION AND QOL IN INDIVIDUALS AFTER SPINAL CORD INJURY (SPI)
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Background: Spinal cord injury is frequently associated with a high risk of respiratory complications. Although the effectiveness of

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inspiratory muscle training in individuals with SCI has been assessed, few studies have investigated the long-term sustainability of its effects.
Purpose: To investigate the short-term effects of a self-administered IMT program on inspiratory muscle strength, pulmonary function, and health-related quality of life, and to assess its adaptability to an individual level in a daily context for individuals with SCI.
Methods: A longitudinal prospective cohort study was conducted. The intervention group performed independent IMT using a specialized device at home for six weeks. The control group performed IMT under physiotherapist supervision at a rehabilitation facility during the first three weeks, followed by diaphragmatic breathing exercises at home for the next three weeks. Participant assessments were conducted three times over the six-week period. Demographic data were collected at baseline.
Results: Twenty-one participants with SCI (IG, n = 10; CG, n = 11) completed the study. Both groups showed statistically significant differences ($p < 0.001$) over time in MIP, PEF, thoracic excursion, and the summary scores of the physical and mental health components. No significant differences were observed between groups ($p > 0.05$). A strong positive and statistically significant correlation was observed between PCS and MIP.
Conclusions and implications: A six-week independently performed IMT program using positive inspiratory pressure is an effective and sustainable method for improving inspiratory muscle strength in individuals with SCI. A 12-month follow-up assessment of participants in the intervention arm is recommended to evaluate the long-term durability of observed effects.
Funding acknowledgements: None declared.

NEUROLOGY: STROKE

EP075 - SC1
BELIEFS OF PEOPLE WITH FIRST-EVER STROKE ABOUT 24-HOUR MOVEMENT BEHAVIOUR: A QUALITATIVE GROUNDED THEORY STUDY
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Background: There is growing global recognition that a balanced 24-hour movement behavior pattern (sedentary behavior, physical activity and sleep) is a key determinant of health. Beliefs may shape 24-hour movement behavior patterns. This study aimed to explore the beliefs of people with first-ever stroke about sedentary behavior, physical activity and sleep.
Methods: A qualitative grounded theory study was performed using face-to-face, semi-structured interviews with people with first-ever stroke. Purposeful sampling was used based on 24-hour movement behavior pattern, age, gender, cognitive status and body mass index. Initial, focused and selective coding were applied to construct a conceptual model with a core concept.
Results: Eighteen people with stroke were interviewed. Selective code "Balance" indicated that participants believe they need to alternate between sitting, moving and sleeping to cope with daily demands. "Importance" reflected the belief that physical activity contributes to health and sleep aids recovery, whereas sitting is viewed as unimportant. "Emotions" showed how emotions shape activity and vice versa. "Context" reflected how physical, social, cultural and medical factors shape 24-hour movement behavior. The conceptual model showed awareness of physical activity benefits, often translating into participation. Beliefs about sedentary behavior, sleep and overall 24-hour balance were limited.
Conclusions: Beliefs about sedentary behavior, physical activity and sleep—shaped by balance, importance, emotions and context—are perceived to influence 24-hour movement behavior after stroke. (Physiotherapeutic) interventions should consider these beliefs. Limited beliefs about sedentary behavior and 24-hour balance indicate a need for broader (public) awareness on these topics.
Funding acknowledgements: Dutch Research Council (NWO), Nationaal Regieorgaan Praktijkgericht Onderzoek SIA (RAAK-PRO04.093) - Care Research Netherlands and Medical Sciences ZonMW (093001 2310010).

EP079 - SC1
GREATER UPPER LIMB RECOVERY IN EARLY SUBACUTE STROKE PHASE THAN LATER STAGES AFTER 8 WEEKS OF INPATIENT REHABILITATION
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Background: Spontaneous recovery occurs within the first month after stroke, while high-dose therapy is effective even in the chronic phase (>6 months). However, the role of neuromotor rehabilitation across different post-stroke stages remains unclear. The main objective is to examine the UL motor recovery in people with stroke (PwS) admitted to a neuromotor rehabilitation program in an Italian hospital setting, and to assess whether the timing of rehabilitation influences recovery outcomes.
Methods: This retrospective observational study explored the relationship between 8 weeks of conventional inpatient rehabilitation and improvements in UL motor function in PwS, using an ordinal regression model (ORM). The primary outcome measure was the FMA-UE.
Results: We analyzed data from 596 PwS, with a mean age of 62.7 (13.7) years, who completed an average of 27.3 (20.1) days of inpatient rehabilitation. Phase was significantly associated with UL motor recovery, with a notable interaction between phase and baseline FMA-UE scores ($p = 0.024$). PwS in the early subacute phase (0–3 months) were expected to achieve greater UL motor function (mean FMA-UE: 51.3; 95% CI: 49.4–53.2) compared to those in the late subacute (3–6 months) (mean FMA-UE: 46.6; 95% CI: 43.8–49.5) and chronic phases (mean: 45.1; 95% CI: 43.4–56.7).
Conclusion: Conventional inpatient rehabilitation provides more relevant UL improvement in the early subacute phase after stroke, compared to starting rehabilitation at a later stage. Clinicians should reconsider how rehabilitation is structured, considering not only intensity, but also the duration, timing and distribution of therapy delivery.
Funding acknowledgements: None declared.

EP044 - SC2
THE ASSOCIATION OF HEALTH AND WELL-BEING DETERMINANTS AND THE DAY-TO-DAY VARIABILITY OF SEDENTARY BEHAVIOUR IN PEOPLE WITH STROKE
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Background: Improving interventions that aim to reduce sedentary behavior after stroke is of vital importance for secondary prevention.
Purpose: To explore the association between health and well-being determinants and daily variability in sedentary behavior over time within community-dwelling people with stroke.
Methods: An n-of-1 study design was used. Sedentary behavior was measured with an accelerometer for 17.5 weeks. Dynamic regression modelling (time-series analysis) was used to determine the association between health and well-being determinants and daily variability in sedentary behavior over time, in community-dwelling people with stroke, during the RISE-intervention randomized multiple baseline study.
Results: Data from twelve participants, median age 65, daily sedentary behavior ranging from 55.5 to 81.4 percent, were included. Sleep length (measured with the activity monitor) was positively associated with the percentage of sedentary behavior in three participants ($p = 0.001$, $p < 0.0001$, $p = 0.045$) and negatively associated with one participant ($p = 0.002$). Subjective sleep length ($p = 0.016$), fatigue ($p = 0.013$), and pain ($p = 0.0098$) were exclusively associated with the percentage of sedentary behavior in one participant. No significant associations were found for sleep quality, happiness, stress, or time pressure in any of the participants.
Conclusions: The association pattern between health and well-being determinants and the day-to-day variability of sedentary behavior across participants was found to be inconsistent. Indicating that factors associated with the daily variability of sedentary behavior in one individual may differ from those in another individual.
Implications: The results show the need for a personalized approach within interventions that aim to reduce sedentary behavior in community-dwelling people with stroke.
Funding acknowledgements: Authors W.H. and M.F.P. were supported by SIA-RAAK, the Dutch Organization for Scientific Research (NWO), number RAAK.PUB05.021.

EP076 - SC1

LONG-TERM TELEREHABILITATION EFFECTS ON FUNCTIONAL MOBILITY AND QUALITY OF LIFE IN MINOR STROKE: 6-MONTH RESTORE PILOT TRIAL FOLLOW-UP

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Background: Telerehabilitation has emerged as a viable approach for stroke recovery, but evidence regarding the long-term maintenance of functional improvements after remote supervision ends remains limited.
Purpose: To evaluate the maintenance of effects of a 12-week telerehabilitation program (RESTORE) on functional mobility and quality of life in people with minor stroke over a 6-month follow-up.
Methods: A randomized controlled pilot trial allocated 32 people with minor stroke (mean age 61.96 ± 11.95) to an experimental group (EG, n = 16; 12-week aerobic/resistance telerehabilitation) or a control group (CG, n = 16; general health recommendations). To assess long-term retention, follow-ups occurred at 3 and 6 months post-intervention. Primary outcomes included lower-limb capacity (1-Minute Squat Test), functional mobility (Timed Up and Go), fatigue (Fatigue Severity Scale), and quality of life (SF-36).
Results: The EG showed massive post-intervention effects in lower-limb capacity ($p < 0.001$, $d = 3.10$), functional mobility ($p = 0.025$, $\eta p^2 = 0.10$), fatigue ($p = 0.005$, $\varepsilon^2 = 0.20$), and quality of life ($p < 0.001$, $\varepsilon^2 = 0.43$) compared to the CG. Crucially, all these improvements were consolidated in the 3- and 6-month follow-ups, exhibiting a three-fold increase in lower-limb capacity versus the CG.
Conclusions: The RESTORE telerehabilitation program facilitates the maintenance of lower-limb capacity, functional mobility, and quality of life at 6 months. This validates structured, digitally mediated exercise as an effective long-term secondary prevention tool.
Implications: Telerehabilitation should be integrated into standard post-discharge care pathways for people with minor stroke to bridge the gap between hospital discharge and successful, long-term community reintegration.
Funding acknowledgements: None declared.

EP080 - SC1

EXPLORING PHYSIOTHERAPISTS' PERCEPTIONS OF PERSON-CENTERED PRACTICE IN STROKE CARE

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Background: Stroke remains the leading cause of death and long-term disability, affecting independence and quality of life. Person-Centered Practice (PCP) is a key paradigm in contemporary healthcare, placing individuals at the center of care and aligning interventions with their needs, preferences, and goals.
Purpose: To identify physiotherapists' perceptions of PCP in the care of people with stroke.
Methods: A quantitative, cross-sectional, correlational study was conducted using an online questionnaire that included sociodemographic variables and the Portuguese version of the PCP Inventory – Staff. The sample comprised 183 physiotherapists working with people with stroke. Most participants were female (82.0%), aged 30–50 years (45.4%) and had a bachelor's degree (73.2%). Nearly half (43.2%) had less than 10 years of professional experience in stroke care, and public hospitals were the main workplace (40.7%).
Results: Among the subdomains, Developed Interpersonal Skills showed the highest mean score ($M = 4.57$, $SD = 0.43$), whereas Supportive Organizational Systems had the lowest ($M = 3.14$, $SD = 0.94$), suggesting structural barriers to PCP implementation. Significant differences were identified according to age and years of professional experience in the subdomains of skill mix and physical environment, and according to gender and professional qualifications in the potential for innovation subdomain.
Conclusion: Physiotherapists generally showed strong alignment with PCP principles in stroke care; however, differences across some variables and limitations in organizational support highlight the need for more effective strategies to implement PCP in stroke rehabilitation physiotherapy.
Implications: Organizational and management strategies are needed to support PCP implementation.
Funding acknowledgements: None declared.

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EP088 - SC2

RESPONSIVENESS OF THE SPANISH VERSIONS OF THE BESTEST, MINI-BESTEST, AND BRIEF-BESTEST IN INDIVIDUALS WITH ACQUIRED BRAIN INJURY: A PSYCHOMETRIC STUDY

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Background: The Balance Evaluation Systems Test (BESTest) and its reduced versions have demonstrated good reliability and validity in people with acquired brain injury (ABI). However, evidence regarding their sensitivity to change over time remains limited.
Purpose: To evaluate the responsiveness of the BESTest, Mini-BESTest and Brief-BESTest in individuals with ABI.
Methods: A longitudinal study was conducted including 108 individuals with ABI. Balance was assessed at baseline, retest (<1 month) and at 6-month follow-up. Participants received standard physiotherapy in a neurorehabilitation center or a structured balance training protocol when not undergoing centre-based physiotherapy. Responsiveness was analyzed using effect size and standardized response mean, considering retest data to account for measurement error.
Results: All three instruments detected change over the 6-month follow-up. The BESTest showed greater responsiveness compared with its reduced versions. The Brief-BESTest demonstrated acceptable sensitivity to change with shorter administration time, whereas the Mini-BESTest showed lower responsiveness.
Conclusions: The BESTest and its reduced versions differ in their ability to detect change over time in people with ABI.
Implications: Responsiveness should be considered, in addition to reliability and validity, when selecting balance outcome measures in neurorehabilitation.
Funding acknowledgements: None declared.

EP084 - SC1

CORE STABILITY TRAINING IMPROVES POSTURAL CONTROL IN A STROKE PATIENT WITH ABDOMINAL SURGICAL SCARRING: A CASE REPORT

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Background: Postural control impairments are common after stroke and are closely associated with deficits in trunk motor control. In some cases, decompressive craniectomy requires temporary storage of the cranial bone flap in the abdominal wall, resulting in abdominal surgical scarring that may compromise core muscle activation and trunk stability. The combined impact of neurological injury and abdominal surgical history on postural control remains poorly explored.
Purpose: To explore the effects of a physiotherapy intervention combining conventional rehabilitation with targeted core stability training on trunk/postural control and functional independence in a person with stroke and abdominal surgical history.
Methods: A 47-year-old male with right hemiplegia after left ischemic stroke and prior abdominal surgery for bone-flap storage following decompressive craniectomy completed 20 physiotherapy sessions over four weeks. Conventional physiotherapy was combined with a structured core stability programme. Outcomes included trunk control (TIS), postural control (PASS, BBS), functional independence (FIM), and core muscle strength assessed by manual muscle testing.
Results: All outcomes improved following the intervention, including core muscle strength (+1 grade), trunk control (TIS: 10/23–15/23), postural control (PASS: 17/36–24/36; BBS: 18/56–29/56) and functional independence (FIM: 67/126–81/126).
Conclusions: Integrating targeted core stability training into conventional physiotherapy may improve trunk control, postural control, and functional independence after stroke, particularly in individuals with abdominal surgical scarring.
Implications: Addressing core muscle function may be relevant in post-stroke rehabilitation, especially in patients with abdominal surgical history. Further research is needed to clarify the interaction between abdominal surgery and postural control recovery after stroke.
Funding acknowledgements: None declared.

EP082 - SC1

ANTICIPATORY POSTURAL ADJUSTMENTS AFTER STROKE: A SYSTEMATIC REVIEW OF TASK-SPECIFIC CHARACTERISTICS AND INFLUENCING PATIENT FACTORS

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Background: Anticipatory postural adjustments (APAs) stabilize the body before self-generated perturbations. After stroke, interpretation is challenged because findings are task-specific and APA definitions vary across studies.
Purpose: To synthesize APA-related features across voluntary functional tasks after stroke versus healthy controls, and to identify within-stroke factors that most consistently shape these features.
Methods: PubMed, Embase, and Web of Science were searched. Adult stroke studies quantifying APAs using EMG, force plates (GRF/CoP), and/or kinematics were narratively synthesized by task category.
Results: Thirty-seven studies (574 people with stroke) examined gait initiation (n = 15), reaching (n = 8), other voluntary limb movements (n = 9) and postural transitions (n = 6). Across tasks, APAs were usually detectable but reorganized, with context- dependent changes in timing, scaling, symmetry and variability. In gait initiation, the most consistent differences reflected altered anticipatory weight transfer/unloading and were influenced by limb role, particularly when the paretic limb acted as a stabilizing limb. In reaching, seated paradigms more consistently suggested altered anticipatory trunk control, whereas standing paradigms showed less consistent findings despite timing delays. Other voluntary limb movements often showed altered anticipatory recruitment/coordination despite relatively preserved task output. Findings in postural transitions were sensitive to definitions and temporal anchoring.

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Conclusions: Post-stroke APAs are task- and context-dependent rather than uniformly absent.
Implications: These findings support task-specific physiotherapy after stroke, with APA-related "deficits" interpreted relative to task demands, limb role and movement phase.
Funding acknowledgements: This work was supported by the TARGET project, funded by the EU's Horizon 2020 Research and Innovation Programme (No. 10113624).

EP083 - SC1
PROPRIOCEPTIVE TRAINING AS AN INTERVENTION STRATEGY TO IMPROVE BALANCE IN INDIVIDUALS WITH STROKE: A SYSTEMATIC REVIEW
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Background: Balance impairments are among the most common consequences following stroke, affecting more than half of stroke survivors and significantly limiting functional independence and mobility. Proprioceptive training has been widely used in neurological physiotherapy, aiming to enhance sensory input and motor control mechanisms involved in postural regulation. However, the specific contribution of proprioceptive training to balance improvement in individuals after stroke is still not clearly established in the literature.
Purpose: To analyze the evidence on the effectiveness of proprioceptive training in improving balance in individuals with stroke.
Methods: A systematic review was conducted according to PRISMA guidelines. The electronic databases PubMed, PEDro, and ScienceDirect were searched to identify relevant studies. Studies were selected according to predefined eligibility criteria.
Results: The search strategy identified 855 studies. After removing duplicates and applying the eligibility criteria, 14 studies were included in the review. The analyzed studies presented variability in intervention protocols, including differences in the type, intensity, and duration of proprioceptive training, as well as in the outcome measures used to assess balance. Despite this heterogeneity, most studies reported positive effects, demonstrating improvements in balance performance and proprioceptive-related outcomes following the intervention.
Conclusion: The findings suggest that proprioceptive training may contribute to balance improvement in individuals after stroke. Nevertheless, the heterogeneity of intervention protocols and assessment tools may affect the interpretation and comparability of the results.
Implications: More high-quality studies are needed to better determine the effectiveness and optimal characteristics of proprioceptive training programs in physiotherapy or people with stroke.
Funding acknowledgements: None declared.

EP081 - SC1
HOW DO BOBATH-EDUCATED PHYSIOTHERAPISTS USE MANUAL FACILITATION? PRELIMINARY INSIGHTS FROM A QUALITATIVE STUDY
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Background: Manual facilitation is a core component of the Bobath concept in neurological physiotherapy. However, how different levels of Bobath education influence its interpretation and clinical use remains unclear.
Purpose: To explore similarities and differences in how physiotherapists with Basic and Advanced Bobath education conceptualize and apply manual facilitation in post-stroke rehabilitation.
Methods: An interpretive description qualitative approach was used. Sixteen physiotherapists with postgraduate Bobath training were purposively recruited into two groups: Basic Bobath (BBG, n = 8) and Advanced Bobath (ABG, n = 8). Each participant conducted a video-recorded treatment session with a person post-stroke, followed by a video-stimulated recall interview. Data from interviews, video recordings, and field notes were analyzed using reflexive thematic analysis. Video coding provided additional descriptive insights into therapist–patient interactions.
Results: Manual facilitation was central to practice in both groups. BBG participants described it mainly as a technique to provide sensory input, optimize alignment, facilitate movement, and reduce compensatory patterns. In contrast, ABG participants conceptualized facilitation as a dynamic, bidirectional process integrating assessment and intervention, supporting movement exploration, motor learning, and clinical reasoning, consistent with expert visuospatial–kinesthetic perception described in Bobath instructors.
Conclusions: Advanced Bobath education appears to be associated with a more integrated and flexible understanding of manual facilitation.
Implications: These preliminary findings may inform postgraduate education and support the development of expertise in neurological physiotherapy.
Funding acknowledgements: This work was supported by FCT (Fundação para a Ciência e a Tecnologia), with the grant number 2022.12819.BD.

EP078 - SC1
FUNCTIONAL RECOVERY FOLLOWING INPATIENT STROKE REHABILITATION: A PHYSIOTHERAPY PERSPECTIVE
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Introduction: In physiotherapy, the use of standardized assessment tools allows objective quantification of functional deficits and monitoring of clinical improvement during hospitalization.
Objective: To analyze functional recovery in stroke patients, identifying domains with the greatest and least clinical improvement. Methodology: This observational, descriptive, longitudinal study involved patients diagnosed with stroke who were admitted to a rehabilitation unit. Sociodemographic and clinical data were collected during the first and last weeks of hospitalization. The Berg Balance Scale (BBS) assessed balance, the Motor Assessment Scale (MAS) evaluated functionality, and the Stroke Impact Scale 2.0 (SIS-2) assessed the impact of stroke on patients' lives across multiple domains.
Results: Twelve patients (5 women), aged 44–89, with a median hospital stay of 44.5 days, were evaluated. Overall improvement was observed, particularly in motor and physical domains. The greatest gains occurred in the SIS-2 domains of Mobility, Activities, Physical Function, and Hand Use, with 72.7–81.8% of patients showing clinically meaningful improvements and average gains ranging from +25.0 to +36.6 points. Functional tests supported this trend, showing marked improvements in balance (75% of patients improved in BBS) and overall functionality (100% improved in MAS). The domains with the least improvement were Communication and Memory, with no significant gains.
Conclusion: These findings highlight the positive impact of structured inpatient rehabilitation and identify domains requiring continued care for more comprehensive recovery.
Implications: Multidimensional assessment supports a person-centered approach, enabling individualized treatment planning and effective monitoring of functional progress after discharge.
Funding acknowledgements: None declared.

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OCCUPATIONAL HEALTH AND ERGONOMICS

EP128 - SC2

PREVALENCE OF WORK-RELATED MUSCULOSKELETAL SYMPTOMS IN PROFESSIONAL DRIVERS' HEALTH IN PORTUGAL: A CROSS-SECTIONAL STUDY

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Background: Professional drivers are exposed to a range of health, safety, and ergonomic risks, increasing their risk of musculoskeletal disorders (MSDs). This study aimed to evaluate the prevalence of work-related musculoskeletal symptoms among Portuguese professional drivers and to examine their association with factors such as age, professional experience, sector, and physical activity.
Methods: The sample consisted of 237 professional drivers (8 = female and 239 = male). Musculoskeletal symptoms were evaluated using the Nordic Musculoskeletal Questionnaire, while physical activity levels were assessed using the Physical Activity Questionnaire – Short Form (IPAQ-SF).
Results: A high prevalence of pain was reported in the last 12 months, particularly in the lower back (46%), neck (32.1%), and knees (30%). A significant association was identified between knee musculoskeletal symptoms and physical activity level ($p = 0.032$), indicating that lower physical activity levels are associated with a higher prevalence of knee symptoms.
Conclusion: Based on the findings of this study, the prevalence of work-related musculoskeletal disorders and associated symptoms among professional drivers is relatively high, and specific risk factors may contribute to the development of these disorders. To maintain occupational health, it is essential to implement preventive strategies that emphasize ergonomics, encourage active breaks, and promote physical activity.
Funding acknowledgements: None declared.

EP063 - SC2

FOREARM STRENGTH IN PHYSIOTHERAPY STUDENTS: A PILOT STUDY FOR A FUTURE MULTICENTER INVESTIGATION

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Background: Physiotherapy is a physically demanding profession that requires repeated manual techniques involving substantial upper limb strength. These physical demands place physiotherapists at high risk of developing work-related musculoskeletal disorders, particularly affecting the wrist, hand, and forearm. In this context, muscular strength appears to be a key determinant of physiotherapists' work capacity. Despite this, the physical preparation of physiotherapy students during undergraduate education has received limited attention in the scientific literature. No previous studies have characterized forearm strength in physiotherapy students.
Purpose: The aim of this pilot project is to lay the foundations for a study aimed at characterizing handgrip strength in physiotherapy students.
Methods: Students from the Physiotherapy degree programme were recruited and underwent an anthropometric assessment. Each participant also performed a forearm strength assessment using hand dynamometry.
Results: A total of 34 physiotherapy students were recruited for this pilot study. Male students showed higher absolute strength values than female students ($p < 0.05$). Additionally, older students achieved better results in the strength test.
Conclusions and implications: This study represents a first step toward the characterization of forearm strength in physiotherapy students. Establishing reference values in this population may inform preventive strength training strategies during undergraduate education and contribute to improving physical preparedness for the profession. Additionally, this work raises, for the first time, a discussion on the most appropriate methodological approaches for conducting studies of this nature.
Funding acknowledgements: None declared.

EP143 - SC3

RETURN-TO-WORK PROCESS IN WOMEN AFTER BREAST CANCER: A PHENOMENOLOGICAL QUALITATIVE STUDY FROM A PHYSIOTHERAPY PERSPECTIVE

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Background: Returning to work is a key milestone for breast cancer survivors, yet persistent treatment-related physical problems may compromise work ability and long-term occupational reintegration. While qualitative research has largely focused on psychosocial aspects, the impact of physical sequelae, particularly from a physiotherapy perspective, remains underexplored.
Purpose: To explore how treatment-related consequences influence return to work after breast cancer, and to examine the role of physiotherapy in supporting sustainable work participation.
Methods: An interpretive phenomenological study was conducted with 18 female breast cancer survivors. Data were collected through semi-structured interviews (five focus groups and five individual interviews), addressing perceived physical sequelae, work-related impact, and experiences with healthcare and workplace support. Audio-recorded interviews were transcribed verbatim and analyzed thematically using an iterative coding process with investigator triangulation (ATLAS.ti).
Results: A total of 122 codes were organized into five categories: 1) consequences of cancer treatment; 2) barriers and facilitators for return to work; 3) social and workplace environment; 4) role of physiotherapy and healthcare support; and 5) gender-related bias. Fatigue, pain and cognitive difficulties emerged as primary barriers, while flexible work conditions and supportive environments facilitated reintegration.
Conclusions: Return to work after breast cancer is a complex process influenced by the interaction of physical impairments with social and workplace factors, health services, and gender roles. These findings provide a pathway to better integrate physiotherapy within return-to-work strategies after breast cancer.
Implications: Findings support development of targeted physiotherapy interventions and workplace adaptations to improve occupational outcomes and inform health policy.

Funding acknowledgements: This study was conducted within the framework of the IRSST-UAH Chair.

OLDER PEOPLE

EP038 - SC2

MUSCLE ULTRASOUND BIOMARKERS AND PHYSICAL FUNCTION IN INSTITUTIONALIZED OLDER ADULTS

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Background: Sarcopenia drives frailty in institutionalized older adults. Muscle ultrasound assesses tissue quantity (thickness, Th) and quality (echogenicity variation, EV; echo intensity, EI), yet its predictive value beyond handgrip strength (HGS) remains unclear.
Purpose: To evaluate associations between ultrasound parameters (Th, EI, EV, GLCM texture) and locomotor function (SPPB) and HGS, and whether ultrasound adds incremental value over HGS for severe frailty.
Methods: Cross-sectional study (n=90, age ≥65, 71% women) in Spanish long-term care facilities. Bilateral B-mode ultrasound of four muscles provided Th, EI, and EV. GLCM analysis yielded 44 texture parameters; PCA reduced dimensionality. Spearman correlations with FDR correction and ROC analyses assessed discrimination for severe frailty (SPPB≤6).
Results: Th of tibialis anterior and wrist flexors were the strongest predictors of HGS (ρ = 0.397 and 0.378; p-FDR < 0.001). EV of quadriceps femoris and tibialis anterior were the only parameters associated with SPPB (ρ = 0.287 and 0.282; p-FDR = 0.047). EI showed no significant associations. HGS outperformed ultrasound for frailty discrimination (AUC = 0.750 vs 0.667). No parameter improved HGS discriminability (ΔAUC ≤ 0.008; p > 0.60). Seven GLCM components (93% variance) showed no associations.
Conclusions: Th and EV reflect complementary sarcopenia dimensions: mass loss affecting strength and tissue heterogeneity affecting locomotion. GLCM and ultrasound-HGS combinations did not improve frailty prediction. The high prevalence of severe frailty (74%) limits pre-frail discrimination.
Implications: EV may be a mechanistic biomarker of locomotor decline. Ultrasound captures deterioration dimensions that could complement HGS and guide physiotherapy in institutional settings.
Funding acknowledgements: None declared.

EP035 - SC2

EXPLORING THE ROLE AND PRACTICE OF PHYSIOTHERAPISTS IN NORWEGIAN NURSING HOMES: A CROSS-SECTIONAL STUDY

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Background: Physiotherapists can play an important role in supporting mobility, physical function, and quality of life among older adults in long-term nursing home care. Despite recognition of the importance of physical activity and rehabilitative care in nursing homes, there is limited knowledge about how physiotherapy services are delivered and prioritized in practice.
Purpose: This study aimed to examine clinical practice and the role of physiotherapists working in long-term care units in Norwegian nursing homes.
Methods: A national cross-sectional survey was conducted among physiotherapists involved in long-term care units in Norwegian nursing homes. Data was collected between May and July 2024 using a digital questionnaire comprising closed- and open-ended items addressing clinical practice, interdisciplinary collaboration, fall prevention, palliative care, and perceived barriers and competence needs.
Results: In total, 217 physiotherapists participated. Most reported no dedicated time for long-term nursing home residents and worked within domiciliary service models. Clinical practice varied, with inconsistent involvement in fall prevention, limited use of standardized assessment tools, and largely informal interdisciplinary collaboration.
Conclusions: Physiotherapy services in long-term nursing homes appear fragmented and underprioritized. Organizational structures and limited resources constrain physiotherapists' ability to contribute systematically to mobility promotion, fall prevention, and functional maintenance among residents.
Implications: Clearer role definitions, stronger organizational and interdisciplinary integration, and dedicated physiotherapy resources are needed to support more proactive and equitable physiotherapy services in long-term nursing home care.
Funding acknowledgements: Norwegian Fund for Post-Graduate Training in Physiotherapy.

EP043 - SC2

IMPACT OF PERSONALIZED NEUROREHABILITATION ON MOBILITY AND FUNCTIONAL INDEPENDENCE IN OLDER PATIENTS AFTER CHRONIC SUBDURAL HEMATOMA

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Background: Chronic subdural hematoma (CSDH) is a prevalent condition in older adults characterized by fluid accumulation in the subdural space. While typically treated with Burr-Hole Craniotomy (BHC), postoperative symptoms like paralysis and gait difficulties often necessitate extended rehabilitation.
Purpose: This pilot study evaluated the impact of a personalized neurorehabilitation program (PNRP) on motor mobility and functional independence in older patients following CSDH surgery.
Methods: The study included 50 patients who underwent BHC for unilateral or bilateral CSDH removal. Evaluations were conducted on the first postoperative day and prior to discharge using the Mini-Mental State Examination (MMSE), Markwalder's Grading Scale (MGS), Modified Rankin Scale (mRS), and De Morton Mobility Index (DEMMI). The daily PNRP lasted 30 to 45 minutes and featured individualized interventions for both cooperative and less cooperative individuals.
Results: The average patient age was 81.1 years, with a median hospital stay of 5 days and an average of 11 days. Following PNRP, MGS scores decreased from 1.84 to 1.51, mRS scores improved from 4.0 to 2.97, and DEMMI scores increased from 25.64 to 43.37. Notably, 40 patients achieved a clinically significant improvement of at least 10 points on the DEMMI scale. Upon discharge, 44% of patients returned home, 30% were transferred to a spa, and 26% entered nursing homes.

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Conclusion and Implications: The PNRP effectively enhanced motor skills and functional independence in postoperative CSDH patients. Results showed an 80% improvement in mobility, underscoring that early intervention is vital, as over half of patients required ongoing care after discharge.
Funding acknowledgements: None declared.

EP042 - SC2
EFFECTIVENESS OF USING MOTOR IMAGERY IN REDUCING FALLS IN OLDER PEOPLE: A SYSTEMATIC REVIEW
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Falls in older adults represent a major global health challenge, being a leading cause of injury, disability, and loss of independence. Age-related declines in neuromuscular and cognitive function increase fall risk and limit the effectiveness of purely physical rehabilitation strategies. Motor imagery (MI), a cognitive intervention involving the mental simulation of movement, has emerged as a potential tool to enhance motor function without physical demand. This study aimed to evaluate the effectiveness of MI interventions in reducing fall risk and improving balance, gait, and functional performance in older adults. A systematic review was conducted in accordance with PRISMA guidelines. A comprehensive search of eleven electronic databases was performed in December 2023. Randomized controlled trials involving adults aged ≥60 years and investigating MI interventions for fall risk reduction were included. Methodological quality was also assessed using the PEDro scale. Nine studies (n = 300 participants) were included. Despite heterogeneity across study designs and populations, most studies demonstrated significant improvements in fall risk (Timed Up and Go, Falls Efficacy Scale), balance (Berg Balance Scale, Four Step Square Test), gait parameters, and motor imagery ability. Interventions combining guided imagery, multi-segmental tasks, and prior relaxation were associated with greater functional improvements. MI appears to be an effective, low-cost, and accessible intervention for reducing fall risk and improving functional outcomes in older adults. MI may represent a practical and scalable strategy to complement physiotherapy programs, particularly in populations with limited physical capacity, facilitating safer and more accessible fall prevention interventions.
Funding acknowledgements: None declared.

EP037 - SC2
WALKING WHILE TALKING: AGE-RELATED DIFFERENCES IN DUAL-TASK GAIT PERFORMANCE
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Background: Gait, although often considered automatic, relies on cognitive-motor integration. Under dual-task (DT) conditions, older adults may exhibit altered gait patterns, increasing fall risk. Purpose: Compare motor and cognitive performance during dual-task walking between healthy young and older adults matched for sex, education, and socioeconomic status, and to examine the impact of a concurrent cognitive task on spatiotemporal gait parameters.
Methods: A cross-sectional observational study included 94 participants (46 young adults; 48 older adults). Global cognition (MoCA), depressive symptoms (BDI/GDS), and socioeconomic classification were assessed. Gait was evaluated using the GAITRite® system under three randomized conditions: single motor task (walking), single cognitive task (verbal fluency), and DT (walking while performing verbal fluency). Mixed 2×2 ANOVA and ANCOVA were performed ($p \leq 0.05$).
Results: Groups were comparable in sex, education, and socioeconomic level. Significant group-by-condition interactions were found for step length, stride length, single and double support times, total support time and gait cycle time ($p<0.05$). Only older adults demonstrated reduced step and stride length and increased double support and cycle time during DT. Cognitive cost did not differ between groups.
Conclusion: Ageing is associated with reduced motor automaticity under DT conditions, expressed by a more cautious gait pattern, independent of cognitive cost.
Implications: Physiotherapy interventions should incorporate DT training focused on motor automaticity to optimize mobility and reduce fall risk throughout the ageing process. Integrating DT training earlier in adulthood may help preserve locomotor efficiency across the lifespan. Future studies should explore longitudinal effects and responsiveness to intervention.
Funding acknowledgements: This study was produced as part of the activities of FAPESP- Neuromathematics #2013/07699-0, and supported by grant #2025/02885-7, #2025/14403-7, #2024/16868-4.

MISCELLANEA

EP150 -SC1
IMPACT OF A CLINICAL PILATES PROGRAMME ON SLEEP QUALITY AND QUALITY OF LIFE IN ADMINISTRATIVE WORKERS: CASE SERIES
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CESPU

Background: Physical exercise is recommended to improve the quality of sleep and quality of life. Workers with predominantly sedentary occupations frequently report sleep disturbances and reduced well-being. The Pilates method consists of a set of exercises based on body alignment, motor control, concentration, and fluidity of movement, which may provide both physical and psychological benefits.
Purpose: To evaluate the impact of a Clinical Pilates programme on sleep quality and quality of life in workers from the CESPU group.
Methods: A case series was conducted with six workers, who were selected through a screening questionnaire. The Pittsburgh Sleep Quality Index and the 36-Item Short Form Health Survey quality of life assessment were applied before and after the intervention. Participants completed a supervised 15-week Clinical Pilates programme twice weekly (30 minutes per session). Descriptive statistics were used to analyze the data.
Results: At baseline, two participants presented with poor sleep quality. After the intervention, one participant showed a clinically relevant improvement (4-point reduction in PSQI score), while the other showed a slight worsening (increase of 1 point). Four participants reported improvements in their perception of quality of life, particularly in the social functioning domain of the SF-36.
Conclusion: The results suggest that a Clinical Pilates programme may contribute to improvements in perceived quality of life and sleep quality in some workers.
Implications: These findings highlight the potential role of workplace- based mind–body exercise programmes in promoting sleep health and well-being among workers.
Funding acknowledgements: None declared.

EP097 - SC2
CORRELATIONS BETWEEN CLINICAL AND LABORATORY-BASED INSTRUMENTED BALANCE MEASURES IN INDIVIDUALS WITH MULTIPLE SCLEROSIS
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Background: Multiple sclerosis (MS) often causes balance impairments and increases fall risk. Laboratory-based biomechanical measures provide detailed information on stability, but they are not practical in routine care. Clinicians therefore rely on functional balance tests, although their relationship with instrumented measures remains unclear.
Purpose: To examine associations between established clinical balance tests and laboratory-derived balance measures in people with MS (pwMS), and to identify which clinical tests best reflect static and dynamic balance.
Methods: Thirty pwMS completed six clinical balance tests: Dynamic Gait Index, Berg Balance Scale (BBS), Timed Up and Go (TUG), Mini-BESTest, Six Spot Step Test, and Clinical Test of Sensory Interaction on Balance. Participants also underwent 3D gait analysis and force-plate posturography. Spearman correlations and nonparametric bootstrapping were used to assess associations between clinical scores and laboratory measures: margin of stability (MoS), whole-body angular momentum (WBAM), and center of pressure (CoP).
Results: All clinical tests correlated strongly with static balance, particularly CoP measures. The BBS showed the strongest association with static balance (r=0.76). For dynamic balance, larger MoS values were associated with poorer clinical performance, with the strongest negative correlation for TUG. Frontal-plane WBAM correlated most strongly with TUG (r = 0.67).
Conclusions: The BBS best reflects static balance, whereas TUG appears most informative for both static and dynamic balance in pwMS. Future studies should confirm these findings in larger samples and examine their value for fall prediction.
Implications: Simple clinical tests may support efficient balance assessment and fall-risk management in physiotherapy for pwMS.
Funding acknowledgements: None declared.

ONCOLOGY, HIV AND PALLIATIVE CARE

EP120 - SC1
PERSPECTIVES ON PHYSIOTHERAPY IN ADVANCED CANCER CARE FROM THOSE WHO GIVE, RECEIVE, AND REFER: A QUALITATIVE INTERVIEW STUDY
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Background: With advances in cancer treatments, more patients live longer with advanced disease, often experiencing complex symptom burdens and functional decline. Physiotherapy supports symptom management, autonomy, and quality of life, yet its role in advanced oncology care remains underrecognized and inconsistently integrated.
Purpose: To explore barriers and facilitators influencing physiotherapy integration in advanced oncology care.
Methods: Thirty semi-structured interviews were conducted with physiotherapists (n = 10), physicians (n = 10), and patients with advanced cancer (n = 10). Data were analyzed thematically using the Framework Method.
Results: Patient engagement was shaped by knowledge, attitudes, perceived control, and contextual and practical factors. Limited awareness of physiotherapy benefits and fluctuating physical capacity hindered participation, whereas social encouragement, tailored programmes, and disease-specific understanding facilitated engagement. Physicians' referral behavior varied based on knowledge, perceptions of patient suitability, and organizational constraints. Referrals were more common for motivated patients with supportive families, while time pressure and limited multidisciplinary communication impeded integration. Physiotherapists highlighted both physical and psychosocial benefits, with service delivery influenced by competence, experience, and organizational support.
Conclusions and implications: Misaligned expectations contribute to delayed or missed referrals. Knowledge gaps hinder timely integration, while social support and tailored interventions enhance engagement. Divergent role perceptions, physiotherapists emphasizing psychosocial care and physicians focusing on physical outcomes, highlight the need for improved communication and role clarity. Addressing barriers and supporting professionals and patients are essential to optimize physiotherapy integration in advanced cancer care.
Funding acknowledgements: This study was funded by Kom op tegen Kanker (Stand Up to Cancer), the Flemish cancer society (project ID: 13926).

EP122 - SC1
INFLUENCE OF HOME-EXERCISE PHYSIOTHERAPY PROGRAM ON ABILITY TO PERFORM ACTIVITIES OF DAILY LIVING IN BREAST CANCER SURVIVORS
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Background: Research shows that regular physical activity can improve the survival of breast cancer patients, as well as lower the risk of cancer recurrence and comorbidities compared to those who are less active, regardless of the stage of their disease.
Aim: To examine the impact of a customized at-home physiotherapy program on enhancing quality of life and functional abilities in breast cancer survivors.
Methods: The study was conducted with 29 women who had undergone surgery at least 6 months prior to joining the program. Participants performed a set of specialized exercises aimed at improving functional capabilities, ability to perform activities of daily living (ADL), and their overall quality of life (QOL). Outcomes were reported using the QuickDASH and EORTC QLQ-BR23 questionnaires.
Results: Significant changes were observed in the experimental group in the mean values of the answers to the QuickDASH questions, with the minimum significant difference of 8 points being surpassed. Similar results were observed in the results observed from the EORTC QLQ-BR23 questionnaire.
Conclusion: The functional abilities to carry out daily living tasks independently and the quality of life were both positively impacted by the home-exercise physiotherapy program implemented by breast cancer survivors.
Implications: Home-exercise programs are well accepted by breast cancer survivors and are suitable for long-term, daily use to achieve lasting clinical results and improve the quality of life.
Funding acknowledgements: None declared.

EP121 - SC1
PSYCHOMETRIC PROPERTIES OF INSTRUMENTS ASSESSING TREATMENT- RELATED BELIEFS, EXPECTATIONS AND KNOWLEDGE IN CANCER PATIENTS: COSMIN REVIEW
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Background: Beliefs, expectations, and knowledge regarding oncological treatments influence adherence, decision-making, and

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patient-reported outcomes. However, the measurement properties of instruments assessing these cognitive constructs in adult cancer populations remain unclear.
Purpose: To identify, describe, and critically appraise self-reported questionnaires assessing treatment-related beliefs, expectations, and knowledge in adult cancer patients, and to evaluate their measurement properties according to COSMIN standards.
Methods: A systematic search was conducted across major electronic databases. Studies were included if they described the development or psychometric evaluation of self-reported instruments assessing beliefs, expectations, or knowledge related to medical, surgical, or rehabilitative oncological treatments in adults (≥18 years). Three reviewers independently screened studies and extracted data. Methodological quality was assessed using the COSMIN Risk of Bias checklist. A narrative synthesis was performed.
Results: Approximately fifteen instruments met inclusion criteria. Most assessed medical treatment contexts, particularly endocrine therapy, chemotherapy, and symptom management. Structural validity was commonly evaluated using exploratory factor analysis, while confirmatory analyses were less frequent. Internal consistency was generally acceptable to high (α ranging from 0.63 to 0.96). However, formal content validity assessment, test–retest reliability, and responsiveness were frequently lacking.
Conclusions: Although several instruments demonstrate adequate internal consistency and preliminary structural validity, important measurement properties remain insufficiently evaluated.
Implications: Future research should prioritize comprehensive COSMIN-based validation, particularly content validity and longitudinal reliability, to strengthen measurement quality in oncology research and clinical practice.
Funding acknowledgements: None declared.

EP123 - SC1
INTEGRATING GAGA MOVEMENT LANGUAGE INTO ONCOLOGY REHABILITATION: AN INNOVATIVE PRACTICE ADAPTATION IN PHYSIOTHERAPY
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Background: Oncology rehabilitation increasingly incorporates multidimensional approaches addressing the physical, emotional, and social aspects of recovery. Gaga is a movement language developed by Israeli choreographer Ohad Naharin that emphasizes sensory awareness, internal imagery, enjoyment of movement, and non-judgmental exploration. Unlike structured exercise approaches, Gaga encourages participants to respond to internal sensations and cues rather than reproducing predefined forms. While widely used in dance and community settings, its potential therapeutic role within oncology rehabilitation has not yet been formally described.
Purpose: To describe the development and implementation of a weekly Gaga-based movement program integrated within an oncology physiotherapy service as a complementary rehabilitation modality.
Methods: A weekly group session was established within the physiotherapy department of a tertiary academic medical center (Tel Aviv Sourasky University Medical Center, Ichilov). Sessions are led by certified Gaga-trained dancers in collaboration with oncology physiotherapists. Participants include individuals undergoing cancer treatment and those in the survivorship phase. The program was adapted to accommodate cancer-related fatigue, treatment side effects, balance limitations, and varying functional capacity. Sessions emphasize graded intensity, safe movement exploration, body awareness, and enjoyment. Clinical observations and patient-reported feedback were collected as part of a service evaluation.
Results: Initial feedback indicates high participation, positive emotional responses, improved body awareness, and greater engagement in rehabilitation. Participants report increased confidence in movement and a supportive group experience.
Conclusions: Integrating Gaga into oncology physiotherapy appears to be a feasible and innovative practice adaptation that complements conventional rehabilitation.
Implications: Further research is required to evaluate physical and psychosocial outcomes.
Funding acknowledgements: None declared.

ORTHOPAEDICS

EP161 - SC1
SPECIFIC PHYSIOTHERAPY EXERCISE PROGRAMME FOR THORACIC OUTLET SYNDROME: A CASE SERIES WITH CT-CONFIRMED COMPRESSION
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Background: Thoracic outlet syndrome (TOS) is caused by compression of the brachial plexus and/or subclavian vessels within the scalene triangle, costoclavicular space, or pectoralis minor space. Neurogenic TOS accounts for more than 95% of cases and is typically aggravated by upper limb elevation and sustained overhead activity. Although conservative management with physiotherapy is recommended as first-line treatment, a subgroup of patients remains symptomatic. Imaging in provocative positions with upper limb flexion may reveal dynamic compression. There is a need to define targeted physiotherapy strategies for these refractory patients.
Purpose: To describe the clinical outcomes of a specific physiotherapy exercise programme in a case series of patients diagnosed with TOS who had not improved with previous conservative treatment.
Methods: 11 patients with CT-confirmed positional compression (flexion of the upper extremities versus anatomical position) underwent a structured 8-week physiotherapy programme. The intervention included postural re-education, scapular stabilization, deep cervical flexor training, neural mobility techniques, and progressive shoulder girdle strengthening. Pain intensity and ability for daily life activities were recorded pre- and post-intervention.
Results: All patients demonstrated clinically meaningful improvements in pain. Symptom reproduction during flexion decreased substantially, and functional tolerance to overhead activities improved. No adverse events were reported.
Conclusion: A targeted exercise-based physiotherapy programme may be effective in patients with CT-confirmed positional TOS who previously failed non-specific rehabilitation. Further controlled studies are warranted.
Implications: Findings support the implementation of individualized, position-specific exercise protocols in physiotherapy practice and highlight the value of dynamic imaging to guide conservative management strategies.
Funding acknowledgements: None declared.

EP073 - SC1
EFFECTS OF BLOOD FLOW RESTRICTION COMBINED WITH ELECTROSTIMULATION IMMEDIATELY AFTER KNEE ARTHROPLASTY. PILOT STUDY
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Background: Electrostimulation (ESM) is successfully used after orthopedic surgery. Blood flow restriction (BFR) is also used, but studies investigating its effects after elective knee arthroplasty (KA) are few and conducted in the advanced rehabilitation phase.
Purpose: To evaluate the effects of simultaneous use of BFR and ESM on maximal isometric quadriceps strength (MIS), functional capacity, and pain immediately after KA.
Methods: 30 patients (18 females), aged between 60 and 80 years and candidates for KA, were recruited and randomly assigned to one of the study groups. GC underwent a rehabilitation protocol including a daily 30-minute session of electrostimulation of the quadriceps (I-Tech Physio, IACER, Scorzè, Italy). GI followed the same protocol, but combined BFR during the ESM. The study began on day 3 post-surgery and ended on day 9. On days 2 and 10 post-surgery, the following were performed: MIS, 30-second chair stand test, Timed Up and Go, 20-meter walk, and perceived pain.
Results: No adverse events occurred. Both groups improved significantly in all outcomes investigated. The intergroup analysis shows that GI improved more than GC in all parameters, but the only statistically significant difference concerns MIS, the primary aim of the study.
Conclusions: Immediately after KA, BFR combined with ESM seems to be more effective than ESM alone for improving MIS, functional outcomes, and perceived pain.
Implications: If there aren't contraindications, the combined use of BFR and ESM is safe and could be included in early post-KA rehabilitation.
Funding acknowledgements: None declared.

EP132 - SC2
EARLY PHASED REHABILITATION AFTER SURGICAL REPAIR OF EXTENSOR HALLUCIS LONGUS RUPTURE FOLLOWING TRAUMATIC LACERATION: A CASE STUDY
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Background: Extensor hallucis longus (EHL) rupture after dorsal foot laceration is uncommon and may compromise hallux control and gait. Evidence describing phase-based postoperative rehabilitation is limited, particularly regarding timing of mobilization and progressive functional re-loading.
Purpose: To describe clinical recovery following an early, phased physiotherapy programme after primary surgical repair of an acute EHL rupture caused by traumatic laceration.
Methods: A 42-year-old man sustained a glass-related laceration to the dorsum of the left foot with immediate loss of hallux extension. Imaging confirmed complete EHL rupture. Same-day end-to-end repair was performed using the Kessler technique, followed by immobilization in a short-leg cast with the ankle neutral and the hallux in slight dorsiflexion. Physiotherapy commenced 2 weeks postoperatively and progressed over 12+ weeks in phases: symptom control and protected joint motion (weeks 1–4), initiation of active extension (weeks 5–8), graded strengthening and gait retraining (weeks 8–12), and return-to-activity guidance (week 12+).
Results: At week 6, active hallux extension was absent. By week 8, active extension was initiated. At week 12, full active hallux extension was achieved with minimal pain and a normal gait pattern.
Conclusions: A structured, phase-based rehabilitation approach after acute EHL repair was associated with restoration of hallux extension and gait normalization by 12 weeks.
Implications: Early, criteria-guided progression from protected motion to strengthening and functional retraining may support timely recovery after EHL repair; prospective data are needed.
Funding acknowledgements: None declared.

EP160 - SC1
THE STANDARD POSTURE. A MYTH WITH NO SCIENTIFIC BASIS
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Background: The 'standard posture' described in Kendall's manual is considered the reference position for postural assessment. Any differences from this standard are considered postural alterations. However, none of the editions of the manual provide a bibliographic reference to the origin of this standard.
Purpose: To identify the original source of this posture design and the procedure followed, and to compare it with current literature on the subject.
Methods: Searches were conducted in PubMed and Scopus in accordance with the PRISMA Extension for Scoping Reviews recommendations. Publications on posture in healthy adults were included.
Results: The Weber brothers (1836) designed a posture based on Giovanni Borelli's (1679) erroneous belief that aligning all body segments over the center of the femoral heads would enable static standing without muscular effort. They propose a slight knee recurvatum, a backward shoulder position coinciding with the vertical line of the femoral heads and positioning the center of gravity of the head on the same line. This is based on the erroneous assumption, which was common at the time, that the nuchal ligament has no supporting function. It should be noted that the Weber brothers never suggested that their proposal should be considered a postural standard. This supposed "ideal alignment" does not correspond to the actual line of gravity, comfortable posture, or natural postural compensations due to age, gender, or race.
Conclusion: Using this standard to identify postural deficiencies is not scientifically sound and can result in numerous false positives, especially among older individuals.
Funding acknowledgements: None declared.

EP071 - SC1
MAJOR DISCREPANCIES IN RECOMMENDATIONS BY PHYSIOTHERAPISTS REGARDING LONG-TERM ACTIVITY RESTRICTIONS FOLLOWING KNEE REPLACEMENT
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Background: There is limited evidence to support specific recommendations for long-term activity restrictions after knee replacement

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surgery. Consequently, physiotherapists´ guidance may vary, which could influence patients´ confidence, adherence to rehabilitation, overall recovery outcomes, and even contribute to the development of fear of movement.
Purpose: This study aimed to explore and describe the recommendations given by physiotherapists regarding long-term activity restrictions following knee replacement.
Methods: An online survey was distributed to physiotherapy units in Swedish orthopedic specialist clinics and primary healthcare centers. For this study, responses to the question "Do you usually recommend any long-term restrictions? (For example, running, skiing, squatting, kneeling?) Please elaborate!" were analyzed using quantitative content analysis to systematically identify and quantify patterns.
Results: Of 233 physiotherapists who responded to the specific survey question, 66% (n = 151) reported that they provided specific recommendations regarding long-term activity restrictions following knee replacement. The most commonly non- recommended activities were running and jumping, followed by kneeling and squatting. The extent of recommended restrictions varied considerably. Among those recommending long-term restrictions, 16% (n = 24) stated that the primary reason was to avoid compromising implant survival.
Conclusions: Considerable variability exists in physiotherapists´ recommendations regarding long-term activity restriction following knee replacement across different settings. This variation may reflect the current lack of evidence-based guidelines regarding activity.
Implications: The result in this study implies that there is a need for consensus to support more consistent and confident communication with patients about long-term physical activity after knee replacement surgery.
Funding acknowledgements: None declared.

EP072 - SC1
PREOPERATIVE CHARACTERISTICS, KNEE FUNCTION AND PHYSICAL ACTIVITY LEVEL FOR INDIVIDUALS AWAITING TOTAL KNEE REPLACEMENT
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Background: Poor preoperative knee function predicts poorer outcomes after total knee replacement (TKR). The interplay between objective function, patient reported measures (PRM) and physical activity (PA) level preoperatively remains uncertain.
Purpose: Investigate how objective functional measures relate to PRM and PA level for individuals awaiting TKR.
Methods: Individuals awaiting TKR were assessed for knee range of motion (ROM), isometric quadriceps strength (iso-Q), and the 30-second Chair-to-Stand Test (30sCST). PRM included Knee Injury and Osteoarthritis Outcome Score subscales symptoms (KOOS symptoms), activities in daily living (KOOS ADL), and quality of life (KOOS QoL), and the brief International Physical Activity Questionnaire (IPAQsf).
Results: 83 individuals (age 70.3 (±7.4), 59% female) were recruited. For the leg awaiting surgery, extension ROM was +6.5° (±7.5°), flexion-ROM 111.9° (±15.4°), and iso-Q was 232.6 Newton (N) (±125.6N). 30sCST score was 8.9 repetitions (±5.0). KOOS symptoms were 41 (±16.0), KOOS ADL 39.3 (±15.8), and KOOSQoL 15.1 points (±11.4). 40.7% had low, 25.9% moderate, and 33.3% high PA level. Flexion-ROM was moderately correlated with KOOS symptoms ($r = 0.516$), KOOS ADL ($r = 0.367$), KOOS QoL ($r = 0.310$), 30sCST ($r = 0.393$), IPAQsf ($r = 0.327$), and iso-Q ($r = 0.333$), all $p < 0.005$. Extension-ROM was moderately correlated with 30sCST ($r = -0.360$) and KOOS symptoms ($r = -0.300$), $p < 0.007$. There was a moderate correlation between iso-Q and 30sCST ($r = 0.402$, $p \leq 0.001$).
Conclusions: Consistently moderate correlations were found between objective functional and patient-reported measures.
Implications: Highlight the importance of assessing knee function through both objective and patient-reported measures for individuals awaiting TKR.
Funding acknowledgements: Research Council of Southeast Sweden (reg. no FORSS-977514).

PAEDIATRICS

EP025 - SC1
QUALITY INDICATORS FOR EARLY INTERVENTION SERVICES IN SPAIN: A MODIFIED RAND/UCLA DELPHI
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Background: Early Intervention (Atención Temprana) has expanded in Spain, yet the absence of national regulation and regional variability limit comparable quality monitoring. Consensus-based indicators are needed to support continuous improvement and accountability across services.
Purpose: To develop and prioritise quality indicators for Early Intervention services in Spain using expert consensus.
Methods: An evidence-informed set of candidate indicators was compiled from key national reference documents (including the Documento Marco de Fisioterapia en Atención Temprana and the Consenso Estatal para la mejora de la Atención Temprana 2025) and a targeted literature review. A modified Delphi based on the RAND/UCLA Appropriateness Method was conducted with 15 multidisciplinary experts (73.3% women; 80.0% specialized Early Intervention professionals; 73.3% with >10 years' experience) from five Spanish regions. Experts rated each candidate indicator on 1–5 scales for relevance, measurability, and scope. Indicators were classified as appropriate (median 4–5), uncertain (median 3), or inappropriate (median 1–2); disagreement was defined as ≥1/3 of ratings outside the median tertile.
Results: Ninety-six candidate indicators were evaluated in round 1: 37 (38.5%) were accepted for inclusion, 36 (37.5%) were flagged as uncertain for revision, and 23 (24.0%) were rejected.
Conclusion: First-round consensus supported inclusion or rejection of 60/96 indicators and identified a substantial set requiring refinement to build a final consensual indicator set.
Implications: A standardized indicator set can enable benchmarking, guide quality-improvement cycles, and reduce unwarranted territorial variability in Early Intervention services.
Funding acknowledgements: None declared.

EP027 - SC1
KNOWLEDGE, INTERPRETATION, AND CULTURAL TRANSLATION OF THE F-WORDS FRAMEWORK IN SPANISH-SPEAKING CONTEXTS: PRELIMINARY FINDINGS
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Background: The F-Words for Child Development framework promotes a strengths-based, family-centered approach to childhood disability aligned with the International Classification of Functioning,

Disability and Health (ICF). It reframes disability through six domains: Function, Family, Fitness, Fun, Friends, and Future. Although increasingly used in Spanish-speaking settings, limited research has explored how the framework is interpreted, translated, and implemented across different cultural and linguistic contexts.
Purpose: To explore knowledge, interpretation, cultural translation, and perceived clinical impact of the F-Words among Spanish- speaking professionals and families, and to identify barriers and facilitators for implementation.
Methods: A cross-sectional online survey assessed familiarity with the framework, interpretation and translation of the F-Words, perceived impact, and barriers and facilitators for implementation. Quantitative data were summarized using descriptive analyses. Participants included Spanish-speaking professionals from physical therapy, occupational therapy, medicine, and education, and family caregivers of children with disabilities. Respondents represented multiple Spanish-speaking countries across Latin America.
Results: A total of 138 responses were obtained, including 121 professionals and 16 family members. Among clinicians, 84.6% reported familiarity with the framework, while 56.1% reported using it in clinical practice. In contrast, 68.8% of families reported no prior knowledge. Function, Fun, and Friends were the most recognized terms. Fun was commonly interpreted as diversion, while Fitness was understood as physical condition. Participants emphasized that translations should remain faithful to the original meaning while being clear for families.
Conclusions and implications: Findings demonstrate strong professional engagement but highlight variability in interpretation and limited family awareness, supporting the need for culturally grounded Spanish-language resources.
Funding acknowledgements: None declared.

EP029 - SC1
TELEREHABILITATION IN PEDIATRIC PHYSICAL THERAPY FOR NEURODEVELOPMENTAL DISORDERS: A SCOPING REVIEW
Ignacio Pastor-Ruiz, María Cristina Carmona-Pérez, Lourdes García-Luque, Sandra Alcaraz-Clariana
University of Córdoba

Background: Pediatric neurodevelopmental disorders require intensive physical therapy interventions. Telerehabilitation has emerged as an innovative alternative to overcome geographical and logistical barriers inherent to traditional face-to-face models, ensuring continuity of care.
Purpose: To systematically map and analyze the current scientific evidence (2021-2026) regarding the modalities and efficacy of telerehabilitation in pediatric physical therapy for children with neurodevelopmental disorders.
Methods: A scoping review was conducted adhering to PRISMA-ScR guidelines. A structured search across PubMed, Scopus, Web of Science, and PEDro databases identified 15 eligible studies (randomized clinical trials, cohort, and qualitative studies). Methodological quality and risk of bias were evaluated using the PEDro and MINORS scales.
Results: Telerehabilitation interventions—utilizing videoconferencing, mHealth apps, and video games—yielded significant improvements in gross and fine motor function, demonstrating comparable efficacy to in-person therapy. Advanced digital tools enhanced motivation through gamification, whereas standard platforms facilitated high adherence. Crucially, telerehabilitation successfully maintained functional achievements post-intensive therapy and empowered parents to act as effective co-therapists in the child's natural environment.
Conclusions: Telerehabilitation is a highly viable, effective modality for pediatric neurorehabilitation. Success relies on active family involvement and stable technological infrastructure. Future research should define optimal therapeutic dosages and long-term cost-effectiveness.
Implications: This approach democratizes access to specialized healthcare. Telerehabilitation should transition from an emergency substitute to a permanent component of hybrid care models, integrating remote parental coaching with face-to- face evaluations.
Funding acknowledgements: None declared.

EP026 - SC1
FAMILY-CENTRED CARE MODELS IN EARLY INTERVENTION PHYSIOTHERAPY: A SYSTEMATIC REVIEW OF CHILD AND FAMILY OUTCOMES.
Lucía Rodríguez Ampudia[1], Almudena Cerezo Zarzuelo[2], Juan Pablo Romero Muñoz[3], Zaida Moreno Ramos[4], Francisco José Sánchez Cuesta[3]
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Background: Early Intervention Physiotherapy is progressively shifting from impairment-focused, clinic-based care towards ecological, family-centered care (FCC) approaches. These models emphasize collaboration with families and participation in children's natural environments. However, implementation of FCC within pediatric physiotherapy remains heterogeneous.
Purpose: To systematically review how family-centered care models are implemented in Early Intervention Physiotherapy for children aged 0–6 years with neurodevelopmental risk or disability and synthesize their effects on child and family outcomes.
Methods: A systematic review following PRISMA guidelines and registered in PROSPERO was conducted. Searches were performed in PubMed, Scopus, Web of Science, Dialnet, and PEDro for studies published in the last ten years involving FCC- based interventions in early intervention contexts. Studies were included if physiotherapists were involved as providers and the intervention was applicable to pediatric physiotherapy practice. Methodological quality and risk of bias were assessed using the PEDro scale and the RoB 2 tool.
Results: The search identified 277 records across databases. After removing duplicates and screening titles and abstracts, 10 full-text articles were assessed for eligibility, of which 6 met the inclusion criteria. These comprised four RCTs and two pre-experimental studies, including 169 participants. Interventions such as COPCA, CARE-TOY, and other physiotherapist- delivered FCC approaches showed positive effects on child developmental outcomes and family-related outcomes, including parental confidence, empowerment, and reduced stress.
Conclusions: FCC models appear feasible and beneficial in physiotherapy early intervention contexts, supporting development and strengthening family capacity.
Implications: FCC approaches may support physiotherapists in transitioning from direct treatment providers to facilitators of family participation.
Funding acknowledgements: None declared.

EP033 - SC1
VIBRA: EXPERIENCE OF A PHYSICAL THERAPY PROGRAM BASED ON BODY AWARENESS IN ADOLESCENTS WITH DEVELOPMENTAL DISORDERS
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The VIBRA program was developed to explore the experiences of adolescents with developmental disorders from a qualitative and participatory perspective. Adolescents with these conditions often show lower levels of social participation than their peers and frequently experience associated physical and mental health challenges, including alterations in body awareness. Approaches based on bodywork may help address these difficulties. The aim of this study was to explore adolescents' experiences of a physiotherapy program focused on body awareness. A participatory action research design was used. Following the Participation Matrix framework, adolescents with developmental disorders and their families were involved from the initial stages of program design. Six participants attended sixteen group sessions centered on body awareness. Data were collected through individual interviews, focus groups, and participant observation involving both adolescents and physiotherapists until theoretical saturation was reached. Two main themes emerged from the analysis: improved body awareness and relaxation, and opportunities for interaction and shared recreational experiences with peers. Overall, the VIBRA program provided adolescents with developmental disorders with a supportive environment to enhance body awareness while promoting relaxation and social interaction through engaging group activities.

Funding acknowledgements: The study was funded by the University of Alcalá's own research program, number code: PIUAH25/CCS-023.

EP032 - SC1

PHYSIOTHERAPY INTERVENTION USING LOW-COST POWERED MOBILITY DEVICES IN CHILDREN WITH LIMITED INDEPENDENT MOBILITY: A CASE SERIES

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Background: Independent mobility is essential for children's cognitive, sensorimotor, and social development. Children with neurodevelopmental disorders may have limited independent mobility, negatively affecting participation and quality of life. Powered mobility interventions can enhance autonomy and engagement, although accessibility and cost remain important barriers.
Purpose: To explore the effects of a physiotherapy intervention incorporating low-cost powered mobility devices on participation, trunk control, quality of life, and mobility learning in children with limited independent mobility.
Methods: A physiotherapy intervention incorporating training with low-cost powered mobility devices was conducted with five children aged 3–11 years, with or without previous powered mobility experience. The eight-week programme included weekly 30-minute physiotherapy sessions using customized devices from the Padrino Tecnológico programme. Outcomes included participation (YC-PEM, PEM-CY), trunk control (TCMS), quality of life (PedsQL), learning level in powered mobility use (ALP), and user satisfaction (QUEST 2.0), assessed before and after the intervention.
Results: All participants showed improvements across the measured variables. Clinically relevant gains were observed in trunk control and quality of life. Participation and powered mobility learning increased, and families reported high satisfaction with the devices and the intervention.
Conclusions: Low-cost powered mobility training within physiotherapy programmes may improve trunk control, participation, and quality of life in children with mobility limitations.
Implications: Integrating accessible powered mobility devices into pediatric physiotherapy programmes may promote independence and support participation in daily and social activities.

Funding acknowledgements: -GUIDANCE-4D, reference CM/DEMG/2024-028, of CAM-UAH; -NAVIGATOR-D, reference PID2023-148310OB-I00 from the Ministry of Science and Innovation of Spain.

EP166 - SC2

VALIDITY AND RELIABILITY OF THE SPANISH VERSION OF THE SEGMENTAL ASSESSMENT OF TRUNK CONTROL (SATCO)

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Background: Postural control impairment in children with cerebral palsy (CP) significantly limits activity and participation. Although standardized tools for trunk assessment exist, their clinical use remains limited, partly due to the lack of validated versions across languages. Valid and reliable assessment tools are essential to guide clinical decision-making and intervention planning.
Purpose: To validate the Spanish version of the Segmental Assessment of Trunk Control (SATCo) in children with neurodisabilities. Secondary objectives included evaluating its inter-rater reliability, construct validity, and convergent validity.
Methods: Thirty-eight children with CP and twenty-one typically developing (TD) children (aged 1–17 years) were assessed using SATCo. Assessments were video-recorded and independently scored by two raters (static, active, and reactive control). Inter-rater reliability was analyzed using intraclass correlation coefficients (ICC). Construct validity was examined using the Mann–Whitney U test, and convergent validity with the Level of Sitting Scale.
Results: Preliminary data show excellent inter-rater reliability. Complete agreement was observed in 87% of cases, with minor discrepancies (one segment). Convergent validity was strong. Further analyses are currently ongoing to explore responsiveness and clinical applicability.
Conclusions: The Spanish version of SATCo demonstrates excellent psychometric properties, supporting its use in both clinical and research settings.
Implications: The availability of a validated Spanish SATCo facilitates standardized trunk control assessment, improving clinical decision-making and enabling more targeted interventions. This may enhance functional outcomes and participation in children with CP and supports its integration into routine physiotherapy practice and future research.

Funding acknowledgements: Official College of Physiotherapists of Galicia

PAEDIATRICS: CEREBRAL PALSY

EP031 - SC1

RADIAL SHOCKWAVE THERAPY IN THE MANAGEMENT OF SPASTICITY IN CHILDREN WITH CEREBRAL PALSY: A PILOT STUDY

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Gymna International

Cerebral palsy (CP) is the most prevalent childhood disability, occurring in 2.08/1,000 newborns, with 80% showing spasticity. Recently, radial extracorporeal shockwave therapy (rESWT) became an alternative treatment, although the working mechanisms remain unclear. The primary aim of this pilot study was to determine the feasibility of rESWT in daily care of children with CP. Secondary aims were safety and efficacy, assessed by means of Modified Ashworth Scale (MAS). A randomized, assessor-blind, cross-over design was used. All 21 participants received

conventional therapy. 11 participants immediately received weekly rESWT for 4 weeks. After a 3-month washout, another 10 children received rESWT. Despite considerable heterogeneity, intervention and control groups were equally distributed. For clinical efficacy, Bayesian linear regressions were used to examine the relationship between time and MAS. We fit a Gaussian model with a weakly informative prior to reflect our expectation of potential clinical efficacy over time. rESWT was well tolerated, with a high level of acceptance across all age groups. Furthermore, no serious or unanticipated side effects were reported. A consistent reduction in spasticity over time across 3 of the 5 anatomical sites was found, with the strongest evidence for the wrist (Median Effect = -0.39, 95% HDI: -0.76 to -0.06), followed by the knee (-0.31, 95% HDI: -0.58 to -0.04) and elbow (-0.270, 95% HDI: -0.598 to 0.022). For the hip and foot, no statistical difference was found. rESWT is accepted, safe, and showed potential to reduce spasticity in children with CP. Further research is warranted to determine the optimal protocol and long-term efficacy.
Funding acknowledgements: None declared.

EP030 - SC1
HOME-BASED DUAL PROTOCOL COMBINING BABY-CIMT AND TARGETED TRAINING IN A CHILD WITH UNILATERAL CEREBRAL PALSY: A CASE REPORT
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Background: Children with cerebral palsy present deficits in trunk control that affect negatively affect their upper-limb function. Evidence related to Baby-CIMT and Targeted Training indicates their potential benefits. Their dual application has still not been researched. This study presents a clinical case of a 10-month-old infant with left unilateral cerebral palsy who received both combined. Purpose. This study aims to design and implement a home-based intervention combining Baby-CIMT and Targeted Training, and to evaluate its effects on postural control and manual function, while addressing negative personal factors (parental stress and infant frustration).
Methods: The intervention dosage consisted of two treatment blocks of 6 and 10 weeks, from 30 minutes to 1 hour per day. It was implemented by parents during daily routines and supervised through weekly home visits, with postural aids. Primary outcomes were manual function (mini-AHA) and trunk control (SATCo) after blocking. Secondary outcomes included: participation, parental stress, and family empowerment.
Results: Following the intervention, the participant demonstrated increased spontaneous use of the non-dominant hand, reduced asymmetry in reaching tasks, and improved trunk control, as evidenced by higher assessment scores. Participation and family empowerment also increased significantly during and after the intervention.
Conclusion: The combination of both appears to optimize performance by enhancing trunk control and manual functional ability. Incorporating personal and environmental factors facilitates adherence to achieving optimal dosage.
Implications: These results suggest that this protocol combination provides greater opportunities for the children to practice and participate in enhancing treatment adherence in early interventions at home.
Funding acknowledgements: Official College of Physiotherapists of Galicia.

PAIN AND PAIN MANAGEMENT

EP041 - SC2
INCREASED PRESSURE PAIN SENSITIVITY AND LIMITED DESCENDING INHIBITORY PAIN CONTROL IN SENIORS WITH PAIN: A CROSS-SECTIONAL STUDY
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Background: Quantitative sensory testing (QST) assesses sensory nerve function and can provide mechanism-based insight into pain processing. Pain is highly prevalent among seniors, and it remains unclear how pain intensity relates to somatosensory profiles in this demographic.
Purpose: To compare mechanical pain sensitivity and descending inhibitory control between seniors (age >55 years) with moderate-to-severe pain (Numeric Rating Scale (NRS) ≥4) and those with no-to-mild pain (NRS <4).
Methods: A total of 331 seniors (62.1 years (SD 4.0), 49% females) completed a QST assessment consisting of Pressure Pain Threshold (PPT) at the thenar eminence and tibialis anterior, and Conditioned Pain Modulation (CPM) using a combination of repeated PPTs (test stimuli) and cold-water immersion (conditioning stimuli).
Results: Eighty seniors (24%) reported moderate-to-severe pain (mean 5.4NRS (SD 1.3)) within the last 24 hours (61.7 years (SD 3.8), 60% females). Seniors with pain reported significantly lower thenar eminence PTTs (390.3 kPa, 95% CI: 354.5-426.1 vs. 434.5 kPa, CI: 416.0-452.1, p = 0.024) and no difference at tibialis anterior. Both groups showed moderate change in CPM at the thenar eminence (-13% and -14%) and limited change at tibialis anterior (-1% and 1%), showing a site-specific difference in descending inhibition but no statistically significant difference between groups.
Conclusions: Seniors with moderate-to-severe pain show widespread mechanical hyperalgesia. CPM responses suggest site-specific and limited descending inhibitory pain control regardless of pain.
Implications: QST can be used as a risk-stratifying tool. The observed hyperalgesia and limited descending pain inhibition may suggest that seniors have a reduced physiological buffer, potentially increasing risks of chronic pain progression.
Funding acknowledgements: The Region of Southern Denmark and a local funder (Læge af Bramming Grethe Marie Justesens fond) have funded the study.

EP017 - SC1
THE SHORT PAINSMART-STRATEGY CAN ENHANCE PHYSIOTHERAPY MANAGEMENT FOR PATIENTS WITH MUSCULOSKELETAL PAIN: A RANDOMISED CONTROLLED TRIAL
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Background: Research is lacking on pain science education (PSE) for patients seeking primary care physiotherapy for musculoskeletal pain (MSKP). Implementing PSE is hindered by time pressures and its perceived complexity.
Purpose: To evaluate if adding 'The PainSMART-strategy' to usual physiotherapy management of MSKP improves pain intensity, pain self-efficacy and secondary outcomes more than usual physiotherapy management alone.
Methods: Multi-center, randomized, control group-blinded, superiority trial. Adults with MSKP (n = 504) were randomized to usual physiotherapy management alone, or usual physiotherapy management plus exposure to 'The PainSMART-strategy': A short, digital co-designed PSE intervention encompassing a film plus physiotherapist-initiated discussion. Primary outcomes: Average pain intensity, pain self-efficacy. Secondary outcomes: Best/worst pain intensity, illness perceptions, MSKP-management strategies, psychological flexibility, physical activity, global rating of change. Data collection: Baseline, 24-72 hrs pre-physiotherapy consultation (follow-up 1), 24 hrs post-consultation (follow-up 2), and three months (follow-up 3). Intention-to-treat analyses were performed using linear and generalized linear mixed models.
Results: Average pain intensity: No between-group difference at any follow-up. Pain self-efficacy: Between-group difference in change from baseline favored the PainSMART group at follow-up 1 (MD 1.6, 95% CI 0.10-3.0, 0-60 scale). The odds ratios for achieving higher pain self-efficacy favored the PainSMART group at follow-ups 1 and 3 (OR 2.3, 95%CI 1.2-4.3; 1.9, 95% CI 1.0-3.4). Secondary outcomes: No between-group differences at any follow-up.
Conclusion: Early integration of the PainSMART strategy into usual physiotherapy management can increase patients' pain self-efficacy and mitigate worsening during waiting times.
Implications: Short, digital PSE-interventions can be delivered at scale to enhance primary care management of MSKP.
Funding acknowledgements: Supported by Linköping University, Region Östergötland and the Medical Research Council of Southeast Sweden (FORSS).

EP024 - SC1

THERAPEUTIC TOUCH AND HYPNOSIS FOR PAIN MANAGEMENT: A SCOPING REVIEW OF COMPLEMENTARY APPROACHES IN PHYSIOTHERAPY

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Background: Pain is a complex and multidimensional phenomenon that often requires integrative approaches beyond pharmacological and conventional physiotherapeutic intervention. Hypnotherapy and therapeutic touch (TT) have emerged as complementary therapies with the potential to modulate both physical and psychological aspects of pain.
Objective: This scoping review aims to identify and synthesize the physiological and psychological mechanisms underlying hypnotherapy and TT, exploring their clinical applications across pain-related conditions.
Methods: A systematic search of PubMed, Scopus, and the Cochrane Library was conducted to identify English-language randomized controlled trials (RCTs) published between 2004 and 2026. Studies evaluating hypnotherapy or TT for pain management and quality of life outcomes were included. Methodological quality was assessed using the Cochrane Risk of Bias 2 (RoB 2) tool, with findings translated into AHRQ quality standards.
Results: Thirteen RCTs met the inclusion criteria. Both hypnotherapy and TT demonstrated clinically meaningful reductions in pain intensity, with several studies also reporting improvements in quality of life, psychological well-being, and functional outcomes. Hypnotherapy showed more consistent and robust effects, particularly in fibromyalgia, temporomandibular disorders, and chronic widespread pain, whereas evidence for TT was more heterogeneous.
Conclusions: Preliminary evidence supports hypnotherapy and TT as safe, non-invasive, and potentially effective adjuncts to conventional pain rehabilitation. However, variability in intervention protocols, inconsistent methodological quality, and limited mechanistic data highlight the need for standardized, high-quality, and long-term trials.
Implications: These findings support a biopsychosocial approach to pain management and encourage the integration of structured mind–body interventions within multidisciplinary rehabilitation models.
Funding acknowledgements: None declared.

EP009 - SC2

PARTICIPANTS WITH CHRONIC LOW BACK PAIN SHOW DISRUPTED ATTENTIONAL PROCESSING DURING THE LEFT-RIGHT JUDGMENT TASK

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Background: Chronic low back pain (CLBP) is associated with cortical reorganization, maladaptive neuroplasticity, and altered body representations. The left–right judgment task (LRJT) is considered an indirect measure of cortical body representation and may involve motor imagery (MI) strategies, although evidence remains inconsistent regarding the mechanisms underlying LRJT performance.
Purpose: This case–control, observational study examined LRJT performance (accuracy and reaction times) and event-related potentials (ERPs) for back and hand images in individuals with CLBP compared with healthy controls (HC). Relationships between LRJT outcomes, self-reported measures, and quantitative sensory testing (QST) were also analyzed to assess bodily disruptions.
Methods: Thirty-two participants with CLBP and thirty HC completed a computerized LRJT for back (experimental) and hand (control) images under three conditions (Laterality × Background × Rotation). Each image was displayed for up to 5000 ms, and participants identified left/right sides via mouse click. Participants completed questionnaires on strategy use and underwent QST.
Results: Self-reports suggested bodily disruptions in CLBP, but these were not supported by QST. Performance was comparable between groups; however, CLBP participants showed greater attention demands for both hand and back images, reflected by increased N1 amplitude in occipital electrodes, particularly for contextual images. Most individuals used mixed MI and mental-rotation strategies.
Conclusions: CLBP appears to involve altered attentional processing during LRJT performance.
Implications: Understanding the neurophysiological basis of LRJT performance may provide insights into its therapeutic potential and inform motor-imagery-based interventions for chronic pain, although implicit MI involvement remains uncertain.
Funding acknowledgements: None declared.

EP011 - SC2

EFFECT OF MANUAL THERAPY AS A PRIMING INTERVENTION ON AUTONOMIC RESPONSES TO NEUROMODULATION: A PILOT HRV STUDY

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Background: Autonomic nervous system (ANS) regulation plays a key role in pain modulation and recovery processes. While manual therapy is widely used in clinical practice, its potential role as a preparatory (priming) intervention for neuromodulation remains poorly explored.
Purpose: To investigate whether manual therapy applied prior to neuromodulation may influence autonomic responses, as measured by heart rate variability (HRV), in a pilot clinical setting.
Methods: A pilot observational study was conducted using HRV analysis (Polar H10, Kubios HRV). Measurements were taken at baseline, after initial neuromodulation, after manual therapy, and after a second neuromodulation phase within the same session. Changes in time-domain and non-linear HRV parameters were analyzed to assess autonomic shifts.
Results: Preliminary findings suggest that manual therapy applied between neuromodulation phases may alter autonomic responses, potentially enhancing parasympathetic activity and modifying system dynamics compared to neuromodulation alone.
Conclusions: Manual therapy may act as a priming intervention, influencing the physiological response to subsequent neuromodulation. These findings highlight the importance of intervention sequencing in clinical practice.
Implications: Understanding the interaction between manual therapy and neuromodulation may support more effective, individualised treatment strategies in physiotherapy. Further controlled studies are required to confirm these preliminary observations.
Funding acknowledgements: None declared.

EP010 - SC2

PHYSIOTHERAPY WITH INTEGRATED VIRTUAL REALITY FOR PATIENTS WITH SEVERE CHRONIC LOW BACK PAIN: CLUSTER-RANDOMIZED CONTROLLED TRIAL

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Background: Chronic low back pain (CLBP) is a leading cause of disability worldwide. Physiotherapy is commonly used but shows modest effects, especially in severe cases. Virtual Reality (VR) may complement physiotherapy, yet evidence remains limited.
Purpose: To assess the effectiveness and feasibility of a VR intervention integrated within physiotherapy for people with severe CLBP.
Methods: In this cluster RCT, the control group received 12 weeks of usual physiotherapy care. The intervention group received similar usual care, enhanced with VR modules (pain education, exercise therapy, and relaxation). Outcomes included physical functioning, pain intensity, and feasibility.
Results: Twenty-five participants were included in the intervention group and seven in the VARIETY control group, instead of the intended 120 participants. Therefore, we supplemented the VARIETY control group with 18 historical controls from two comparable trials (total control group n = 25). No statistically significant or clinically relevant between-group differences were found for any outcomes. The intervention group showed greater improvement in physical functioning from baseline (42%) compared to the VARIETY control group (26%). The VR intervention was considered feasible and safe.
Conclusion: This study found limited support for the use of VR as an adjunct to physiotherapy for people with severe CLBP. Given the use of external control data and the limited sample size, the effectiveness results should be interpreted cautiously.
Implications: VR appears to be a feasible and safe addition to usual physiotherapy care for people with CLBP.
Funding acknowledgements: This study was funded by ZonMw (case number: 10270032021502).

EP016 - SC2

THE ROLE OF PHYSIOTHERAPY IN CHRONIC PRIMARY PAIN IN CHILDREN AND ADOLESCENTS

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Background: Chronic primary pain in the pediatric population represents a significant clinical challenge due to its high prevalence and its negative impact on emotional wellbeing and social participation. Despite its relevance, scientific evidence regarding physiotherapy interventions remains limited and heterogeneous.
Purpose: The main objective of this study was to analyze the effectiveness of physiotherapy interventions in children and adolescents with chronic primary pain. A secondary objective was to identify commonly used physiotherapy techniques and their impact on clinical and functional outcomes.
Methods: A literature review was conducted in PubMed, PEDro, Scopus, Web of Science, and Cochrane databases between April and May 2024. Studies published in English and Spanish over the last five years were included, focusing on a pediatric population with chronic primary pain. Clinical trials, reviews, and case studies evaluating physiotherapy interventions were considered.
Results: Eight studies including 397 participants were analyzed. Therapeutic exercise and manual therapy showed significant improvements in pain intensity and functional disability. Pain neuroscience education and interventions combined with cognitive behavioral therapy improved coping strategies and reduced pain catastrophizing. However, findings related to quality of life, sleep, fatigue, and psychological variables were inconsistent.
Conclusions: Physiotherapy appears to be a promising intervention for managing chronic primary pain in this population. However, the limited number of high-quality clinical trials and small sample sizes restrict the generalizability of findings.
Implications: Further clinical trials and specific physiotherapy intervention protocols are needed. Integrating physiotherapy within a multidisciplinary approach may improve functionality and wellbeing in young patients with chronic pain.
Funding acknowledgements: None declared.

PELVIC, SEXUAL AND REPRODUCTIVE HEALTH

EP140 - SC3

PREVALENCE OF URINARY INCONTINENCE IN FRENCH TRACK/FIELD ATHLETES AND ITS ASSOCIATION WITH KNOWLEDGE, ATTITUDES, AND PRACTICES

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Background: Urinary incontinence (UI), particularly stress urinary incontinence (SUI), is prevalent among female athletes. In addition to established risk factors such as age, pregnancy, obesity, and

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hormonal changes, high-impact physical activity is recognized as an additional contributor. Repetitive increases in intra-abdominal pressure and intensive training may impair pelvic floor (PF) function and continence mechanisms. Track and field athletes may be particularly vulnerable due to sustained high-impact loading.
Purpose: To investigate the prevalence of UI among French track-and-field athletes, comparing differences by sex and athletic specialization, and to describe athletes' knowledge, attitudes, and practices (KAP) regarding UI prevention.
Methods: This cross-sectional study included 189 (89 females,100 males) athletes registered with the French Athletic Federation. Data were collected using the International Consultation on Incontinence Questionnaire–Short Form and KAP survey validated through the Delphi method.
Results: Overall UI prevalence was 30.7%, significantly higher in females (49%) than males (14%) ($p < 0.01$). Female prevalence was highest in combined events (67%) and sprinting (63%), while throwing showed the highest rate among males (33%). SUI was the most frequent type in females (66%). Although 62% demonstrated adequate attitudes, only 47% had adequate knowledge and 27% adequate practices. PF muscle training was performed by 15%, and 16% of symptomatic athletes sought physiotherapeutic care.
Conclusions: UI is highly prevalent among French track-and-field athletes, with a marked gap between attitudes and preventive practices.
Implications: Integrating PF education into training programmes and promoting open discussion may reduce stigma and encourage early intervention.
Funding acknowledgements: This work was supported by FCT - Fundação para a Ciência e Tecnologia, I.P., under project reference UID/4585/2025. (DOI: https://doi.org/10.54499/UID/04585/2025).

EP126 - SC1
RADIOFREQUENCY-ENHANCED PELVIC FLOOR MUSCLE TRAINING FOR PELVIC FLOOR DYSFUNCTION IN BREAST CANCER SURVIVORS: RANDOMIZED TRIAL RESULT
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Background: Breast cancer treatments frequently induce genitourinary syndrome of menopause and pelvic floor dysfunction (PFD), severely impairing quality of life in survivors. Non-ablative radiofrequency (RF) has emerged as a regenerative, non- invasive adjunct to pelvic floor muscle training (PFMT).
Purpose: To compare the effectiveness of PFMT alone versus combined PFMT+RF on pelvic symptoms, muscle function, and pain in breast cancer survivors with PFD.
Methods: Randomized controlled trial (n = 40 breast cancer survivors). Participants were allocated to PFMT (n = 22) or PFMT + RF (n = 18). Pre- and post-intervention assessments included PFDI-20 (and subscales), ICIQ-SF, perineometric muscle strength/resistance, vaginal pH, and VAS pain. Ethics approval: University CEU Cardenal Herrera (CEEI24/540).
Results: Participants (n = 40, mean age 53.8 years, 85% postmenopausal, mean 6.6 years post-diagnosis) presented moderate pelvic floor dysfunction at baseline. Groups were homogeneous. Both interventions significantly improved pelvic muscle functionality, strength, and resistance ($p \leq 0.007$). The combined PFMT+RF group showed superior significant reductions in prolapse symptoms (POPDI $p = 0.028$), urinary incontinence severity (ICIQ-SF $p = 0.031$), and pain (VAS $p = 0.008$).
Conclusions: Adding non-ablative radiofrequency to PFMT provides greater symptom relief and functional gains than PFMT alone in breast cancer survivors with PFD.
Implications: This innovative combination supports the integration of second-generation radiofrequency into pelvic health physiotherapy protocols for oncology patients, offering a safe, effective non-surgical option that may inform updated clinical guidelines and improve long-term well-being.
Funding acknowledgements: Capenergy Medical (Barcelona, Spain) assigned the device for applying RF with capacitive electrical transfer (Capernergy® device model C500 Urogyne).

PRIMARY HEALTH CARE

EP018 - SC1
WHAT MEDIATES A SHORT DIGITAL PAIN SCIENCE EDUCATION INTERVENTION PRIOR TO A PHYSIOTHERAPY CONSULTATION FOR MUSCULOSKELETAL PAIN?
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Background: The PainSMART-strategy is a short digital pain science education (PSE) intervention delivered prior to an initial consultation for patients seeking primary care physiotherapy for musculoskeletal pain (MSKP).
Purpose: To confirm if improvement in MSKP perceptions and reassurance of the benign nature of MSKP mediate the effects of the PainSMART strategy on pain intensity and pain self-efficacy. METHOD: Pre-planned single mediation analyses in a randomized controlled trial evaluated whether hypothesized mediators assessed (1) after digital PSE pre-consultation and (2) post-consultation mediated the effects of the PainSMART strategy compared to routine physiotherapy care on pain intensity and pain self-efficacy at 3 months (N = 493).
Results: MSKP-perceptions assessed pre-consultation showed an indirect effect on pain and self-efficacy (-0.106, 95% CI -0.210 to -0.002; 0.485, 95% CI 0.003 to 0.966). MSKP-perceptions post-consultation were associated with pain and self-efficacy (b-path 0.062, 95% CI 0.043 to 0.081; -0.345, 95% CI -0.438 to -0.253). While no mediating effects were found for patients´ reassurance, feeling reassured post-consultation was associated with self-efficacy (b-path 0.601, 95% CI 0.136 to 1.066).
Conclusions: MSKP perceptions are potentially relevant treatment targets in treatment for MSKP. Indirect effects support their relevance and that improvement in perceptions pre-consultation may lead to improved outcomes. However, feeling reassured after digital PSE pre-consultation or post-consultation did not lead to improvement in pain.

Implications: MSKP treatment should target MSKP perceptions. Clinical consultations may be needed to provide reassurance of the benign nature of MSKP.
Funding acknowledgements: Supported by Linköping University, Region Östergötland and the Medical Research Council of Southeast Sweden (FORSS).

EP020 - SC1
MULTIDISCIPLINARY GROUP INTERVENTION FOR FIBROMYALGIA IN PRIMARY CARE: A MIXED-METHODS EVALUATION OF MEDIUM- AND LONG-TERM IMPACT
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Fibromyalgia (FM) is a chronic condition characterized by widespread pain, fatigue, and reduced quality of life. With an estimated prevalence of around 2.5%, it represents a considerable burden for patients and healthcare systems. Clinical guidelines recommend multidisciplinary management; however, evidence regarding the medium- and long-term effectiveness of community-based patient group interventions remains limited. This study aimed to evaluate the medium- and long-term impact of a multidisciplinary group intervention implemented in primary care (EAP Vic), combining patient education, pain awareness, therapeutic exercise, and emotional management. A mixed-methods design was applied. Quantitative data were collected from patients participating in the programme. Pain- related psychological factors were assessed using the Tampa Scale for Kinesiophobia (TSK-11), the Pain Catastrophizing Scale (PCS), the Hospital Anxiety and Depression Scale (HADS), and a visual analogue scale (VAS) for perceived health status. Outcomes measured immediately after the intervention in 2023 were compared with follow-up data collected in 2025 using paired-sample t-tests. Additionally, semi-structured interviews were conducted with a random sample of 10 participants to explore perceived changes in quality of life. Quantitative analyses did not show statistically significant changes in the evaluated scales, although trends toward improvement were observed in anxiety (p=0.102) and perceived global health (p=0.063). Qualitative findings revealed meaningful perceived changes, including increased self-awareness, improved coping with chronic pain, and reduced fear of movement and catastrophizing. Overall, the results suggest that multidisciplinary group interventions delivered in primary care may generate important perceived benefits and support patient empowerment, even when measurable changes in standardized outcomes are modest.
Funding acknowledgements: None declared.

EP019 - SC1
PHYSIOTHERAPY-LED ORGANISATIONAL MODEL FOR CHRONIC PAIN COORDINATION IN PRIMARY CARE: A MULTICENTRE MIXED-METHODS PILOT PROTOCOL
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Primary care faces a structural mismatch between the complexity of chronic pain and the organizational architecture. Research shows that interprofessional coordination relies on unrecognized informal work, generating hidden workload, fragmented care, and transfer of organizational burden to patients. No evaluated model exists that reorganizes existing resources around the person without creating parallel structures. To present the protocol of a multicenter mixed-methods pilot study evaluating feasibility, fidelity and preliminary effects of the GAP-421 model, a physiotherapy-led organizational intervention for chronic pain in primary care. Convergent mixed-methods pilot study across three primary care centers in the Southeast District, Madrid. The quantitative strand is a prospective pre-post case series (n = 66, 22/center) with 3-month follow-up. The qualitative strand includes patient interviews (n = 12) and three professional focus groups. The GAP-421 model activates a time-limited functional window (6 weeks) when the physiotherapist identifies two or more organizational mismatch signals, reorganizing schedules, coordination time, and roles around the patient. The primary outcome is patient-perceived coordination. Integration uses Joint Display and Pillar Integration Process. Expected outcomes include improved patient-perceived coordination, reduced avoidable re-consultations, decreased informal workload among professionals, and multicenter feasibility data including intracluster correlation coefficients for future definitive trials. This is the first empirical evaluation of a physiotherapy-led organizational model that formalizes invisible coordination work in primary care, providing a replicable framework for chronic pain service delivery. If feasible, the GAP model may inform activation of dedicated chronic pain services across primary care, positioning physiotherapy as a driver of organizational innovation and interprofessional coordination.
Funding acknowledgements: This abstract was produced with the support of CSEU La Salle Call 2026.

PROFESSIONAL ISSUES

EP001 - SC1
RELATIONSHIPS AMONG PUBLIC SERVICE MOTIVATION, COMMITMENT, AND PERFORMANCE IN PHYSIOTHERAPISTS OF PORTUGUESE PUBLIC HOSPITALS
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Background: Public Service Motivation (PSM) is associated with higher commitment and performance among public sector workers; however, evidence in physiotherapists remains limited. Clarifying

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motivational mechanisms in this professional group is relevant given their central role in service delivery.
Purpose: To examine the relationships between dimensions of PSM and organizational commitment, professional commitment, and individual performance among physiotherapists working in Local Health Units in Portugal.
Methods: A quantitative, cross-sectional correlational study was carried out with physiotherapists employed in public hospitals. Validated scales assessed PSM (Self-Sacrifice, Civic Duty, Social Justice, Social Egoism), Organizational and Professional Commitment (Affective, Normative, Continuance), and Individual Performance (Task, Contextual, Counterproductive). Reliability and construct validity were confirmed using Confirmatory Factor Analysis. Descriptive statistics, Cronbach's alpha (α), and Pearson correlations were computed.
Results: The final sample comprised 260 physiotherapists (79.2% female; mean age 44.7 years). All measurement models showed satisfactory psychometric properties. Prosocial PSM dimensions were positively correlated with affective and normative organizational and professional commitment, as well as with task and contextual performance. Social Egoism showed negative correlations with commitment and positive associations with counterproductive behavior.
Conclusions: Prosocial motivation significantly influences commitment and performance among physiotherapists in Portuguese public hospitals. PSM offers a useful framework for understanding behavioral and motivational patterns relevant to workforce engagement.
Implications: Findings may inform management strategies to strengthen motivation-driven commitment, guide recruitment and retention policies, and support organizational development initiatives aimed at improving the quality of physiotherapy services in public healthcare settings.
Funding acknowledgements: None declared.

EP167 - SC2
MAPPING ADVERSE EVENTS IN DRY NEEDLING: OCCURRENCE, SEVERITY, AND IMPLICATIONS FOR CLINICAL PRACTICE
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Background: Dry needling (DN) is an invasive technique widely used to manage pain and functional impairments across different conditions. Despite its increasing use, a comprehensive overview of adverse events (AEs) associated with DN, particularly in relation to the professional performing the intervention, is still lacking.
Purpose: This scoping review aimed to map AEs associated with DN and classify them according to severity.
Methods: Following the Arksey and O'Malley framework and PRISMA-ScR guidelines, a systematic search was conducted in MEDLINE, EMBASE, Cochrane Library, Scopus, and PEDro from inception to February 2025. Studies were included according to Population–Concept–Context criteria if they assessed DN-related AEs, regardless of study design. Data on AE type, severity, frequency, and operator's professional background were extracted.
Results: One hundred thirty-three studies involving 4,041 patients were included. Mild AEs (e.g., post-needling soreness, minor bleeding, transient neurological symptoms) were common, whereas serious complications (e.g., pneumothorax, spinal epidural hematoma) were rare to very rare. DN was predominantly performed by physiotherapists (65.4%), followed by physicians (23.3%). No consistent association emerged between professional background and AE occurrence.
Conclusions: The available evidence indicates that DN is mainly associated with mild AEs, while serious complications are infrequently reported.
Implications: By clarifying the type and frequency of AEs and showing no clear differences across professional groups, these findings may support informed regulatory and educational decisions, facilitating the safe implementation of DN by physiotherapists, including in healthcare systems where its use is currently restricted or not permitted.
Funding acknowledgements: The work of Claudio Cordani was supported by the Italian Ministry of Health - Ricerca Corrente public funding

EP002 - SC1
THE SOCIAL PHYSIOTHERAPIST: A CRITICAL AND HISTORICAL PERSPECTIVE ON PROFESSIONAL IDENTITY
João Amendoeira Peixoto
FISIOMEDIC

This article addresses the social physiotherapist and social physiotherapy (SP) as a strategic imperative for redefining professional identity, grounded in Social Medicine, Michel Foucault's philosophy, and critical physiotherapy. It is argued that SP establishes the professional, equipped with knowledge in history, philosophy, and sociology, as an active social agent capable of generating economic value and promoting accessibility, ergonomics, and social inclusion through Public Health intervention, urban planning, and strategic alliances with technology. The analysis employs Foucault's perspective to demonstrate that professional power and authority are sustained by collective discipline, scientific rigor, and objective measurement. The crisis of autonomy is framed as a consequence of the historical devaluation of its role in public health. Consequently, SP demands an identity and curricular reorganization requiring a profound epistemological reform in pedagogy, prioritizing the history, philosophy, and sociology of science. Ultimately, the professional must evolve into a 21st-century social architect, using science and political consciousness to ensure the expansion of the profession through unified knowledge rather than territorial appropriation. This transition aims to overcome structural violence and systemic inequities through the promotion of functional democracy, ensuring the full and equitable participation of all citizens.
Funding acknowledgements: None declared.

EP163 - SC2
DEVELOPMENT OF AN EVIDENCE-INFORMED ASSESSMENT FRAMEWORK FOR AQUATIC PHYSIOTHERAPY TO STANDARDISE PRACTICE AND OUTCOME EVALUATION
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Background: Aquatic physiotherapy is widely used in musculoskeletal, neurological, and pediatric rehabilitation. Despite recognized benefits, assessment in aquatic environments remains inconsistent, often relying on land-based measures or locally developed tools. This variability reduces transparency in clinical decision-making, limits outcome comparability, and challenges consistent professional standards across settings and countries.
Purpose: To develop an evidence-informed, internationally aligned assessment framework specifically designed for aquatic physiotherapy practice.

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Methods: A qualitative framework development study was conducted. Literature on aquatic assessment and measurement tools was narratively synthesized. International professional guidelines (IOAPT, ATACP, APTA, APA) were comparatively analyzed, and key assessment components were extracted and thematically organized into structured domains. The framework was designed to reflect safety screening, functional evaluation, and clinical decision-making processes specific to aquatic contexts.
Results: Six interrelated domains were identified: clinical history and screening; contraindications and risk management; land-based pre-immersion assessment; aquatic functional assessment (including balance, rotational control, gait, and adapted performance testing); goal setting; and intervention planning. The framework integrates objective measures with structured observational criteria tailored to aquatic properties, promoting consistency while maintaining adaptability across populations and settings.
Conclusions: An evidence-informed structured assessment framework for aquatic physiotherapy was developed, addressing a recognized gap and supporting greater consistency in international clinical practice.
Implications: The framework provides clinicians with a structured, adaptable tool to support consistent assessment, transparent clinical reasoning, and harmonized documentation in aquatic physiotherapy. Its implementation may enhance quality of care, facilitate interprofessional communication, strengthen European practice standards, and support future validation studies.
Funding acknowledgements: None declared.

PROFESSIONAL ISSUES: BUSINESS SKILLS, LEADERSHIP, ADVOCACY AND CHANGE MANAGEMENT

EP005 - SC1
ADVANCING POLICY THROUGH EVIDENCE: THE ECONOMIC VALUE OF PHYSIOTHERAPY IN EUROPE
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Background: Physiotherapy plays a crucial role in healthcare systems and contributes to population health, economic and social outcomes. With increasing demand driven by demographic change and ageing societies, there is a growing need to better understand and communicate the economic value of physiotherapy and its contribution to the wider economy effectively.
Objective: This information paper aims to summarize the evidence on physiotherapy's economic footprint and translate key messages for physiotherapists, member organizations, and policy stakeholders. It provides an overview of how physiotherapy contributes to economic value creation and cost-effective healthcare delivery.
Methods: The Advocacy and EU Matters Working Group of the Europe Region of World Physiotherapy prepared an information paper based on a targeted evidence synthesis of national economic footprint reports. Evidence was synthesized narratively, and with the information obtained, statements were drafted highlighting physiotherapy's role in the economic system. The entire drafting process was reviewed by members of the Advocacy and EU Matters Working Group. Key findings: Economic footprint evidence indicates that physiotherapy contributes to employment, gross value added, and fiscal revenues. Additionally, physiotherapy generates broader economic effects along the healthcare supply chain and through induced consumption.
Conclusion: Physiotherapy delivers measurable economic value. Clear presentation of economic footprint evidence can strengthen advocacy, inform policy decisions, and support stakeholder engagement at national and European levels.
Implications: The findings of this paper have significant implications for physiotherapy policy and advocacy for World Physiotherapy Member Organizations.
Funding acknowledgements: None declared.

EP007 - SC1
PERSEO: A NARRATIVE COMIC-BASED FRAMEWORK FOR ORGANISATIONAL INNOVATION IN PUBLIC PHYSIOTHERAPY MANAGEMENT
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Background: Public physiotherapy services within the Spanish National Health System operate in contexts of high organizational complexity, role ambiguity, invisibility and uneven managerial development. Identifying shared patterns across heterogeneous settings is essential to support institutionalization and leadership growth.
Purpose: To evaluate the impact of the PERSEO narrative-based organizational innovation framework - articulated through a trilogy of comics and the 12-phase Transformation Wheel - on managerial positioning, conceptual clarity, and perceived readiness for change.
Methods: Mixed-methods exploratory study (n = 18). Participants completed a questionnaire after reading the first two comics. Quantitative self-positioning on the PERSEO Wheel was combined with qualitative feedback on applicability, identity, indicators, and leadership motivation.
Results: Participants were distributed across phases 1–3 (22%), 4–8 (56%) and 9–12 (22%). Two systemic tension points emerged: phase 3 (uncertainty and role clarity) and phase 8 (structural sustainability and risk of overload). Profiles working across Primary Care and Community settings were positioned exclusively in higher phases (8–9), suggesting a more systemic perspective. Ratings were consistently high for both comics (4.1–4.7/5) and the Wheel (4.4–4.9/5). Qualitative data highlighted improved organizational self-location, enhanced narrative coherence, and increased leadership motivation.
Conclusion(s): Despite contextual variability, shared managerial patterns emerge, supporting the value of a common narrative framework. The PERSEO Wheel captures real dimensions of managerial maturity and reveals critical phases requiring targeted support.
Implications: PERSEO offers a transferable storytelling-based tool that reduces perceived organizational chaos, strengthens shared language and supports collective managerial development in public physiotherapy services.
Funding acknowledgements: None declared.

EP003 - SC1
CONSTRUCTION OF PROFESSIONAL IDENTITY IN PHYSIOTHERAPY: A DESCRIPTIVE STUDY OF COURSE SYLLABI IN HIGHER EDUCATION
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Physiotherapy is facing a process of identity crisis in which, within the biographical process key to its analysis, the university stage is a critical moment. This is because it involves socialization, the internalization of knowledge and values, and the configuration of the ethos necessary to provide society with an indispensable good. To analyze key concepts for the building of professional identity through the curricular contents of the subject "Fundamentals of Physiotherapy" in Spain. A descriptive and cross-sectional study of the contents of 64 course syllabi published in 2025 (representing 100% of the degree programs integrated into the Spanish Conference of Deans) was conducted according to historiographical, deontological, scientific and clinical variables. The explicit macro-concept of "professional identity" only appears in 7.1% of the syllabi. There is a high integration of the History of Physiotherapy (75%), discipline-specific theories (71.4%), and Deontology (66.1%). However, significant deficits stand out regarding the History of Physiotherapy in Spain (58.9%) and Physiotherapy Diagnosis (58.9%). Qualitatively, decontextualized terms related to humanization and a deficient visibility of the deontological code are observed. The development of Physiotherapy as a profession predominates over its dimension as a science. Although a solid homogeneity in competencies is evident, the deficient visibility of identity and national history limits shared references, which could exacerbate students' identity crises when transitioning into the labor market. There´s an urgent need to propose basic standards that explicitly integrate professional identity into the curriculum, providing ethical and historical tools so that students can responsibly co-manage their vocation.
Funding acknowledgements: None declared.

PROFESSIONAL ISSUES: DIVERSITY AND INCLUSION

EP004 - SC1
THE ART OF PERSONALIZED EMPLOYMENT FOR NEURODIVERGENT AHP'S AND HOW COMPASSIONATE ADJUSTMENTS CAN IMPROVE QUALITY AND SAFETY
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NHS England

Neurodivergent Allied Health Professionals (AHPs) bring important strengths to clinical practice, including creativity, empathy and strong problem-solving. Many also face challenges with executive functioning, sensory regulation and the stigma linked to disclosure. Most existing research focuses on neurodivergent patients or AHP students, leaving limited understanding of those already working in clinical roles. As a result, organizational support often remains generic and does not reflect the individuality of neurodivergent experience. The project aimed to explore the lived experiences of neurodivergent AHPs and identify what helps or hinders their ability to thrive at work. A secondary aim was to understand how personal, relational and organizational factors interact to influence staff well-being and patient care. Fifteen neurodivergent AHPs took part in semi-structured interviews. Data was analyzed using Braun and Clarke's reflective thematic analysis to identify key patterns across participants' experiences. Themes: Personalized strategies and self-awareness: Participants used tools such as planners, dictation software, and sensory regulation methods. Barriers to thriving: These included fear of disclosure, internalized ableism, microaggressions and organizational resistance. Facilitators of thriving: compassionate leadership, inclusive environments and shared responsibility for adjustments. These factors influenced outcomes at individual, organizational and patient levels. Neurodivergent AHPs thrive when workplaces are flexible, psychologically safe and led with compassion. Tailored approaches are essential, as experiences vary widely.
Implications: Organizations should adopt inclusive, systemic practices that recognize neurodiversity as an asset. Doing so can improve staff retention, reduce burnout and enhance patient care.
Funding acknowledgements: King's College London, Research Funding.

RESEARCH METHODOLOGY, KNOWLEDGE TRANSLATION AND IMPLEMENTATION SCIENCE

EP165 - SC2
DECISION-MAKING DYNAMICS AND CONFIDENCE IN STEP COUNTING: IMPLICATIONS FOR INTER-RATER RELIABILITY
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Background: Video-based step counting is a common measure in musculoskeletal studies. To be trustworthy, reliability needs to be tested within the specific application and scenario. Rater behavior, particularly review frequency in line with the Speed-Accuracy Trade-off and confidence, reflecting a rater's perceived certainty of the steps counted, may influence the outcome.
Purpose: To examine review frequency and rater confidence as prerequisites for inter-rater reliability in video-observed step counts during the Timed Up and Go (TUG).
Methods: Two physiotherapists with >15 years' experience established consensus on step definition, then independently rated 36 TUG videos of healthy adults (median age: 22). For each video, raters recorded step counts, confidence level (confident/not confident), and review frequency (once/twice/several times). Inter-rater reliability was assessed using the intraclass correlation coefficient (ICC), with raters blinded to each other's ratings.
Results: Rater 1 demonstrated confidence in 29/36 videos (80.6%), reviewing seven once (19.4%), 22 twice (61.1%), and five several times (13.9%). Rater 2 was confident in 33/36 videos (91.7%), reviewing 33 once (91.7%) and three twice (8.3%). Ambiguities like heel sliding and abbreviated terminal steps prompted additional reviews. The ICC was 0.857 with maximum inter-rater difference of one step.
Conclusions: Despite differing review-frequencies, rater-confidence and inter-rater reliability remained high.
Implications: Prerequisites such as standardized step definitions and optional rewatching support reliable ratings. Future research should investigate how review-frequency and confidence affect reliability in populations with irregular or pathological gait patterns, where step identification may be more challenging than in healthy young adults.
Funding acknowledgements: Funding through the NÖ Gesundheits- und Sozialfonds via a Dissertation Call at IMC Krems. The funding recipient is the first author.

EP164 - SC2
AQUATIC PHYSIOTHERAPY IN PARKINSON'S DISEASE: MAPPING EVIDENCE ON HALLIWICK, BAD RAGAZ AND AI CHI
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Background: Parkinson's disease (PD) is a neurodegenerative disorder characterized by motor and non-motor impairments that

compromise balance, mobility, and quality of life. Aquatic physiotherapy (AP) provides a supportive, low-impact environment that may facilitate movement, improve postural control, and reduce fall risk. Despite growing clinical interest, evidence regarding structured aquatic approaches such as Halliwick, Bad Ragaz, and Ai Chi remains fragmented.
Purpose: To map and synthesize the existing literature on Halliwick, Bad Ragaz, and Ai Chi in persons with PD and to identify gaps to inform research and clinical practice.
Methods: A scoping review was conducted following the PRISMA-ScR reporting guidelines. Searches were performed in PubMed, PEDro, Web of Science, Google Scholar, and grey literature sources. Studies of any design involving individuals with PD were eligible. Methodological quality was appraised using Joanna Briggs Institute checklists. Data were extracted and synthesized descriptively. The protocol was registered in the OSF.
Results: Twelve studies met the inclusion criteria. Most reported improvements in balance, functional mobility, postural control, range of motion, and quality of life. High adherence and favorable safety outcomes were consistently reported. However, heterogeneity in study design, intervention protocols, and outcome measures, together with small sample sizes and limited controlled trials, reduced evidence strength.
Conclusions: Halliwick, Bad Ragaz, and Ai Chi appear safe and potentially beneficial complementary interventions for people with PD, although more rigorous and standardized trials are needed.
Implications: Differentiating the effects of these approaches is essential to tailor AP according to disease stage, symptom profile, and individual functional needs.
Funding acknowledgements: None declared.

EP162 - SC2
METHODOLOGICAL CONSIDERATIONS FOR OLDER ADULTS' MOVEMENT ANALYSIS: A SCOPING REVIEW
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ESS, Polytechnic of Porto

Background: Age-related changes in movement are associated with the onset of disease and increased risk of premature mortality. Nevertheless, considerable heterogeneity persists in the methodologies employed to assess movement data in older adults.
Purpose: To consolidate existing guidelines regarding the kinematic assessment of older adults, focusing on the types of motor tasks to be monitored, the suitability of motion capture devices, and the evaluation of kinematic and kinetic metrics.
Methods: The PRISMA (scoping reviews) 15 recommendations were followed, with searches conducted across PubMed, Web of Science, and SCOPUS databases. Studies were included if they provided guidelines for evaluating older adults' movement, specified motion capture systems utilized, and identified the kinematic metrics essential for analyzing the movements. Data were systematically extracted using a standardized data extraction table, including information about participant demographics, task types, motion capture systems employed, kinematic or kinetic metrics analyzed, and the recommendations made.
Results: Five studies met the inclusion criteria with guidelines for assessing gait spatiotemporal parameters, primarily using electronic walkways 16-20. The guidelines articulated considerations related to demographic and clinical characteristics, gait parameters, environmental and safety concerns, as well as criteria for reliability and comparability, reliability and comparability purposes; calculation, reporting, and interpretation parameters.
Conclusion: Current guidelines predominantly emphasize the spatiotemporal parameters of gait, computed by various motion capture systems. Future research should expand these guidelines to encompass different tasks and refine methodological considerations.
Implications: Standardized, broader kinematic assessments can improve physiotherapy decision-making, guide education, optimize resource allocation, and inform policy for ageing populations.
Funding acknowledgements: Funded by FCT, Portuguese ME, NORTE 2020, ESF, grant number 2020.05356.BD and R&D Units funding (UID/5210/2025) (https://doi.org/10.54499/UID/05210/2025).

SERVICE DELIVERY/EMERGING ROLES

EP133 - SC2
Patient satisfaction and global perceived change following aquatic physiotherapy in a Portuguese public hospital
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[3]Escola Superior de Saúde de Lisboa

Background: Aquatic physiotherapy (AP) uses water properties for therapeutic exercise. In 2024, a Lisbon public hospital recorded 237 referrals, highlighting the need to better understand the population using this service and the patient-perceived impact of the intervention.
Purpose: To characterize the sociodemographic and clinical profile of patients attending AP and to evaluate patient satisfaction and global perceived change following intervention.
Methods: A cross-sectional study was conducted between September 2024 and January 2026 with adults (≥18 years) undergoing AP. Participants completed anonymous sociodemographic, clinical, and satisfaction questionnaires, and the Portuguese Patient Global Impression of Change (PGIC). Data was analyzed using descriptive statistics, Chi-square tests, and logistic regression in SPSS v29 ($\alpha = 0.05$).
Results: A total of 108 participants were included. Most were women (66%), employed (49%), and aged 50–59 years (51%). Orthopedic conditions were the most frequent (47%), followed by rheumatologic conditions (36%), with 57% reporting symptoms affecting multiple body regions. Most participants completed more than 15 sessions (69%). 69% of participants reported a PGIC ≥5, indicating meaningful change. Satisfaction was high (72% very satisfied; 77% would return and recommend the service). Higher odds of perceived improvement were observed when AP was combined with land-based physiotherapy (OR: 2.97; $p = 0.045$), while lower odds were found in rheumatologic conditions (OR: 0.32; $p = 0.009$).
Conclusions: AP users reported meaningful self-perceived improvement and high patient satisfaction.
Implications: Hospital programs should integrate AP with land-based exercise to enhance patient-perceived improvement.
Funding acknowledgements: None declared.

EP134 - SC2
UNDERSTANDING HIGH-QUALITY INTERPROFESSIONAL REHABILITATION: PATIENT AND PROFESSIONAL PERSPECTIVES IN FLANDERS
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Background: High-quality interprofessional rehabilitation is essential for effective patient outcomes, yet defining and measuring quality remains challenging. The development of robust quality indicators requires alignment with relevant quality domains, which are often context-specific. In Flemish rehabilitation facilities, it is unclear

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what constitutes high-quality rehabilitation from the perspectives of patients and healthcare professionals.
Objective: To explore what patients and healthcare professionals perceive as high-quality rehabilitation within Flemish rehabilitation facilities.
Methods: We conducted 14 focus groups and one semi-structured interview across seven rehabilitation facilities in Flanders, involving patients (n = 27) and healthcare professionals (n = 36), including physicians, physiotherapists, occupational therapists, dietitians, nurses, speech and language therapists, psychologists, and social workers. Audio recordings were transcribed verbatim and analyzed using thematic analysis, supported by ATLAS.ti.
Results: Preliminary findings indicate that patients and rehabilitation professionals identify multiple interrelated domains of high-quality interprofessional rehabilitation. These domains extend beyond existing frameworks by emphasizing actionable aspects of daily rehabilitation practice. A comprehensive framework of quality domains will be presented.
Conclusion: This study provides in-depth insight into how patients and healthcare professionals conceptualize high-quality interprofessional rehabilitation facilities in Flemish rehabilitation facilities. By identifying practice-oriented and context-sensitive domains that extend beyond existing frameworks, these findings establish a robust foundation for the development of meaningful, rehabilitation-specific quality indicators.
Implications: For physiotherapists, these findings enhance awareness of key quality domains in rehabilitation and support reflection on their role within interprofessional teams. This may encourage more deliberate alignment of daily physiotherapy practice with overall rehabilitation care quality.
Funding acknowledgements: The lead researcher's time was supported through internal PhD funding from Hasselt University. This study received no external funding.

SPORT AND SPORTS INJURIES

EP155 - SC1
DIFFERENCES IN ACHILLES TENDON, STRENGTH, PROPRIOCEPTION AND BALANCE BETWEEN ROAD AND TREADMILL DISTANCE RUNNERS
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Background: Running surface influences biomechanics and Achilles tendon (AT) loading. Treadmill and road running may induce distinct neuromotor adaptations, influencing tendon structure, proprioception, and muscle performance.
Objectives: To compare Achilles tendon structure and functional tests between road and treadmill runners.
Methods: Forty-eight healthy runners (25 road, 23 treadmill), aged 18-54, who trained at least twice weekly for ≥30 minutes and performed>80% of their sessions either on a treadmill or road, were recruited. Assessments included: 1) AT structure using ultrasound tissue characterization (UTC); 2) ankle proprioception using the AMEDA device; 3) dynamic balance using the Y-Balance Test; 4) plantar-flexors and hip-abductor muscle strength using a hand-held dynamometer; 5) Gastrocnemius endurance using the heel-raising test; 6)jump performance using the Triple-Hop Distance Test.
Results: UTC analysis revealed that treadmill runners had a higher percentage of echo type II fibers, indicating better tendon quality compared with road runners (27.4% vs 23.5%; p = 0.046). They also exhibited a lower percentage of echo types III+IV fibers, reflecting a less disorganized tendon structure (type III: 5/8% vs 10.3%; type IV: 3.4% vs 6.3%; p < 0.05). No group differences were found in echo type I fibers. AT length and cross-sectional area were greater in road runners. Ankle proprioception was higher in treadmill runners (p = 0.006). No differences were observed in other tests.
Conclusion: AT structure assessed by UTC and ankle proprioception were superior in treadmill runners.
Implications: Running surface selection may play an important role in tendon health and should be considered in training, rehabilitation and injury prevention programs.
Funding acknowledgements: None declared.

EP159 - SC1
THIRTY-FOUR YEARS AFTER ACL INJURY: SYMPTOMATIC OSTEOARTHRITIS AND SURGICAL MANAGEMENT ASSOCIATED WITH WORSE KNEE FUNCTION
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Background: Long-term impact of anterior cruciate ligament (ACL) injury on knee function remains unclear.
Purpose: To evaluate knee function 32–37 years post-injury, comparing outcomes between individuals treated with ACL surgery versus rehabilitation alone, and between those with and without symptomatic tibiofemoral osteoarthritis.
Methods: Of 251 individuals with acute ACL injury (1980–1985), 115 (27% female) completed assessments of knee function (range of motion (ROM), quadriceps/hamstring strength, single-leg hop, balance, sit-to-stand), radiographs, and KOOS questionnaires. Group differences were tested using t tests, Mann–Whitney U, and χ^2 tests.
Results: Participants were 58.6 years old (SD 6.4). Surgery was associated with reduced knee flexion ROM (130.7° vs 139.3°, p = 0.002) and worse KOOS-Symptoms (66 vs 74), KOOS-Pain (76 vs 84), and KOOS-Sport/Recreation (45 vs 58) scores, all p<0.05, compared with rehabilitation alone. No group differences were found for muscle strength or functional tests. Symptomatic tibiofemoral osteoarthritis was associated with reduced knee flexion ROM (128.1° vs 139.4°, p < 0.001), weaker quadriceps (1.7 vs 1.9 Nm/kg; p = 0.045), poorer hop performance (34% vs 44%; p = 0.013), and worse KOOS-Symptoms (59 vs 77), KOOS-Pain (71 vs 86), KOOS-Sport/Recreation (36 vs 62), and KOOS-QoL (49 vs 68) scores, all p < 0.001.
Conclusion: More than 30 years after ACL injury, prior ACL surgery was associated with reduced knee flexion ROM and worse KOOS outcomes. Symptomatic tibiofemoral osteoarthritis was associated with broad impairments across ROM, strength, hop performance, and patient-reported outcomes.
Implications: Findings highlight the need for strategies to prevent osteoarthritis after ACL injury.
Funding acknowledgements: Linköping University.

EP156 - SC1
EFFECT OF TRANSCUTANEOUS MICROCURRENT APPLICATION ON AN ACUTE HAMSTRING INJURY IN A PROFESSIONAL FOOTBALL PLAYER
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Introduction: Acute muscle injuries in the hamstring muscles are one of the most common pathologies in professional football. The

search for therapeutic strategies that optimize tissue recovery processes is a priority in high-performance sport.
Objective: To evaluate the effect of prolonged transcutaneous application of microcurrents on an acute hamstring injury in a professional footballer from Club Deportivo Toledo. Materials and methods: We present the case of a professional footballer who suffered a hamstring injury while braking. He was assessed 24 hours later using the Lower Limb Functional Index (LLFI) and the Functional Assessment Scale for Acute Hamstring Injuries (FASH), together with an ultrasound scan. Treatment consisted of an initial physiotherapy session, followed by the transcutaneous application of microcurrents using an MC Patch (21 mV, 42 μA) for 20 hours a day for four consecutive days.
Results: Five days after the injury, clinical and functional recovery was observed that was superior to the usual progression described for this type of injury. The subjective scales showed values comparable to more advanced stages of the process (2nd and 3rd weeks). The ultrasound showed no alterations in the fibrillar pattern after these 5 days, and the player was able to begin continuous running without functional limitations.
Conclusion: Prolonged application of microcurrents is associated with accelerated clinical, functional, and ultrasound improvement in acute semitendinosus muscle injury.
Funding acknowledgements: University of Castilla La Mancha - GIFTO group - CD Toledo.

EP154 - SC1
THE RELATIONSHIP BETWEEN ANTHROPOMETRIC CHARACTERISTICS, PHYSIOLOGICAL PARAMETERS, AND INJURY RISK IN PROFESSIONAL FOOTBALL PLAYERS
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Alma Mater Europaea Campus College Rezonanca

Background: Comprehending the relationships among body measures, physical characteristics, and injury risk is crucial for developing evidence-based injury prevention techniques in professional football.
Purpose: This study aimed to examine anthropometric and physiological characteristics, their relationships with BMI, age, VO_2max, and cardiovascular parameters, and the main risk factors for injuries using the F-MARC system.
Methods: A prospective cohort study was conducted with 486 male professional football players from 27 teams in the one-year competitive season. The statistical methodologies employed comprised descriptive statistics, Pearson correlations, multiple regression analyses, ANOVA, and multivariate logistic regression.
Results: Indicated a substantial inverse relationship between BMI and maximal oxygen uptake (VO_2max), with a correlation coefficient of -0.387 ($p < 0.001$). Furthermore, age exhibited a negative correlation with VO_2max ($r = -0.298$, $p = 0.002$) and a positive correlation with BMI ($r = 0.243$, $p = 0.009$). Multiple regression analysis demonstrated that BMI, age, and systolic blood pressure collectively accounted for 23.7% of the variance observed in VO_2max ($R^2 = 0.237$, $p < 0.001$).
Conclusions: This comprehensive examination reveals a noteworthy correlation between BMI and physiological indicators such as VO_2max and their respective impacts on performance and injury susceptibility among professional football athletes.
Implications: The findings highlight the importance of monitoring body mass index, aerobic capacity, and cardiovascular health to improve performance and reduce the risk of injury in professional football players.
Funding acknowledgements: None declared.

EP158 - SC1
INTEGRATING PSYCHOLOGICAL PRINCIPLES IN THE REHABILITATION OF A STUDENT-ATHLETE WITH MCL SPRAIN AND FEAR OF REINJURY: A CASE REPORT
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Background: Fear of reinjury is a significant psychological barrier following knee ligament injuries. Despite the biopsychosocial model's emphasis on integrating psychological factors into rehabilitation, limited literature addresses these strategies in sports settings. This case report demonstrates educational strategies and self-determination theory (SDT) principles in managing a student-athlete with a medial collateral ligament (MCL) and medial patellofemoral ligament (MPFL) sprain and fear of reinjury.
Methods: A 19-year-old semi-professional male frisbee player with a mild right MCL/MPFL sprain presented with fear of returning to sport. He completed a 4-week unsupervised resistance training program using a push-pull-leg split with RPE- based loads. Graded exposure via progressive plyometrics addressed fear of unilateral landings. SDT principles supported autonomy through collaborative planning, competence through progressive overload, and relatedness through online support. Outcomes included the KOOS, ACL-RSI scale, strength, range of motion, and functional performance tests.
Results: The patient returned to sport-specific training by week three and met all return-to-play criteria by week four. KOOS scores improved across most domains, with knee-related quality of life increasing by 25 points. ACL-RSI improved from 82.5% to 87.5%. Quadriceps strength increased by 139–144% and hamstring strength by 63–66% bilaterally, with limb symmetry indices exceeding 90%. The patient attributed improvements to enhanced competence rather than fear elimination.
Conclusions/Clinical Implications: Integrating educational strategies and SDT principles with structured resistance training effectively addressed physical and psychological barriers to return to sport. Educational interventions, autonomy-supportive practices, and graded exposure offer practical tools for a holistic rehabilitation approach.
Funding acknowledgements: None declared.

SUSTAINABLE HEALTH

EP006 - SC1
EMBEDDING SUSTAINABILITY IN PHYSIOTHERAPY PRACTICE: INSIGHTS FROM A QUALITATIVE STUDY
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Background: Integrating sustainability into healthcare is increasingly urgent due to environmental pressures and the need for resilient, resource-efficient health systems. Physiotherapists, with a strong role in prevention, rehabilitation and service organization, are well positioned to embed sustainable principles. However, limited evidence describes how sustainability can be operationalized in physiotherapy settings.
Purpose: This study explored physiotherapists' perspectives on strategies, behaviors, and organizational mechanisms required to integrate sustainability into everyday physiotherapy practice. Secondary aims included identifying perceived barriers and opportunities for sustainable development across clinical, educational, and managerial domains.

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Methods: A descriptive qualitative study was conducted in a Portuguese Local Health Unit using an online questionnaire. Of 100 eligible physiotherapists, 81% responded. Data were analyzed using reflexive thematic analysis to identify recurring patterns and themes.
Results: Six major themes were identified: education and capacity building, including continuous training and curricular integration; institutional policies supporting sustainable procurement and resource planning; resource optimization, emphasizing energy efficiency and reduced consumable use; circular economy practices, such as reuse and recycling assistive devices; digital and remote care initiatives, including tele-rehabilitation; and patient empowerment through active mobility promotion and self-management strategies.
Conclusions: Physiotherapists recognize the importance of structured education, policy alignment, and efficient resource management to embed sustainability in practice. Organizational guidance and access to sustainable resources remain inconsistent. Future research should evaluate implementation and effectiveness of identified strategies.
Implications: The findings offer actionable pathways for integrating sustainability into physiotherapy practice, service management, education and policy development.
Funding acknowledgements: None declared.

SYSTEMIC AUTOIMMUNE DISEASES/RHEUMATOID ARTHRITIS

EP138 - SC3
DOES THE INTENSITY AND TYPE OF PHYSICAL ACTIVITY PLAY A ROLE IN REDUCING COMMON SYMPTOMS IN FEMALE PATIENTS WITH RMDS?
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Background: Rheumatic and musculoskeletal diseases are chronic autoimmune conditions associated with pain, fatigue, depression, and reduced QoL, predominantly affecting women. Although PA is recommended for symptom management, the comparative effects of different activity intensity levels remain unclear.
Purpose: To investigate whether vigorous-intensity PA is superior to moderate or low intensity in relation to common symptoms and QoL in women with RMDs in Greece.
Methods: This study included 267 women aged 20–80 years with diagnosed RMDs, in disease remission and under treatment. PA level was classified as low, moderate, or vigorous using the IPAQ. Outcomes included SF-36 RAND, VAS for Pain, FSS, and PHQ-9. Group differences were examined using one-way ANOVA with Bonferroni post-hoc tests.
Results: Mean age was 50.75 ± 10.52 years; fibromyalgia (28%) and rheumatoid arthritis (24%) were the most prevalent diagnoses. Mean scores were VAS 6.58 ± 2.50, FSS 51.06 ± 12.85, PHQ-9 6.30 ± 6.30, and total IPAQ 1366.10 ± 1552.20 MET-min/week. Significant differences were observed between physical activity groups in SF-36 Role Physical [$F(2,264) = 26.17$, $p < 0.001$], Role Emotional [$F(2,264) = 11.65$, $p < 0.001$], and General Health [$F(2,264) = 10.64$, $p < 0.001$]. Fatigue (FSS: $F(2,264) = 5.12$, $p = 0.007$) and depression (PHQ-9: $F(2,264) = 7.12$, $p = 0.001$) also differed significantly. The low physical activity group demonstrated the poorest outcomes.
Conclusions: Higher PA intensity was associated with better QoL and lower fatigue and depression.
Implications: Physiotherapists should promote appropriately prescribed intensity PA, when clinically feasible, as part of comprehensive RMD management.
Funding acknowledgements: None declared.

EP022 - SC1
Effectiveness and safety of high-intensity exercise in rheumatic diseases: friend or foe? A systematic review
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Introduction: Despite growing evidence supporting exercise for patients with inflammatory rheumatic diseases, clinicians and patients often remain cautious, particularly regarding high-intensity exercise. Guidelines recommend regular exercise, but warnings to limit intensity are common, leaving uncertainty about safety and effectiveness. This systematic review evaluated the effectiveness and safety of high-intensity, land-based exercise in patients with inflammatory rheumatic diseases versus usual care, no intervention, or low-intensity training. Secondary objectives included its impact on disease activity, pain, and function.
Methods: A systematic search of MEDLINE, Cochrane Library, PEDro, and ClinicalTrials.gov found 15 randomized controlled trials and 14 secondary analyses or follow-up studies. Outcomes were pain, function, and disease activity. Study quality was appraised using the JBI checklist, and evidence certainty was assessed via the GRADE framework.
Results: High-intensity exercise - including aerobic, resistance, or HIIT protocols - was safe and well tolerated. No RCT reported increased disease activity, pain, or functional decline, and several showed improvements. Adverse events were rare and minor. Moderate certainty evidence supports that high-intensity exercise does not harm disease activity or structure and may improve pain and function.
Conclusions: High-intensity exercise is safe and potentially beneficial for patients with inflammatory rheumatic diseases. Current evidence does not justify restricting patients to low- or moderate-intensity protocols. Physiotherapists and clinicians can safely include high-intensity exercise, including strength training, in individualized, patient-centered programs. Evidence supports using it to improve function, reduce pain, and maintain disease control.
Funding acknowledgements: None declared.

EP023 - SC1
EFFECTS OF NON-PHARMACOLOGICAL THERAPIES IN SYSTEMIC SCLEROSIS: A LONGITUDINAL OBSERVATIONAL STUDY
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Reha Rheinfelden

Background: Systemic sclerosis (SSc) causes substantial functional impairment and reduced quality of life. Evidence for non-pharmacological therapies is limited.
Purpose: This study establishes a database to document health status and non-pharmacological inpatient/outpatient interventions (e.g., hyperthermia, manual lymphatic drainage, physiotherapy, occupational therapy, speech and language therapy).
Methods: Patients meeting 2013 ACR/EULAR SSc criteria are assessed at admission and discharge from a 4-week rehabilitation programme. Outcomes include endurance (6-Minute Walk Test, 6MWT), perceived exertion (Borg Scale), hand function (Nine-Hole Peg Test, Coin Rotation Test), hand strength (dynamometer), gait (3D gait analysis: stride length, step length, gait speed), and patient-reported outcomes (Scleroderma Health Assessment Questionnaire; Hospital Anxiety and Depression Scale. Means and standard deviations are reported; pre–post changes are tested with paired t-tests.

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Results: Twenty-six patients were enrolled (mean age 61.5±17.1 years; 77% female). After rehabilitation, 6MWT improved by 41 m ($p < 0.001$), and Borg Scale decreased from 3.1 to 2.5. Hand strength increased from 17.5 to 19.2 kg and hand function improved (NHPT from 3.8 to 4.0 points; CRT from 24.7 to 18.4 seconds). SHAQ improved from 1.1 to 1.0, while HADS worsened from 10.5 to 11.3. In gait analysis, stride length improved significantly ($p = 0.012$); step length and gait speed showed no change.
Conclusions/Implications: Preliminary results of this study underline the importance of non-pharmacological therapies in improving functional parameters. Systematic evaluation of non-pharmacological therapies helps identify patient-specific criteria for tailoring therapeutic strategies during rehabilitation, considering the highly individualized disease trajectories in patients with SSc.
Funding acknowledgements: This investigation received funding from the Canton Aargau, Department of Health and Social Care, Division of Health.

WOMEN'S HEALTH

EP127 - SC1
RADIOFREQUENCY COMBINED WITH PELVIC FLOOR MUSCLE TRAINING FOR STRESS URINARY INCONTINENCE: RANDOMIZED TRIAL FINDINGS
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Background: Stress urinary incontinence (SUI) due to urethral instability significantly impairs women's physical, social, and psychoemotional quality of life. Pelvic floor muscle training (PFMT) is the first-line conservative treatment. However, second- generation radiofrequency (RF) therapy has emerged as a non-invasive regenerative approach that stimulates collagen metabolism, promotes tissue remodeling, and may improve urethral support.
Purpose: To compare the effectiveness of PFMT alone, RF alone, and combined PFMT+RF on pelvic floor muscle strength, ultrasound markers of urethral hypermobility, SUI severity, and health-related quality of life in women with stress urinary incontinence caused by urethral instability.
Methods: A randomized controlled trial included women with a mean age of forty years and an average body mass index of twenty-five. Participants were allocated to PFMT, RF, or combined PFMT+RF groups. Assessments were conducted at baseline, post-treatment, and three-month follow-up. Outcomes included transperineal ultrasound measures of retrovesical angle change, bladder neck descent, and urethral rotation, together with the Sandvik Severity Index, King's Health Questionnaire, and Oxford muscle strength scale. Intra-group analyses used Wilcoxon and Friedman tests, and effect sizes were calculated with Cohen's d.
Results: At baseline, groups were comparable and showed moderate SUI with marked urethral hypermobility. All interventions significantly improved ultrasound parameters. The largest effects were observed in RF-treated groups. SUI severity decreased from moderate to mild and remained stable at three months in RF groups. All dimensions of the King's Health Questionnaire improved, with the greatest effects in the combined intervention.
Conclusion: RF combined with PFMT may improve clinical outcomes and quality of life in women with SUI.
Funding acknowledgements: None declared.

EP139 - SC3
QUALITY OF LIFE AMONG WOMEN WITH ENDOMETRIOSIS AND THEIR KNOWLEDGE OF PELVIC HEALTH PHYSIOTHERAPY: CROSS-SECTIONAL OBSERVATIONAL STUDY
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Background: Endometriosis is a chronic inflammatory condition affecting millions of women worldwide, with a substantial impact on quality of life (QoL). Pelvic Health Physiotherapy (PHP) has been identified as a potentially beneficial complementary approach, although awareness and uptake remain unclear.
Purpose: This study aimed to assess women's knowledge of PHP for endometriosis and to evaluate the impact of disease on QoL.
Methods: A descriptive, observational, cross-sectional study was conducted using an online questionnaire comprising three sections: sociodemographic and clinical data; knowledge of PHP; and QoL assessment using the Endometriosis Health Profile-30 (EHP-30) validated for the Portuguese population. Statistical analysis was performed using IBM SPSS v.30.
Results: The sample included 468 women with endometriosis aged 18–49 years. A high symptom burden was reported, particularly dysmenorrhea (89.7%), gastrointestinal symptoms (79.9%), persistent pelvic pain (76.7%), and dyspareunia (73.5%). The mean time to endometriosis diagnosis was 11.3 (±7.9) years. Although 86.8% of participants had heard of PHP (95% CI: 83.7–89.8%), only 28% had undergone treatment, with most of those reporting at least some improvement; cost was identified as the main barrier. EHP-30 results indicated a substantial negative impact on QoL, especially in the domains of control and powerlessness, social support, and self-image.
Conclusions: Despite high awareness of PHP, knowledge remains largely informal and does not translate into widespread uptake. Endometriosis significantly compromises QoL.
Implications: Improving access to reliable information and specialized PHP services is essential to enhance patient outcomes and inform clinical practice and healthcare planning.
Funding acknowledgements: None declared.

EP168 - SC2
SITE-SPECIFIC DIFFERENCES IN LINEA ALBA STIFFNESS: IMPLICATIONS FOR ABDOMINAL WALL ASSESSMENT
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Background: The linea alba exhibits mechanical behavior heterogeneity along its length, which may influence the interpretation of clinical assessments. Despite this, stiffness is often evaluated at a single site. Shear-wave elastography (SWE) provides a non-invasive method to quantify tissue stiffness and may help identify site-specific mechanical patterns.
Purpose: To compare linea alba stiffness across supraumbilical, umbilical, and infraumbilical regions, and to explore whether regional differences are independent of IRD.

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Methods: A cross-sectional observational study was conducted using ultrasound and SWE data from adult women. Linea alba stiffness (SWE) was assessed at three standardized locations: 5 cm above the umbilicus, at the umbilicus level, and 2 cm below. Three measurements per site were averaged. A linear mixed-effects model was used to compare stiffness across locations, with subject as a random factor and IRD included as a covariate. Pairwise comparisons were adjusted using Bonferroni correction.
Results: Linea alba stiffness did not differ significantly across locations ($p > 0.05$). However, a consistent trend was observed, with lower stiffness values at the infraumbilical region compared to supraumbilical and umbilical sites (mean difference ≈ 1 kPa). IRD was not significantly associated with stiffness.
Conclusions: Although no significant regional differences were detected, the consistent pattern of lower infraumbilical stiffness suggests potential site-specific mechanical behavior of the linea alba.
Implications: These findings highlight that IRD alone may be insufficient to characterize abdominal wall integrity. Clinicians should consider regional assessment of tissue properties, as infraumbilical regions may present reduced stiffness with potential relevance for rehabilitation strategies targeting abdominal wall function.
Funding acknowledgements: None declared.

EP136 - SC3
QUALITY OF LIFE IN WOMEN WITH PRIMARY DYSMENORRHEA
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Background: Dysmenorrhea, characterized by cyclic menstrual pain, significantly impairs women's quality of life and can lead to chronic pelvic pain. It is a leading cause of work/school absenteeism, disability, and disruptions in family/personal relationships, education/professional development, and social/recreational activities.
Purpose: This study evaluated dysmenorrhea's impact on women with primary dysmenorrhea.
Methods: Cross-sectional observational design using an online self-administered questionnaire. Quality of life was measured with the SF-12. Participants self-reported eligibility. Inclusion criteria: Nulliparous women, 18–25 years, University of A Coruña (Spain). students/researchers; regular cycles (21–35 days), periods ≤7 days, NRS pain score ≥4. Exclusion criteria: Oral contraceptives/IUDs, pelvic surgery history, gynecological pathology.
Results: Of 259 eligible respondents (736 total), 72 (28%) stopped daily activities (e.g., sports, relationships) due to pain. 23 (12.8%) rated overall health as bad/very bad; 110 (48%) rated health over the past 5 weeks as bad/very bad.
Conclusions: Physiotherapy for primary dysmenorrhea could reduce pain, enhance quality of life, and minimize absenteeism.
Implications: As a non-pharmacological option, physiotherapy may alleviate pain and absenteeism in affected women.
Funding acknowledgements: None declared.

EP137 - SC3
PRIMARY DYSMENORRHEA AND RISK FACTORS: WHAT EVIDENCE SAYS
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Background: Primary dysmenorrhea is one of the main painful conditions affecting women. This condition has economic impacts and disrupts personal lives. Because there is no clear causal mechanism, understanding the possible risk factors could provide valuable insight into how the symptoms develop.
Purpose: The main objective of this research is to identify the factors most strongly associated with a higher prevalence of painful symptoms, not only to establish potential risk factors but also to develop prevention strategies for women with primary dysmenorrhea.
Methods: The research was conducted by including articles published from January 2015 to May 2025 in the Web of Science, Physiotherapy Evidence Database, PubMed, Scopus, CINAHL, and Dialnet databases, using the terms dysmenorrhea, primary dysmenorrhea, risk factors, and prevention.
Results: The most frequently referenced risk factors in the various articles were psychosocial factors (low self-esteem, lack of sleep, anxiety, or depression), menstrual factors (early menarche or heavy bleeding), personal factors (age or BMI), and genetic or familial factors (no pregnancies or other gynecological diseases).
Conclusions: Although there is a wide variety of possible risk factors for the development of primary dysmenorrhea, psycho-emotional factors such as anxiety or depression stand out due to their prevalence, as well as other characteristics more closely related to each woman's menstrual cycle.
Implications: Primary dysmenorrhea generates economic and social losses, even leading to the need for specific medical leave. Knowing what factors can contribute to the appearance of symptoms could help in better control and reduce their impact on patients' daily lives.
Funding acknowledgements: None declared.

EP153- SC1
GENDER ROLE AND ENVIRONMENTAL BARRIERS IN OLDER WOMEN WITH HEART FAILURE AND SARCOPENIA: ASSOCIATIONS WITH FUNCTIONAL CAPACITY
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Background: In older women with heart failure, functional capacity and environmental barriers may influence participation in exercise-based rehabilitation. However, the role of gender, beyond biological sex, in functional capacity and environmental barriers remains unclear in this population.
Purpose: To characterize gender-role typologies and exercise barriers and explore associations with functional capacity.
Methods: Cross-sectional study in women aged ≥60 years with heart failure (New York Heart Association [NYHA] class II–III) and signs of sarcopenia (SARC-F) enrolled in cardiac rehabilitation. Gender-role typologies (androgynous, masculine, feminine, undifferentiated) were derived from the 12-item Bem Sex Role Inventory (BSRI-12). Exercise barriers were assessed with the Barriers to Physical Activity Self-Report (ABPEF), using mean overall and subscale scores. Functional capacity was assessed by peak VO_2 (% predicted; age/sex-adjusted) and 4-m gait speed. Kruskal–Wallis and Mann–Whitney U post hoc tests compared typologies; Spearman's rho assessed associations.
Results: The sample (N=22) had a mean age of 76 (8) years and a BMI of 32.10 (5.40) kg/m². BSRI typologies were 27.3%. androgynous, 22.7% masculine, 22.7% feminine, and 27.3% undifferentiated. Environment/Facilities showed the highest ABPEF score. Gait speed differed across typologies ($H(3) = 8.001$; $p = 0.046$); post hoc showed a masculine–undifferentiated difference ($U = 0$; $p = 0.004$; $r = 0.79$), with higher gait speed in the undifferentiated group.

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Peak VO_2 (% predicted) did not differ across typologies (H(3) = 1.872; p = 0.599) or associate with ABPEF scores (all p > 0.05).
Conclusions: Gender-role typologies were associated with gait speed, but not age/sex-adjusted exercise capacity.
Implications: Gender-role typologies and environmental barriers may aid stratification and tailor rehabilitation programmes.
Funding acknowledgements: Supported by the Spanish Society of Cardiology and the Association for Cardiovascular Risk Prevention and Cardiac Rehabilitation, SECARIR-INV-CLI 24/05.

EP125 - SC1
EFFECT OF OPTIMIZED DECONGESTIVE THERAPY IN PATIENTS WITH CHRONIC LYMPHEDEMA OF THE LOWER LIMB
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National Sports Academy

Background: Complex decongestive therapy has been established as the gold standard in conservative treatment of lymphedema.
Purpose: To evaluate the effectiveness of optimized decongestive therapy in patients with chronic lymphedema of the lower limb.
Methods: The study included 12 women treated at the Medical Center of the National Academy of Sciences. All participants underwent a ten-day optimized decongestive therapy including compression bandaging with memory foam bandages twice a day and active exercises. The assessment was performed before and after the therapeutic course by measuring limb circumferences in 4 cm, visual analog scale for pain assessment (VAS), ankle joint goniometry, Borg scale, 6-minute walk test, and LYMQOL LEG questionnaire for quality of life. Ultrasound examination of the subcutaneous adipose tissue was also performed to objectively assess and quantitatively evaluate edema.
Results: Following the ten-day therapeutic course, a reduction in pain intensity and perceived fatigue was observed, along with an improvement in the range of motion of the ankle joint. In addition, the distance covered increased, and quality of life improved among the participants studied.
Conclusions: Optimized decongestive therapy leads to volume reduction and improvement of function of the edematous lower limb in patients with chronic secondary lymphedema through optimized decongestive therapy.
Funding acknowledgements: National Sports Academy "Vasil Levski", Sofia, Bulgaria.

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