

Physical therapists' perspectives and practices on weight management for chronic pain patients with obesity: a cross-sectional survey

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ABSTRACT

Introduction: Overweight and obesity management in primary care gained importance due to its global rise and association with cardiometabolic diseases and chronic musculoskeletal disorders (MSD). Physical therapists are well-positioned to incorporate weight management in their practice. This survey evaluates attitudes, barriers and clinical practices of physical therapists regarding weight management for individuals with chronic pain and comorbid overweight or obesity.

Methods: German-speaking physical therapists in Switzerland volunteered in an online survey. Descriptive statistics summarized physical therapists' attitudes, barriers and practices. Logistic regression analyses identified factors associated with recommending and implementing weight reduction interventions.

Results: Of the 581 respondents, 92.1% acknowledged the importance of educating patients on obesity-related health risks, and 81.6% recommended weight reduction. Two-thirds offered weight reduction interventions in physical therapy, although fewer (57.3%) received corresponding training during entry-level education. Most weight reduction interventions focused on movement, endurance, and strength, whilst a minority addressed nutrition, sleep or stress. The odds of offering weight reduction interventions were higher among those with entry-level education (OR: 2.1, 95% CI: 1.4-3.3), further education (OR: 1.9, 95% CI: 1.1-3.3), and for those who perceived weight reduction interventions (OR: 6.5, 95% CI: 3.5-12.3) and counseling on other lifestyle factors (OR: 2.9, 95% CI: 1.2-7.3) as within their professional scope.

Conclusions: While physical therapists showed positive attitudes toward weight reduction interventions for individuals with chronic pain and overweight or obesity, their education and implementation remain inconsistent, primarily focusing on improving physical activity. Clear competencies and structured training are needed to integrate evidence-based weight management into clinical practice.

Keywords: Chronic pain, Lifestyle, Obesity, Physical therapy, Weight management

What is already known about this topic:

- Physical therapists recognize the importance of addressing lifestyle factors in their clinical practice.
- The implementation of weight management strategies remains limited across different healthcare systems and countries.

What does the study add:

- This study highlights Swiss physical therapists' role in promoting weight management as part of chronic pain treatment. It identifies key implementation barriers and emphasizes the need for education, systemic support, and development of competency standards.

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Introduction

The prevalence of overweight and obesity is high globally, affecting 38% and 14% of adults, respectively, in 2020 (1). Overweight and obesity contribute to various non-communicable diseases, such as metabolic diseases, cardiovascular diseases, and musculoskeletal disorders (MSD), like chronic low back pain (CLBP) or osteoarthritis (OA) (1-4). The causes

of obesity are multifactorial, reflecting complex and not yet fully understood interactions between genetic, environmental, socio-cultural, and psychological factors (5,6). Obesity is recognized as a chronic condition that may occur with or without abnormalities in adipose tissue function or distribution (5,6). According to the most recent definitions, the diagnostic criteria of overweight and obesity should combine Body Mass Index (BMI) with at least one additional measure of adiposity, such as waist-to-hip ratio or direct measurement of body fat (6).

International MSD guidelines recommend a conservative multimodal treatment approach, with first-line treatments including supervised exercise therapy and cognitive-behavioral therapy (7,8), as well as lifestyle modifications, including weight management (9-12). Interestingly, weight reduction interventions, including the promotion of exercise and a healthy diet, show promising results in terms of pain relief, improved function, and enhanced quality of life for the treatment of CLBP and knee OA (13-15). Weight reductions may reduce pain and improve function through a range of biopsychosocial mechanisms. Biologically, it reduces low-grade inflammation and improves insulin sensitivity (16), and psychologically, it reduces somatization and results in improved psychological well-being and management of comorbidities (17). Socially, multimodal treatments can help to reduce pain-related fear of movement (18), fostering greater confidence in physical activity and engagement in daily and social activities, which are often reduced in individuals with obesity and chronic pain (19).

Since conservative care for patients with MSD is frequently provided by physical therapists, the implementation of weight reduction interventions within physical therapy practice should be explored. Physical therapists are trained within a holistic, biopsychosocial framework, which makes them ideally placed to support individuals with chronic MSD and overweight or obesity in weight management (12,20,21). Various lifestyle factors, including a healthy diet, smoking cessation, weight control, and stress management, are already incorporated into physical therapy curricula in the United States, United Kingdom, Canada, Australia, New Zealand, and Ireland (22). Therefore, integrating these factors into curricula in other countries seems both feasible and relevant. However, to ensure effective implementation, it is essential to explore physical therapists' attitudes, barriers and practices regarding these factors. Surveys across different countries have highlighted a general awareness among physical therapists of the importance of addressing lifestyle factors within their professional role (23-26). These surveys showed that physical therapists mainly assessed patients' physical activity levels (78%), while dietary status (36-55%) and smoking status (35-46%) were evaluated less often (23,24,27). Moreover, results revealed that physical therapists' knowledge and experience in managing lifestyle behaviors, especially weight management, remain limited (23,25,28).

Although lifestyle factors are integrated into physical therapy curricula, their implementation into clinical practice remains limited across countries (23,25,28), likely due to variations in educational structures and healthcare systems. Therefore, it is essential to evaluate physical therapists'

attitudes and practices on a local level to tailor future educational programs to better suit each healthcare system. Hence, this cross-sectional survey explored Swiss physical therapists' attitudes, barriers, and practices regarding weight management in patients with chronic pain and overweight or obesity.

The research questions for this survey were:

- (i) What are the attitudes, barriers, and practices of Swiss physical therapists regarding weight reduction in individuals with chronic pain and overweight or obesity?
- (ii) Which factors are associated with the recommendation and implementation of weight reduction interventions by physical therapists?

Materials and methods

Study design

A cross-sectional, anonymous online survey was conducted using Limesurvey (29) between December 2023 and March 2024. The study followed the Strengthening the Reporting of Observational Studies in Epidemiology Statement (STROBE) checklist (30). Because no health-related data were collected, this study did not fall under the Swiss Human Research Act (31,32). Informed consent of all participants was obtained. On the first page of the survey, participants were informed about the survey, and by clicking the button to start the survey, they implied their consent.

Participants and recruitment

German-speaking physical therapists working clinically in Switzerland and students currently working in an internship were eligible to participate.

According to the analysis of the Swiss Federal State Office, 61.8% of Swiss residents speak German (33), and approximately 13,577 physical therapists are working in Switzerland (34), resulting in a target population of 8,391 participants. The required sample size for the online survey was calculated using the R package "presize" (35), with a significance level of 0.05, a proportion of 0.62, and a 95% confidence level, yielding a result of 360 participants. A Swiss federal register including all practicing physical therapists is lacking. Therefore, a snowball sampling approach was followed in order to reach as many participants as possible (32). Responsible individuals from physical therapy schools, local physical therapy associations, and hospitals were asked to spread the survey link through their networks. In addition, lists of physical therapy practices were screened for email addresses on the website of the Swiss Physiotherapy Association, and the survey link was distributed on social media. Every invitation via email or social media included a request to distribute the link among co-workers or other physical therapists in their network.

Outcome measure

A self-administered questionnaire (Supplement 1) was developed using surveys from previous studies on physical therapists and healthcare professionals (20, 24-28, 36-40) along with literature on survey design (32).

In total, the survey consisted of 44 questions, beginning with the inclusion question, whether the participant

is currently working as a physical therapist in Switzerland. Subsequently, demographic data were collected, followed by questions assessing attitudes, beliefs, and barriers regarding weight reduction in individuals with chronic pain and overweight or obesity. The survey also explored methods for assessing nutritional status, overweight or obesity, and investigated attitudes and knowledge regarding nutrition management. Of the 44 survey questions, only a subset of 32 questions was used to address the research questions.

Face and content validity of the questionnaire were assessed by different experts, including experienced researchers ($n = 3$) with expertise in the fields of public health, epidemiology, nutrition, prevention, and knowledge about the Swiss Bachelor's physical therapy education program. A pilot test to evaluate the usability of the survey was performed, including six physical therapists (target population). Modifications of the survey were made according to the feedback and suggestions of the participants.

Statistical analysis

Respondents who did not answer any question beyond the demographics were excluded from analysis. Some participants might not complete all sections of the survey, either due to branching or because they stopped the survey before completion, resulting in missing values. A potential relationship between missing values and demographic data was examined using logistic regression. Descriptive statistics were used to summarize participants' characteristics and to describe continuous variables of the survey questions. Absolute and relative frequency distributions were calculated for categorical variables. Open-ended questions were analyzed using qualitative content analysis (32), which was performed with the software Taguette (41).

Two logistic regression analyses were conducted to assess different factors associated with physical therapists' recommendations for weight reduction and factors associated with the implementation of weight reduction interventions in therapy (Supplement 2). Correlation coefficients were calculated to identify potential multicollinearity, while a stepwise backward elimination approach was used to identify the most important predictor variables, controlling for gender and work experience.

All statistical analyses were calculated using R software, version 4.4.3 (R Core Team, 2025) (42), and 95% confidence intervals (CI) were calculated to provide an estimate of the precision of the parameter estimates for the regression analysis.

Results

A total of 744 responses were collected, of which 163 were excluded, resulting in 581 responses included in the analysis. Exclusion reasons were: Currently not working as a physical therapist in Switzerland ($n = 14$) and incomplete demographics or no clinical questions answered ($n = 149$). Of the 581 responses, 80 showed missing values. Logistic regression analyses revealed that the work setting was statistically significantly associated with missing data. The probabilities of missing values across the different work settings were as follows: outpatient (14.1%), inpatient (19.8%), and both

settings (12.8%). Therefore, pairwise deletion was applied in the regression analysis, excluding missing data from variables with missing values. Since similar answer patterns across respondents were found, dropouts seemed not to introduce meaningful bias, and therefore their data were included in the descriptive analysis. Supplements 3 and 4 depict patterns of missing values and discuss potential sources of survey discontinuation.

Most respondents were female (81.2%), with an average work experience of 14.1 years (range: 0-43 years), primarily working in an outpatient practice (68.2%). Table 1 shows details of demographic characteristics.

TABLE 1 - Participant characteristics of 581 participants

Characteristic	n (%)	
Gender		
Male	108 (18.6)	
Female	472 (81.2)	
Other	1 (0.2)	
Age (y)		
20-24	43 (7.4)	
25-34	233 (40.1)	
35-44	123 (21.2)	
45-54	101 (17.4)	
55-64	76 (13.1)	
65+	5 (0.8)	
Degree*		
Bachelor of Science in training	45 (7.7)	
Bachelor of Science	318 (54.7)	
Master of Science	92 (15.8)	
PhD	7 (1.2)	
Diploma	81 (13.9)	
Other degree	60 (10.3)	
Work setting*		
Stationary	201 (34.6)	
Outpatient	539 (92.8)	
Other	29 (5.0)	
Work environment*		
Hospital	156 (26.9)	
Practice	396 (68.2)	
Rehabilitation center	48 (8.3)	
Care home	40 (6.9)	
Other	30 (5.2)	
Characteristic	Mean (sd)	Range
Work percentage	70.8 (22.9)	10-100
Clinical experience (y)	14.1 (11.2)	0-43

* The sum might be over 100% as multiple answer selections were possible. Abbreviations: sd: standard deviation; y: years.

Responses regarding physical therapists' attitudes toward weight management in individuals with chronic pain and overweight or obesity, with a focus on weight reduction, are shown in Figure 1. Counseling on nutrition, exercise, and other

lifestyle factors (e.g., smoking, sleep, and stress) as part of a weight reduction intervention was perceived as important by 95.3%, 98.6%, and 97.6% of respondents, respectively. The lowest agreement was found regarding the perception that weight reduction interventions fall within the scope of physical therapists (56%) and that they feel confident in implementing such interventions in clinical practice (44%).

The perceived barriers faced by respondents when performing weight reduction interventions are displayed in Figure 2. More categories were found during the content analysis of 46 respondents who described other barriers. Those revealed a lack of patient interest ($n = 14$, 30.4%), weight reduction interventions having no priority in physical therapy ($n = 8$, 17.4%), insufficient interdisciplinary collaboration

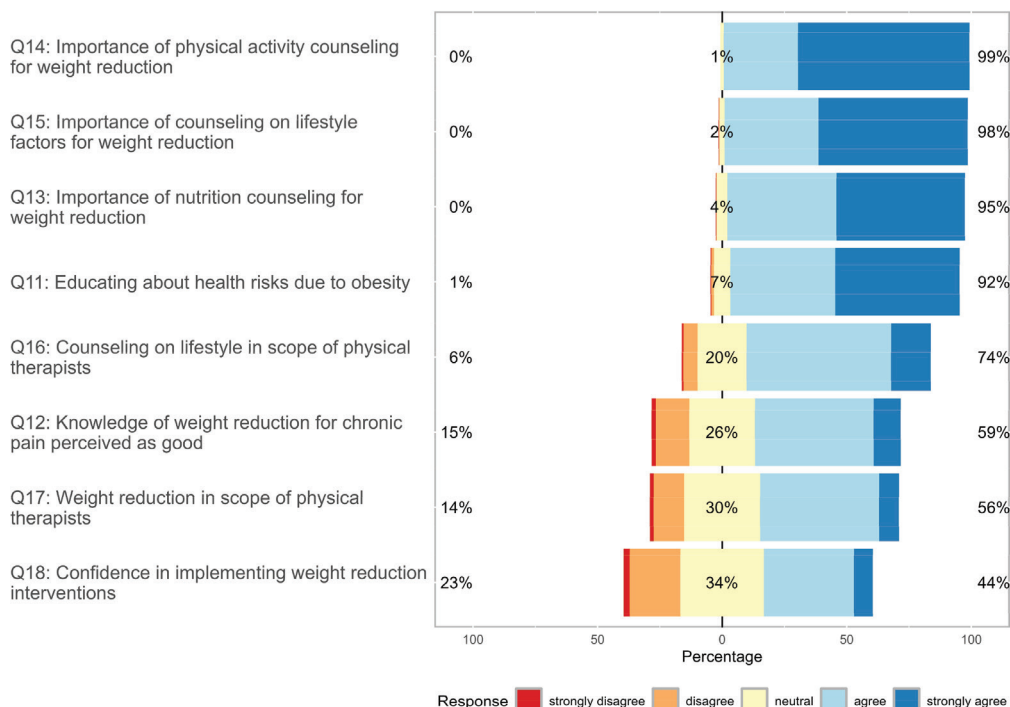


FIGURE 1 - Relative frequencies of physical therapists' attitudes regarding weight reduction in chronic pain patients with obesity. In total, 581 participants answered this question. Q: Question. Questions are displayed in descending order of the level of agreement. The percentages on the left include both "strongly disagree" and "disagree" responses, the percentages on the right include both "agree" and "strongly agree" responses, and the percentage in the middle represents only "neutral" responses.

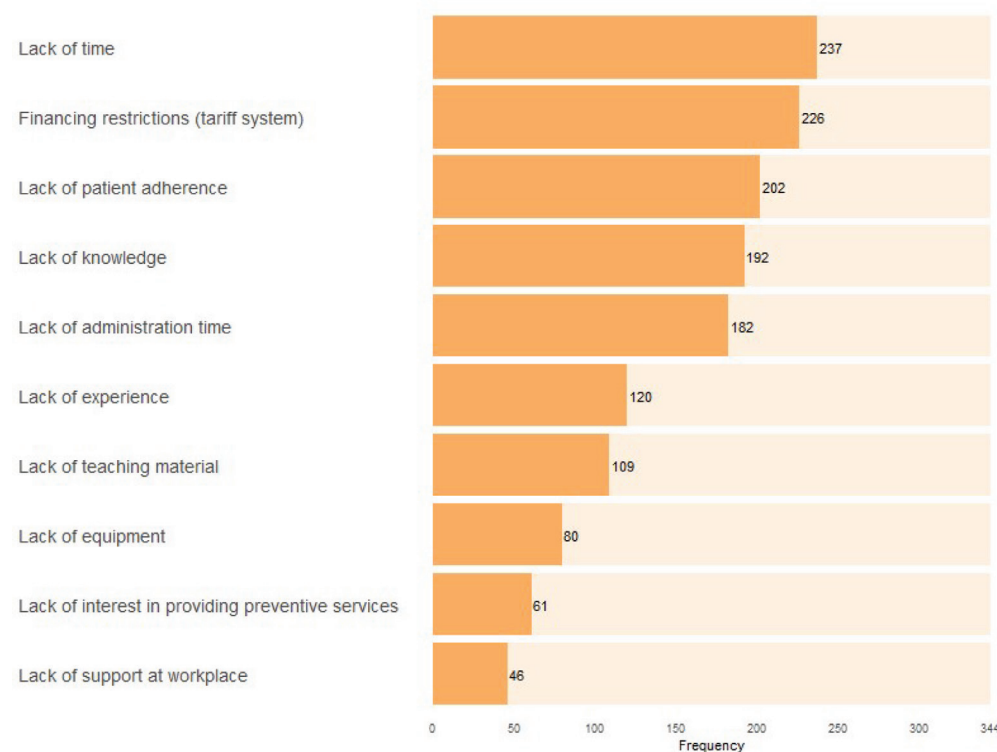


FIGURE 2 - Absolute frequencies of barriers regarding the implementation of weight reduction interventions in physical therapy. In total, 344 participants answered this question (only those which provide weight reduction interventions). Multiple answer selection was possible. Absolute frequencies are displayed for the selected barriers (number).

(n = 8, 17.4%), limited resources in physical therapy (e.g., time constraints and lack of interprofessional agreements, n = 6, 13%), and it was perceived as outside the scope of a physical therapist's practice (n = 5, 10.9%).

Concerning practical implementations in physical therapy, a total of 429 out of 526 respondents (81.6%) recommend weight reduction for individuals with chronic pain and overweight or obesity, while 344 out of 526 respondents (65.4%) offer interventions for weight reduction in such patients within their therapy setting (Table 2). All participants were

asked how they assessed overweight or obesity in patients (open question). Of the 521 respondents, the majority reported using BMI (n = 287, 55.1%) or observation (n = 276, 53%), and few took circumference measurements (n = 32, 6.1%) or performed bioimpedance analysis (n = 31, 6%). The respondents who already implemented weight reduction interventions in individuals with chronic pain and overweight or obesity were asked which interventions they use in practice (open question). Out of 343 responses, the most frequent answer was a recommendation for physical activity

TABLE 2 - Frequencies of questions about practices and education

Question	Number of respondents	Answers	n (%)
Practices			
Q 24: Assessment methods to capture overweight and obesity in practice*	521	BMI	287 (55.1)
		Observation	276 (53)
		Weight/Height	75 (14.4)
		Anamnesis	60 (11.5)
		Diagnosis available	58 (11.1)
		Circumferences	32 (6.1)
		Bioimpedance analysis	31 (6)
Q 25: Recommendation of weight reduction as part of treatment or in general	526	Yes:	429 (81.6)
Q 26: Implementation of weight reduction interventions within physical therapy	526	Yes:	344 (65.4)
Q 27: Reasons for not implementing weight reduction interventions within physical therapy*	178**	Lack of competence	64 (36)
		Out of scope	38 (21.3)
		Lack of time	29 (16.3)
		No priority	25 (14)
		Lack of interdisciplinary setting	19 (10.7)
Q 28: Interventions to facilitate weight reduction within physical therapy*	343**	Move more	200 (58.3)
		Endurance training	95 (27.7)
		Strength training	84 (24.5)
		Diet advice	71 (20.7)
		Refer to dietician	55 (16)
		Education about diet, training and obesity	36 (10.5)
		Lifestyle change	34 (9.9)
Education			
Q 37: Lifestyle factors covered in entry-level education	501	Yes:	287 (57.3%)
Q 38: Quality rating of question 37.	287**	Very good:	6 (2.1)
		Good:	52 (18.1)
		Neutral:	84 (29.3)
		Fair:	117 (40.8)
		Poor:	28 (9.8)
Q 41: Completion of further education on lifestyle interventions, weight reduction or nutritional management	501	Yes:	107 (21.4)
Q 43: Willingness to participate in further training	394**	Yes:	301 (76.4)

*For content analysis results, only the most frequent categories are listed. Results may exceed 100% as several categories could be named; **Question not shown to all participants due to branching.

(n = 200, 58.3%), including general advice to move more during the day, to implement training, or enhance physical activity to increase energy expenditure. Advising endurance and strength training was reported 95 times (27.7%) and 84 times (24.5%), respectively. Nutritional advice was implemented by 71 respondents (20.7%), while 36 respondents (10.5%) reported giving general information on diet, training, and its association with overweight. Fifty-five of the 343 respondents (16%) recommended a dietitian for dietary changes to reach weight reduction, and only 34 of the respondents (9.9%) suggested other lifestyle changes (e.g., sleep, stress, smoking, social connections).

Further, self-reported reasons for not implementing weight reduction interventions can be found in Table 2.

Regarding the education of the respondents, a total of 287 out of 501 (57.3%) reported that lifestyle factors were covered during their entry-level education (Table 2). Most respondents rated the quality of the content as neutral (n = 84, 29.3%) and fair (n = 117, 40.8%). Further, 107 out of 501 respondents (21.4%) completed further training in lifestyle interventions, weight reduction, or nutrition management. Of the 394 respondents who did not complete further education, 301 (76.4%) would be willing to do so in the future. An infographic summarizing the main descriptive results of the study is provided in Supplement 5.

Table 3 depicts the multiple logistic regression models for recommending and implementing weight reduction interventions by physical therapists in Switzerland. Perceiving weight reduction interventions as within the scope of physical therapists was associated with higher odds of recommending weight reduction to individuals suffering from chronic pain and overweight or obesity (OR: 3.6, 95% CI: 1.9-6.6, Table 3A), compared to those who were neutral or disagreed with this perception. Additionally, respondents who completed further education on lifestyle interventions, weight reduction, or nutrition management were 2.1 times more likely to recommend weight reduction to patients (OR: 2.1, 95% CI: 1.1-4.5), compared to those without further education.

Respondents who agreed that weight reduction interventions are within the scope of physical therapists had 6.5 times higher odds (95% CI: 3.5-12.3), and those who were neutral to this statement had 2.7 times higher odds (95% CI: 1.4-5.1) of offering weight reduction interventions, compared to those who disagreed with this statement (Table 3B). In addition, respondents who agreed that counseling on lifestyle factors falls within their scope of practice reported an OR of 2.9 (95% CI: 1.2-7.3), and respondents who were neutral showed an OR of 3.3 (95% CI: 1.3-8.9), compared to their peers who disagreed with this statement. Moreover, receiving training about lifestyle factors during entry-level

TABLE 3 - Logistic regression model of factors associated with (A) the recommendation of weight reduction, (B) offering weight reduction interventions to individuals with chronic pain and overweight or obesity

A				
Variable	Model^a		Model^b	
	OR (95% CI)	p-value	OR (95% CI)	p-value
(Intercept)	1.7 (0.9-3.1)	0.080	1.7 (1.0-2.9)	0.038*
Weight reduction intervention in the scope (agree)	3.6 (1.9-6.6)	<0.001*	3.6 (1.9-6.6)	<0.001*
Weight reduction intervention in the scope (neutral)	1.8 (1.0-3.4)	0.060	1.8 (1.0-3.4)	0.059
Further education (yes)	2.1 (1.1-4.5)	0.029*	2.1 (1.1-4.4)	0.028*
Gender (m)	1.0 (0.6-1.9)	0.984		
Work experience	1.0 (1.0-1.0)	0.991		
B				
Variable	Model^a		Model^b	
	OR (95% CI)	p-value	OR (95% CI)	p-value
(Intercept)	0.1 (0.0-0.3)	<0.001*	0.1 (0.0-0.3)	<0.001*
Weight reduction intervention in the scope (agree)	6.5 (3.5-12.3)	<0.001*	6.6 (3.6-12.6)	<0.001*
Weight reduction intervention in the scope (neutral)	2.7 (1.4-5.1)	0.002*	2.7 (1.5-5.1)	0.002*
Lifestyle counseling in the scope (agree)	2.9 (1.2-7.3)	0.015*	2.9 (1.3-7.2)	0.015*
Lifestyle counseling in the scope (neutral)	3.3 (1.3-8.9)	0.012*	3.3 (1.3-8.7)	0.013*
Lifestyle topic during entry-level education (yes)	2.1 (1.4-3.3)	0.001*	2.2 (1.5-3.4)	<0.001*
Further education (yes)	1.9 (1.1-3.3)	0.018*	1.9 (1.1-3.2)	0.022*
Gender (m)	1.4 (0.8-2.4)	0.262		
Work experience	1.0 (1.0-1.0)	0.451		

Model^a: adjusted model; Model^b: unadjusted model; *: Indicates statistical significance at p < 0.05; The intercept of regression A contains the factors weight reduction intervention in the scope (disagree), further education (no), gender (female) and work experience (0 years), the intercept of regression B contains the factors weight reduction intervention in the scope (disagree), lifestyle counseling in the scope (disagree), lifestyle topic during entry-level education (no), further education (no), gender (female) and work experience (0 years); Knowledge about weight reduction interventions, highest degree and work setting were excluded during the stepwise backward elimination.

Abbreviations: m: male; OR: odds ratio; 95% CI: 95% confidence interval.

education, and further education on lifestyle interventions, weight reduction, or nutrition management was associated with offering weight reduction interventions by physical therapists (OR: 2.1, 95% CI: 1.4-3.3 and OR: 1.9, 95% CI: 1.1-3.3, respectively). Controlling for gender and work experience did not substantially influence the main effects (Table 3 Model^b).

Discussion

The aim of this cross-sectional survey was to assess attitudes, barriers, and practices faced by physical therapists working in the German-speaking part of Switzerland regarding weight management in individuals with chronic pain and overweight or obesity.

Lifestyle interventions, including nutritional and exercise therapy, build the cornerstone of overweight and obesity care, with the overarching goal of health gain (i.e., improved physical function, quality of life, metabolic markers and mental health) (5,43). Weight reduction represents only one marker of treatment effectiveness and is often associated with intensive therapy programs, which are typically followed by weight regain after completion (5,44,45). Consequently, strategies for long-term management are warranted to support sustained improvements in overall health (5,6,43). Additional treatments, such as pharmacotherapy and bariatric surgery, may be considered as part of obesity management and have demonstrated greater weight reduction compared to lifestyle interventions or placebo (5,46,47). However, their use depends on individual patient characteristics and clinical context, and both approaches carry a risk of adverse events (5). Weight regain is commonly observed after discontinuation of pharmacotherapy (48) or after bariatric surgery (49), and neither approach replaces the need for sustained lifestyle modification as the foundation of obesity care (5,47). A meta-analysis including 52 studies showed an average loss of 8 kg of FFM and lean body mass (LBM) within the first year after bariatric surgery, accounting for 21% and 22% of total weight loss, respectively (50). Additionally, nutritional deficiencies were observed following different surgery procedures (i.e., sleeve gastrectomy, Roux-en-Y gastric bypass, gastric band), due to surgery-related malabsorption, pre-existing deficits, and limited access or adherence to supplementation (51). These findings emphasize the importance of promoting general healthy lifestyle behaviors, including balanced nutrition, regular physical activity, stress management, and regenerating sleep, which provide benefits beyond weight loss by improving overall health, metabolic function, and quality of life, while minimizing the risk of nutritional deficits and loss of lean mass (5). Recent evidence demonstrates that physical therapists can play a meaningful role in this interdisciplinary framework. For instance, Allison et al., showed that physical therapists can safely and effectively deliver structured weight reduction interventions, including exercise programs combined with meal replacements, in patients with knee OA and overweight or obesity (52). However, external validity is limited, as the translation of such intensive, resource-supported interventions into routine clinical practice remains challenging due to constraints in time, staffing,

and variability in professional training. Nevertheless, physical therapists are often the first point of contact for individuals with chronic musculoskeletal pain and coexisting overweight or obesity (7,10). Their expertise in exercise prescription, movement behavior change, and functional rehabilitation positions them to support sustainable lifestyle modification as part of a multidisciplinary team (38). Within this context, the present survey provides insights into how physical therapists in the German-speaking region of Switzerland perceive their role in weight management for individuals with chronic pain and overweight or obesity. The findings indicate that physical therapists in this region generally acknowledge the importance of educating patients about the health risks associated with overweight and obesity (agreement over 90%) and perceive lifestyle counseling (74%) and weight reduction interventions (56%) as within physical therapists' scope. These findings align with existing surveys from the United States, Canada, and Australia, which indicated that 67 to 81.5% of surveyed physical therapists believe that weight management is within their professional scope when treating individuals with overweight or obesity (25,26). Moreover, education on obesity and its associated health implications, and counseling regarding a healthy lifestyle have been recognized in 61.2 to 90% of surveyed physical therapists in those countries (26,28). However, confidence in implementing weight management into clinical practice when working with individuals with overweight or obesity varied among surveyed physical therapists. Only 20.4% of respondents in the United States and 49% in Australia reported feeling confident, which is comparable to the 44% reported in the current survey in Switzerland (28,39).

Physical therapists in Switzerland and their international counterparts face similar barriers to implement weight management, including systemic barriers like the lack of access to equipment and time constraints, patient barriers including a lack of motivation to adhere to the therapy or that weight management is not perceived as a necessary goal, and therapist barriers including limited training and knowledge to manage overweight or obesity, lack of experience, perceiving weight reduction is not within the scope of physical therapists, and lack of interest in providing preventive services (24,26,27,39). Although lifestyle factors, including weight management, are integrated into modern physical therapy curricula in several countries (as mentioned in the introduction) (22), barriers remain regarding the translation of this knowledge into clinical practice.

Physical therapists in the German-speaking part of Switzerland mainly assessed overweight or obesity using BMI (55.1%) and observation (53%). This can be problematic, as observation is not an objective measurement and BMI does not account for body fat distribution (e.g., waist circumference or waist-to-hip ratio), which a recent expert commission report recommends using for the assessment of obesity (6,53). Moreover, a survey of 851 Canadian physical therapists found no clear consensus on their role in adiposity assessment, with 39% of respondents expressing neutrality and 18% disagreeing that physical therapists should assess adiposity in their patients, indicating uncertainty in this area (26).

In this present study, implemented interventions were primarily focused on increasing physical activity (58.3%), despite 57.3% receiving training in lifestyle factors during their entry-level education and 21.4% completing further education in this field. Comparable research findings from surveys of physical therapists have shown that the strongest agreement regarding physical therapy roles in obesity management was observed in areas such as exercise programs (90-96%), cardiorespiratory training programs (95%), or equipment description (76%) (24,26). About 19.6 to 40% of the volunteering physical therapists in these studies provided nutritional advice (24,26,28), similar to our survey results where 20.7% of respondents provided advice on diet. These findings indicate that weight reduction strategies among physical therapists focus mainly on physical activity, which is not recommended as a standalone approach in current guidelines (43), highlighting the need for interventions that also integrate dietary and behavioral components.

Regression analyses showed that physical therapists were more likely to implement weight reduction interventions in clinical practice if they had received entry-level or further education on healthy lifestyle factors and perceived lifestyle counseling and weight reduction as part of their professional scope. This observation may suggest that, beyond entry-level education and further education, the conviction that weight reduction interventions and lifestyle counseling belong to the scope of physical therapists is crucial for greater engagement and implementation into clinical practice. These findings underscore a gap between awareness and action in physical therapy practice, as observed in both our survey and similar studies conducted in other countries (27,39). While respondents acknowledged the importance of weight reduction and provided recommendations to patients, this did not automatically lead to the implementation of weight reduction interventions (27,39). This observation suggests that, alongside the required education and practical competencies, the personal conviction of physical therapists is essential for the implementation of weight reduction interventions in practice (25).

In our analysis, clinical experience was not associated with the recommendation or implementation of weight reduction interventions. However, a survey conducted in the United States in 2009, including 345 physical therapists, reported that older therapists with longer practical experience had less knowledge about obesity compared to younger therapists (28). Another survey conducted in Australia among 65 physical therapists reported that the provision of dietary advice was significantly associated with weight management training during professional entry-level education (25). A total of 57.3% of physical therapists in our survey reported receiving entry-level education on lifestyle factors, suggesting a shift toward more lifestyle-focused curricula. Unlike the findings from the 2009 U.S. survey, where older physical therapists demonstrated less knowledge of obesity, our results suggest that increased education improves the likelihood of physical therapists implementing weight management interventions into clinical practice, similar to the findings in the Australian survey.

However, evidence-based implementation of weight reduction interventions, including lifestyle changes, diet, and increased physical activity (54), by physical therapists remains limited, as indicated by the responses to open-ended questions from this survey and existing literature. This limitation is mainly attributed to the focus on physical activity-related interventions and inadequate assessment of obesity (24,26). Despite the growing relevance of counseling and coaching on lifestyle-focused modifications by physical therapists, knowledge and skills for effective implementation remain challenging (55,56). Results from a randomized controlled trial including 80 physical therapists, randomly allocated to an intervention or control group, demonstrated an improvement in physical therapists' confidence, knowledge, and skills in weight management for people with OA in the intervention group after an online self-directed training program on biopsychosocial elements of obesity and weight management (57). Moreover, studies from the United States and Canada support the effect of a weight reduction program on improvement in pain and physical function, including different health care professionals like physicians, exercise specialists, dieticians, and nurses (15,58,59). Thus, showing promising evidence for the potential role of physical therapists in lifestyle and weight management strategies, though an interdisciplinary approach may be necessary. An advanced practice role of physical therapists incorporating weight management alongside the management of different chronic MSD could represent an important evidence-based therapy approach in the future. To integrate weight management into daily physical therapy practice, education and healthcare policies must evolve, as barriers and inconsistencies in entry-level curricula persist across countries (22,26,27,39,60). Entry-level education should incorporate training in lifestyle counseling, with a specific focus on weight management, to ensure that future physical therapists develop the necessary skills and confidence to address overweight, obesity, and related conditions like chronic MSD (20,61). Moreover, healthcare systems should recognize and support the role of physical therapists in lifestyle interventions by addressing key barriers such as financial constraints and limited administrative time.

Strengths and limitations

One strength of this study is the large sample size, which exceeds the required 360 participants, aligning with findings in the literature (62). The snowball sampling method enabled fast and low-cost data collection. However, due to this non-probability sampling method, a potential risk of sampling bias cannot be totally excluded. Since respondents are likely to refer the survey to other individuals within their social networks, the sample may not be fully representative of all physical therapists. Furthermore, as the survey was conducted in the German-speaking part of Switzerland only, the generalizability is limited to this region, as the prevalence of overweight and obesity is higher among German-speaking residents compared to French- or Italian-speaking residents (63). Additionally, cross-sectional designs prevent causal conclusions from the logistic regression analyses.

The survey did not capture the detailed educational status of students (e.g., second, third or fourth year), which could not be controlled in the analysis. However, excluding students ($n = 45$) from the analysis did not change overall patterns and only resulted in negligible differences. Nevertheless, more accurate quantification of professional experience and educational status may enhance future research in this field. Furthermore, self-reported outcomes might be affected by recall bias, particularly in questions related to entry-level education, where memory-related imprecisions could result in biased responses. Overall, the results need to be interpreted with caution, as the survey was not fully validated at all stages. In addition, the survey focused on lifestyle interventions and primarily weight reduction within physical therapy care, and did not fully reflect the modern paradigm of overweight and obesity management, which emphasizes the improvement in overall health, function and quality of life in addition to weight change (5,43).

Conclusions

This cross-sectional survey examined the attitudes, perceived barriers, and current practices of physical therapists in the German-speaking region of Switzerland regarding weight management for individuals with chronic pain and overweight or obesity. Of the surveyed physical therapists, 74% believed that lifestyle counseling for individuals with chronic pain and overweight or obesity was within their scope. Furthermore, 56% viewed weight reduction interventions as part of their role, and 65.4% reported implementing weight reduction interventions in clinical practice, predominantly through physical activity-related approaches. Common barriers, such as financing restrictions, limited administrative time, and lack of interdisciplinary collaboration, indicate the need for systemic changes to facilitate the integration of weight management into physical therapy practice. Along with entry-level and further education, respondents' perception that lifestyle counseling and weight reduction interventions fall within the scope of physical therapists emerged as the strongest predictors of the implementation of weight reduction interventions in clinical practice. To date, the extent of knowledge and competence level remains unclear, highlighting the need for competency standards in weight management for physical therapists and evidence-based education programs to develop management guidelines and evaluate the effectiveness of weight reduction interventions for individuals with both chronic pain and comorbid overweight or obesity in the long term.

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Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work, the author(s) used ChatGPT to improve clarity and language refinement. After

using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the published article.

Institutional review board statement

The study was conducted according to the Declaration of Helsinki (64).

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