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ORIGINAL RESEARCH ARTICLE

Perceived bioethical issues in cancer rehabilitation: a qualitative study among Italian physiotherapists

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ABSTRACT

Introduction: Literature on bioethics in physiotherapy, particularly in cancer management, is limited. This study explores the perceived bioethical issues in cancer rehabilitation by Italian physiotherapists.
Participants: Thirty-one physiotherapists (Age: 42 ± 10.5 years; 20 women, 11 men) with expertise in cancer rehabilitation were purposefully selected.
Data Collection: Six online focus groups were conducted, guided by a focus group guide based on existing literature and refined by experts in cancer rehabilitation and bioethics.
Data Analysis: Sessions were recorded, transcribed, and analyzed using Braun and Clarke's 'Reflexive Thematic Analysis'.
Results: Four primary themes emerged: 1) *Challenges of (Non)-Disclosure in Diagnosis and Prognosis* – ethical difficulties around withholding diagnosis or prognosis information; 2) *Balancing Hope and Realism in Patient and Caregiver Expectations* – navigating hope versus realistic rehabilitation goals; 3) *Weighing Efficacy and Safety in Cancer Rehabilitation* – balancing treatment outcomes with patient safety; 4) *Decisions on Withdrawing Treatment* – ethical considerations in discontinuing treatment.
Discussion: These themes highlight common ethical dilemmas faced by physiotherapists in cancer rehabilitation, mirroring broader healthcare challenges. Addressing them requires a nuanced understanding of ethical principles within the cancer rehabilitation context.
Conclusions: The study provides insights into the bioethical issues in cancer rehabilitation, stressing the need for a patient-centered approach to navigate these challenges effectively.

Keywords: Bioethics, Neoplasm, Physiotherapy, Qualitative Research, Rehabilitation

What is already known about this topic:	What the study adds:
• *Physiotherapists face ethical challenges in cancer rehabilitation, balancing treatment benefits with patient autonomy and well-being. However, bioethical dimensions in this context remain underexplored.*	• *This study identifies specific bioethical dilemmas in Italian physiotherapists' cancer care practices, highlighting the need to explore this topic further and enhance ethical training and support systems in physiotherapy.*

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Introduction

Thanks to significant clinical and pharmacological innovations, today, we can treat oncological conditions and prolong the lives of many people with cancer who once had no hope of survival (1,2). However, the limitations of medicine still prevent us from always defeating the disease, creating difficulties in decision-making and the potential for prolonged suffering in some instances (3–5).

This context raises the interest of the bioethical discipline, which questions the moral implications of biomedical and biotechnological progress (6). Are the new medical opportunities to address oncological conditions always beneficial for the patient? When can intervention be classified as therapeutic obstinacy, as futile care that causes harm rather than benefit the patient? Should we support the duration of biological life even if it is at the expense of biographical life? (7). These and other similar questions fuel the bioethical debate on end-of-life issues, involving other fields of study, such as medical ethics (8) and medical deontology (9), which respectively identify ethical principles and their translation into rules of conduct aimed at guiding physicians and healthcare professionals in their profession. Does the duty to intervene to cure (ethical principle of beneficence) have boundaries (10)? How does it relate to the prohibition of harming the patient (ethical principle of non-maleficence) given that every treatment entails serious side effects (10,11)? How does it intersect with subjective concepts such as well-being and quality of life, and when is it appropriate to shift the focus from therapy to palliation (12,13)? How should communication with the patient be managed to ensure that their consent or dissent is fully informed (ethical principle of autonomy) (10,14)?

The literature has extensively investigated these questions, considering the physicians' perspectives (15–17). However, cancer management is multidisciplinary, and different health professionals work with patients. In particular, the physiotherapist's role has become an integral part of the medical team in oncology, as rehabilitation is fundamental to increasing the patient's quality of life while reducing disability levels (18,19). Consequently, ethical perspectives on this context should include physiotherapists. Nevertheless, the literature has so far focused on investigating the link between ethics and physiotherapy in general (20–33) or more partially on end-of-life issues (34–37), with little to no studies in oncology (38,39).

Hence, this qualitative focus group study aimed to identify and explore the bioethical issues in oncological rehabilitation as perceived by a group of Italian physiotherapists experts in this field. Specifically, it seeks to serve as a tool for descriptive ethics, helpful in capturing an existing reality about what physiotherapists perceive or interpret as ethical dilemmas in their professional practice in oncology.

Conducting this study in Italy represents a unique opportunity due to the country's socio-cultural context that can significantly shape bioethical considerations in cancer rehabilitation. Italian society, with its predominantly conservative values, deep-rooted Catholic traditions, and family-centered decision-making processes, creates a distinctive environment in which these ethical themes unfold (40,41). The Vatican further reinforces moral considerations aligned closely with religious teachings, which can influence healthcare providers' approaches to ethical challenges (42,43). For instance, decisions regarding the disclosure of diagnoses often involve requests from family members to shield patients from distressing information, reflecting a paternalistic view of care (40,41). Moreover, this cultural backdrop shapes the balancing act between fostering hope and maintaining realistic expectations (31,44). Due to their frequent and close contact with patients, physiotherapists often become confidants, sometimes feeling obliged to support patient optimism even when transparency might be compromised (45). Finally, these socio-cultural factors influence decisions on treatment continuation or withdrawal, particularly in terminal cases. In such instances, the wishes of family members can take precedence over other considerations. This culturally embedded context highlights the importance of considering Italy's distinctive social and ethical influences when examining bioethical practices in cancer rehabilitation.

Methods

Study Design

The authors conducted a qualitative focus group study. Qualitative research is the most effective method for gathering experts' opinions (46). A focus group is the ideal methodological tool to foster the development of peer support, as the group can help explore and clarify the views of a group of individuals (47). The study was performed per the Declaration of Helsinki and reported following the Consolidated Criteria for Reporting Qualitative Research (COREQ (48)). The COREQ summary sheet can be found in Supplementary File 1. Ethical approval was obtained from the Ethics Committee for University Research, University of Genova (Approval date: 27/06/2023; Genova), and informed consent was collected.

Participants

Study participants were recruited through purposive sampling (49). Specifically, participants in this study were carefully selected to include a range of perspectives on cancer rehabilitation. We had Italian physiotherapists with clinical and academic expertise in the field. To be considered experts and participate in the focus groups, the participants must have had at least five years of continuous experience in cancer rehabilitation or possess advanced education degrees and training in cancer rehabilitation. Participants were contacted via email and sourced through universities, oncology facilities, personal networks, and snowball sampling, with eligibility determined by analyzing their professional backgrounds. Then, participants were selected primarily through the analysis of their curricula vitae. GB conducted the curricula vitae analysis. Once GB identified the eligible participants, he recruited them by email. The email reported the purpose of the study, how the research would be conducted (e.g., through focus groups), and the confidentiality and anonymity of the data. The informed consent form was sent as an attachment, which participants were required to complete, sign, and return via email. Each focus group consisted of three to seven participants. The disparity in participant numbers across different focus groups can be attributed to the participants' practical constraints related to work and family commitments, affecting their ability to attend the scheduled online meetings. Each focus group lasted between one to two hours.

Data Collection

An open-question-based focus group guide (Table 1) was constructed, based on existing literature on cancer rehabilitation (2,50), by a physiotherapist experienced in cancer rehabilitation (GB), a physiotherapist experienced in qualitative research (SB) and a bioethicist (SP). Relevant information about Focus group facilitators and researchers' profiles can be found in Supplementary File 2 (Focus group facilitators and researchers' profiles).

TABLE 1 - Steps of the focus group and questions

	Introduction
1.	Introduction to the project and presentation of the moderators
2.	Presentation of the participants in the focus group
3.	The researchers provided a definition of ethical dilemma to the participants to have a shared language. Specifically, we reported that an ethical dilemma is a complex situation that raises moral questions and prompts reflections on what is right and what is wrong. It often involves conflicts between values, duties, or interests, challenging the morality of the actions or decisions involved. It can stem from specific circumstances, such as difficult medical decisions or ethical issues in healthcare, and requires a weighted assessment of the various factors involved to find the best possible solution.
	Questions
1.	Cancer is still a widespread condition that limits patients' quality of life. Physiotherapy is certainly useful and important for individuals with cancer. Does bioethics play a role in cancer rehabilitation?
2.	Could you tell us about the ethical dilemmas you have faced during your clinical practice in cancer rehabilitation?
3.	Are there any ethical dilemmas that we have not mentioned that are nonetheless relevant or important to you?
4.	How have you addressed these ethical dilemmas? (with a colleague/coordinator/ethics committee)
5.	Where does your sensitivity related to these bioethical issues come from? (e.g., from a course? From religion? From university training?)
6.	Is there any topic we have not touched on that you feel is important to highlight or elaborate on?

For each explored thematic area, we formulated stimulus questions to encourage dialogue and discussion among participants to answer our research question. The guide was also reviewed by two patients who underwent cancer rehabilitation to grant patients perspective in our research (51,52). Finally, a pilot interview was conducted with a lecturer in cancer rehabilitation to test the guide's relevance and understandability. The individual involved in the pilot interview is a male physiotherapist who has been working in oncological and palliative rehabilitation for 15 years. Additionally, he has taught 'Rehabilitation in Oncological and Palliative Care' for the past five academic years in a BSc in Physiotherapy at the University of Brescia. The focus groups were conducted online with only the moderators and participants. The software used for the focus groups was Microsoft Teams. Three moderators (GB, SB, and SP) were present during the focus groups. No close relationships were established before the study between the focus group moderators and the participants. No follow-up focus groups were performed. The focus groups were recorded and transcribed *verbatim*. The transcription was obtained through the software's automatic transcription feature and checked for precision and accuracy by GB and VC by comparing the transcription to the audio recording.

The recordings were preserved in a secure database and deleted after data transcription. While conducting the interview, GB anonymized the participants as 'Participant 1', 'Participant 2', etc., according to the chronological order of the interviews. This label is the only information shared with the rest of the group. The analysis of the collected data was carried out after focus group transcription.

Data Analysis

We collected descriptive data related to participants' gender, age, geographic origin, and professional role. Data analysis was performed according to the principles of Braun's and Clark's 'Reflexive Thematic Analysis' (RTA) (53). This choice was made because the research aims to identify patterns of meaning – and consequently themes – relating to the role of physiotherapists in oncology, focusing on bioethical issues in cancer rehabilitation as perceived by physiotherapists (54). More details on the characteristics of the authors to understand their standpoint in the reflective process can be found in Supplementary File 2 (Focus group facilitators and researchers' profiles). More details on the analysis process through Reflexive Thematic Analysis can be found in Table 2 (six steps of RTA) & in Supplementary File 3 (Theoretical standpoint).

Results

Six focus groups were conducted in July and September 2022 with thirty-one participants (Age: 42 ± 10,5; 32% Men N = 10; 68% Women N = 21, Table 3). Of the participants, all were expert clinicians, six were clinicians and lecturers, and one was a researcher in cancer rehabilitation who also possesses several years of clinical experience in this field. All the contacted participants accepted to partake in the study.

TABLE 2 - Six steps of the RTA

Phases	Process	Authors' Involvement	Authors' Actions
1) Data familiarization	All authors read and reread several times the transcriptions of the focus groups. This process is fundamental to getting in contact with the data and taking notes of any insights.	All authors engaged in this phase, and they met to reflect upon their first insights	- Document theoretical and reflective thoughts: GB documented field notes ("Memos" and diary) during and after each focus group to promote reflexivity. - Keep records of all data field notes, transcripts, and reflexive diary - Prolong engagement with data and triangulate different data collection modes to increase the probability that the research findings and interpretations will be found credible: GB e VC read and reread the data (transcripts of the focus groups, memos, and reflexive diary)
2) Coding	In this phase, two researchers systematically coded the data through an open, evolving, and organic process.	GB and VC systematically coded the data. They adopted semantic data coding.	- Peer debriefing: memos were shared during research meetings for reflexive thoughts. - Audit trail of code generation: GB and VC coded data through the entire data set to identify interesting aspects in the data items that may form the basis of themes across the data set. - Documentation of all team meetings and peer debriefings to help researchers examine how their thoughts and ideas evolve as they engage more deeply with the data
3) Generating initial themes	The researchers generated initial themes from the codes, clustering similar or related codes.	GB and VC generated initial themes separately, clustering similar codes together.	- Diagramming to make sense of theme connections: GB and VC generated initial themes through deductive thematic analysis.
4) Reviewing and refining themes	The researcher reviewed the initial themes, reworking or discarding some until finding a final set of themes fitting the data.	All authors reviewed the coding and initial themes separately and then jointly and generated four themes that fit the data the most. GB and VC reviewed the agreed themes against the codes and the entire dataset.	- Themes vetted by team members: the research team frequently met to refine the themes and clearly show how each theme was derived from the data.
5) Defining and naming themes	The 'story' of each theme is developed by finalizing theme names and their definition.	All authors finalized the final themes and definitions to set the basis of the written report.	- Peer debriefing and team consensus on themes: the research team met until the final themes were reached. - Documentation of theme naming.
6) Producing the report	The authors produced the final report and refined them if necessary.	GB and VC selected the illustrative quotations from the interviews, and all authors reviewed and agreed. GB, SB, and SP led the writing of the paper, and all authors participated in this phase.	- Producing the report using direct quotes from participants. - Report on reasons for theoretical, methodological, and analytical choices throughout the entire study.

TABLE 3 - Descriptive statistics

Participant	Age	Gender	Educational level, Professional role	Y. of Expertise	Region
			1st Focus Group (November 2023)		
P1	53	Woman	BSc, Clinical expert	13	North
P2	54	Man	BSc, Clinical expert, and lecturer	30	North
P3	38	Woman	MSc, Clinical expert	40	North
			2nd Focus Group (November 2023)		
P4	55	Woman	MSc, Clinical expert	29	North
P5	39	Woman	MSc, Clinical expert, and lecturer	13	South & Islands

Participant	Age	Gender	Educational level, Professional role	Y. of Expertise	Region
P6	28	Woman	BSc, Clinical expert	6	North
P7	41	Woman	BSc, Clinical expert	19	North
P8	43	Woman	BSc, Clinical expert	21	North
3rd Focus Group (November 2023)					
P9	35	Man	MSc, Clinical expert	11	North
P10	39	Man	MSc, Clinical expert	16	North
P11	26	Woman	MSc, Clinical expert	5	North
P12	45	Man	MSc, Clinical expert	22	North
P13	45	Woman	MSc, Clinical expert	10	South & Islands
4th Focus Group (November 2023)					
P14	60	Man	MSc, Clinical expert, and lecturer	30	North
P15	26	Man	BSc, Clinical expert	5	North
P16	37	Man	BSc, Clinical expert	8	South & Islands
P17	28	Woman	MSc, Clinical expert and lecturer	7	North
5th Focus Group (November 2023)					
P18	42	Woman	BSc, Clinical expert	19	North
P19	27	Man	MSc, Clinical expert	5	North
P20	34	Woman	MSc, Clinical expert	13	North
P21	49	Woman	BSc, Clinical expert	25	North
P22	41	Woman	MSc, Clinical expert	19	North
P23	61	Woman	MSc, Clinical expert, and lecturer	39	North
P24	54	Man	MSc, Clinical expert	28	North
6th Focus Group (November 2023)					
P25	36	Man	MSc, Clinical expert	13	North
P26	52	Woman	PhD, Clinical expert, and Researcher	27	North
P27	59	Woman	MSc, Clinical expert	35	North
P28	51	Man	MSc, Clinical expert	24	North
P29	48	Woman	MSc, Clinical expert, and lecturer	26	North
P30	30	Woman	MSc, Clinical expert	8	North
P31	42	Woman	MSc, Clinical expert	18	North

Legend: P, participant
Y, Years
BSc, Bachelor of Science
MSc, Master of Science
PhD, Doctor of Philosophy

From the analysis of the focus groups, four themes were generated (see Table 4 for an example of the coding process and relevant quotations and Supplementary File 4 for further quotations). According to our participants, these issues encapsulated the primary bioethical challenges encountered by physiotherapists in the clinical care of people with cancer: 1. 'Challenges of (Non)-Disclosure in Diagnosis and Prognosis'; 2. 'Balancing Hope and Realism in Patient and Caregiver Expectations'; 3. 'Weighing Efficacy and Safety in Cancer Rehabilitation'; 4. 'Decisions on Withdrawing Treatment'.

Theme 1: 'Challenges of (Non)-Disclosure in Diagnosis and Prognosis'

The main bioethical issue perceived by physiotherapists in cancer rehabilitation centers on the ethical dilemma of (non)-disclosure, particularly when this leads to communication challenges regarding patients' diagnoses and prognoses. This dilemma prompted the authors to generate Theme 1, which addresses the complexities physiotherapists encounter when managing situations where essential information is withheld, impacting patient understanding and informed consent. Participants reported that

TABLE 4 - Defined codes for the generated themes with example of quotes

Theme 1: Challenges of (Non)-Disclosure in Diagnosis and Prognosis	
Codes defined by the researchers	**Example of quotes extracted from the focus groups**
Navigating Diagnosis/ Prognosis Disclosure: Implications on Informed Consent/Disagreement	‘Very often we find ourselves in a situation where the patient is sent for rehabilitation without being informed about the prognosis, maintaining ignorance about the severity of their condition. This puts us face to face with the main dilemma: should we still communicate with a patient who is unaware of their situation? In the field of oncology, patients are constantly misled with experimental therapies and special protocols, thus they continue on their path without knowing the real severity of the situation. However, the deterioration of their health becomes inevitable, their body speaks to them, and we as healthcare professionals find ourselves having to confront this reality’ (P1 – Woman – 53)
Bridging the Gap: Ethical and Legal Communication with Caregivers	‘There are multiple motivations that drive family members or even the patient themselves to take certain positions within a family or caregiving context. We often focus on the patient’s perspective, but it’s important to address the ethical issue when the patient expresses a desire not to inform their family, such as their spouse or child. On the other hand, there are situations where there are constant requests for information from family members eager to be close to the sick person. This raises further ethical questions and could open new chapters of reflection on this complex topic’ (P14 – Man – 60)
Addressing Uncomfortable Questions: Managing Patient Discomfort	‘Questions about death are often directed at us physiotherapists, mainly for a quantitative reason - we are the profession that spends the most time directly in close contact with the patient. We are the ones who, in terms of minutes per week, spend the most time with them, and you find yourself being asked questions like: What is life? What is death? Why illness? Why me specifically? How should I face it? And well, it’s not easy at all’ (P9 – Man – 35)
	Theme 2: Balancing Hope and Realism in Patient and Caregiver Expectations
Codes defined by the researchers	**Example of quotes extracted from the focus groups**
Aligning Patient Expectations with Physiotherapist Goals	‘For us too, often the lack of awareness of the diagnosis, when patients come to us, translates into the fact that they are referred to you. They are told, “go there, get rehabilitated, then come back to oncology and you’ll do the next cycle of specific therapy.” So, there’s also, pardon the term, I’m being a bit blunt, but somewhat misleading communication, right? Toward the patient, in the sense that one thing is not explaining well what condition you have? And still fostering rehabilitative expectations that, unfortunately, we find ourselves in the position of having to somewhat downplay. Downplay, however, in a way, being very careful because if we go in too harshly, clearly, we devastate a person, I mean, our, maybe not taking care of the patient indirectly becomes communication, right? I mean, we don’t say things, but if we don’t then do them, we’re saying things, I won’t treat you. So, if you don’t treat me, it means there’s nothing to be done for me, so it becomes a very slippery slope on which we must work with the entire team’ (P4 – Woman – 55)
Harmonizing Caregiver/ Family Expectations with Physiotherapist/Team Objectives	‘The matter of rehabilitative treatment extending to the very end, even now of passing, is a complex and sensitive one. Typically, I assess each situation individually to determine whether to continue rehabilitation, but the decision isn’t always mine alone. Sometimes, we may opt to continue passive mobilization even if the patient is in a coma, simply because the family wishes it, based on the patient’s past enjoyment. The family’s request to continue passive mobilization may stem from a desire to provide comfort, prevent pain, avoid stiffness, and alleviate discomfort from prolonged pressure on the anti-decubitus mattress. Even if clinical conditions suggest that rehabilitative treatment no longer offers direct rehabilitative benefits, as a physiotherapist, it can be challenging to refuse, considering the potential improvement in the patient’s comfort and perceived quality of life. In such situations, our practice extends beyond traditional rehabilitation goals, addressing the emotional and relational needs of both the patient and their family. Thus, deciding whether to continue or stop rehabilitative treatment becomes a thoughtful consideration of how to compassionately meet these needs, even when direct rehabilitative benefits may be limited’ (P2 – Man – 54)
	Theme 3: Weighing Efficacy and Safety in Cancer Rehabilitation
Codes defined by the researchers	**Example of quotes extracted from the focus groups**
Rehabilitation: Handling Clinical Outcomes and Risk Management	‘For me, one issue is the presence of lytic bone metastases in oncology patients, because often the approach is not consistent for everyone. Let’s consider a patient with a vertebral metastasis. In some cases, they’ll tell you they can move and walk, while in others, they’ll say no, they need a brace before they can walk. So, the approach is always a bit inconsistent, and I find the same thing among my physiotherapist colleagues. Some keep the patient in bed or barely seated, while others, like me, try until the very end. Some are more cautious, while others take some risks. My focus is on recovery, whether it’s going to the bathroom or taking a few steps in the room. But at least personally, I always try to accommodate the patient’s needs, compatibly with the pathology, of course. Others choose to never take risk’ (P20 – Woman – 34)

Advancing Research in Cancer Rehabilitation	'I'm unsure whether my research will truly help the patient or, conversely, just wear them out even more. Quite often, we ask the patient for additional appointments and to fill out long questionnaires. It leaves me grappling with the dilemma of how much the patient is truly engaging, consciously, in a research project. I always question whether, deep down, I'm really doing them any good. Then, there's already plenty of evidence on the effectiveness of physical exercise in all stages of oncological disease, from diagnosis to the terminal phase. But this evidence often doesn't translate into clinical practice. It's a dilemma that nags at me because I keep on with my research, yet there's a lack of resources to actually apply these findings. Many times, it feels like I'm researching just to advance my career, rather than genuinely for the patients' well-being' (P26 – Woman – 2)
	Theme 4: Decisions on Withdrawing Treatment
Codes defined by the researchers	**Example of quotes extracted from the focus groups**
Identifying Therapeutic Futility: Determining When Treatment Becomes Ineffective	'Often, we find ourselves facing numerous oncology patients, and the oncologist, perhaps out of a lack of courage or to avoid admitting failure, continues to propose extreme and unrealistic treatments. We wonder why they persist in offering such unrealistic proposals, especially when the patient is exhausted and can no longer bear further treatments, radiotherapies, or oncological therapies. This amounts to a case of therapeutic obstinacy, which becomes even more apparent in the pediatric context. In these cases, children are encouraged to play every possible card to win their battle, without realizing that they are sometimes overwhelmed with numerous treatments, including physiotherapy and often orthoses like braces or similar devices. We wonder: what is a child supposed to do when, in the end, they find themselves saying "enough, I can't take it anymore" after being subjected to so many treatments?' (P1 – Woman – 53)
Emotional Management in Treatment Withdrawal	'In this process, we often do well with some patients, while with others it's a bit more challenging. This might happen because they're young or they have high expectations, especially regarding physiotherapy itself. Maybe they've had positive past experiences and they're trying to hold onto those. When a strong bond is formed with the patient, it becomes difficult to halt the treatment, even if it might be necessary for the patient's benefit and in consultation with the entire team. There are sometimes obstacles in stopping the treatment, perhaps because I also need to gain more experience, so I find it hard to stop at the exact moment it would be right' (P19 – Man – 27)

non-transparent communication on these issues creates significant problems regarding patients' informed consent/disagreement and the legitimacy of therapies administered by professionals. Additionally, the interviewees noted that these issues became even more significant when family members or caregivers were involved, especially if diagnoses/prognoses were disclosed to them instead of the patient. In such instances, relatives might request to keep the patient unaware of this information to "protect them". However, this process adds complexity and difficulty to the physiotherapist's work, as they must continuously interact with an uninformed patient who might also inquire about their health condition. The interviewees reported that negotiating this delicate balance of what is said and left unsaid complicated the professional's relationship with the patient. As outlined in the subsequent theme, unclear and ineffective communication could also lead to issues and misunderstandings concerning patient and family expectations.

Theme 2: 'Balancing Hope and Realism in Patient and Caregiver Expectations'

The second theme addressed in this study revolves around managing patient expectations and navigating between hope and realism. Participants in the focus groups highlighted two critical issues: collaboratively shaping rehabilitation goals with patients to align with their expectations and supporting family members and caregivers in understanding achievable rehabilitation objectives. Throughout the focus groups, it became apparent that managing patients' expectations poses a complex challenge for physiotherapists. Participants emphasized that establishing clear and realistic communication with patients is necessary to ensure that their expectations align with the predefined therapeutic goals. The failure to create realistic expectations was perceived to lead to dissatisfaction, disappointment, and disillusionment. Nevertheless, it is equally crucial to synchronize caregiver and family expectations with the objectives of the physiotherapy team, fostering meaningful involvement and a shared comprehension of the patient's rehabilitation trajectory. The absence of such mutual understanding seemed to foster unrealistic expectations, potentially escalating into conflicts and challenges. This dual responsibility mandates meticulous management and a delicate equilibrium between hope and realism to optimize treatment efficacy and enhance overall patient welfare. This parallels the imperative to balance clinical efficacy and safety, a concept to be further elucidated in the subsequent theme.

Theme 3: 'Weighing Efficacy and Safety in Cancer Rehabilitation'

The third theme was created based on focus group participants' opinions concerning the challenge of balancing clinical effectiveness and safety in oncological rehabilitation. According to the participants, this issue significantly impacts rehabilitation practice and rehabilitative outcomes based on the chosen approach. Some participants noted that opting for a more cautious approach may be viewed as reducing risks for the patient, albeit potentially leading to reduced outcomes. Conversely, others stressed the importance of a more aggressive approach to achieve better results, even at the expense of increased risks for the patient. The risks the participants referred to included fractures in the presence of bone metastases or falls in patients with balance issues. Additionally, participants observed that these considerations extend to cancer rehabilitation research, where practitioners carefully assess the extent of risk-taking with patients and the degree to which a cautious approach should be adopted. The discussion on balancing clinical efficacy and safety in oncological rehabilitation naturally transitions to the complex issue of therapeutic relentlessness and treatment discontinuation. As professionals strive to maximize treatment outcomes for oncology patients, they are confronted with crucial ethical decisions regarding the continuation of therapies. The balance between seeking optimal results and ensuring patient safety thus becomes central in the context of the decision to continue or discontinue treatments. This sets the stage for the generation of the next fourth theme.

Theme 4: 'Decisions on Withdrawing Treatment'

The fourth theme generated in this study revolves around therapeutic futility and the emotional management of treatment withdrawal. This theme brings to the forefront critical considerations regarding treatment persistence and the challenging decisions associated with withdrawing care. During the focus groups, participants highlighted the hurdles related to therapeutic futility, stressing the importance of identifying signs indicating ineffective treatment and addressing the emotional repercussions linked to treatment withdrawal. Reflections on therapeutic futility and the perceived inefficacy of treatments underscore the need to balance pursuing therapeutic objectives and upholding the patient's dignity and quality of life. This consideration entailed addressing the ethical and emotional complexities that may arise during this process. Specifically, participants discussed physiotherapists' concerns regarding the management of pain, suffering, and disappointment in patients and their caregivers when the decision to withdraw treatments becomes necessary. This theme sheds light on the intricacies of clinical decision-making and underscores the importance of adopting an empathetic, patient-centered approach in navigating the conclusion of rehabilitative treatment.

Discussion

This study, situated within the framework of empirical or descriptive bioethics, investigates the bioethical dilemmas perceived by a group of Italian physiotherapists in the context of oncological rehabilitation. Through focus groups, we aimed to capture the bioethical issues recognized by these healthcare professionals. Our findings generated four themes: 'Challenges of (Non)-Disclosure in Diagnosis and Prognosis'; 'Balancing Hope and Realism in Patient and Caregiver Expectations'; 'Weighing Efficacy and Safety in Cancer Rehabilitation'; and 'Decisions on Withdrawing Treatment'. These themes reflect the nuanced ethical considerations that physiotherapists encounter, many of which are influenced by the unique socio-cultural context in Italy.

These themes align closely with the essential phases of the care relationship as outlined by Italian Law 219/2017: *treatment selection* (clinical appropriateness), *therapeutic proposal* (information-communication and consent or dissent), and *implementation of the intervention* (withholding or withdrawing) (see Table 5) (55,56). The care process in cancer rehabilitation, encompassing these phases, functions as a continuum where each stage intertwines with the next, presenting healthcare professionals with distinct bioethical challenges.

TABLE 5 - Tracing back the themes identified in the research to the fundamental components of the care relationship

Care Relationship	**1**	**2**			**3**	
	Treatment Selection	**Therapeutic Proposal (Information-Communication *and Consent or Dissent*)**			**Implementation of the Intervention (Withholding or Withdrawing)**	
	Theme 3	*Theme 1*		*Theme 2*	*Theme 3*	*Theme 4*
Generated Themes	Weighing Efficacy and Safety in Cancer Rehabilitation	Challenges of (Non)-Disclosure in Diagnosis and Prognosis		Balancing Hope and Realism in Patient and Caregiver Expectations	Weighing Efficacy and Safety in Cancer Rehabilitation	Decisions on Withdrawing Treatment
		Communicating the truth to the patient	The patient's questions of meaning			

In the Italian context, this regulation protects patient self-determination and the duty of healthcare professionals to provide clear information (55,56).

Healthcare professionals are required to inform patients about proposed treatments and obtain informed consent before proceeding. This legislation is particularly relevant in end-of-life or critical treatment contexts, guiding ethical practices aligned with patient self-determination. While the socio-cultural environment in Italy, with its conservative values, family-centered ethos, and Catholic influence, may shape the ethical challenges faced by physiotherapists, our study does not explore these specific influences (40,41). While this analysis suggests potential religious and cultural influences on bioethical decisions in cancer rehabilitation, we do not examine these specific influences, which could be explored in future studies. However, these cultural factors seem to particularly impact the second stage of the care relationship (Therapeutic Proposal), as detailed below, while having less influence on the first and third phases (Treatment Selection and Implementation of the Intervention).

Treatment Selection (Clinical Appropriateness)

Theme 3, 'Weighing Efficacy and Safety in Cancer Rehabilitation'

According to the ethical principle of beneficence, a good healthcare professional pursues the patient's well-being, which is understood as clinical good and encompasses the traditional goals of medicine and related professions: safeguarding health and preserving individuals' biological lives. The evaluation of the clinical case by the healthcare professional is historically based on a conscience that guides technical-professional skills toward the most effective treatment to counteract the pathology (20). Since every medical intervention entails risks and potential adverse effects, aspects of prudence also contribute to this assessment, aiming not to violate the ethical principle of non-maleficence, understood as the prohibition of causing harm to the patient. At the moment of decision-making, when selecting the treatments to propose to the patient, the healthcare professional must, therefore, identify the effective treatment within a framework where the clinical benefits outweigh the risks, recognizing the uncertainty of medicine and the individual response to the proposed intervention. This decision-making process becomes more complex when the patient is affected by oncological pathology since the balance between beneficence and non-maleficence can be dichotomous: on the one hand, the appropriate intervention may be the most prudent, given the vulnerability of the oncological patient; on the other hand, precisely because of the presence of cancer, it may be necessary to push as much as possible, considering that there is nothing worse than the progression of the disease and its outcome. What is interesting to note is that in this hermeneutical dilemma about clinically appropriate care, the examination of its ethical proportionality is fully relevant, demonstrating how clinical decisions are never devoid of moral significance: clinical reasoning and ethical reasoning are intertwined (28). Physiotherapists, by expressing this dilemma in the present study, demonstrated that the selection of treatments, especially in the oncological field, is not a matter solely reserved for physicians, involving rehabilitation professionals as well concerning their specific competencies.

Therapeutic Proposal (Information-Communication and Consent or Dissent)

Theme 1, 'Challenges of (Non)-Disclosure in Diagnosis and Prognosis' (Communicating the truth to the patient)

The transition from paternalism to informed consent is widely recognized and legally endorsed, yet often does not effectively reflect in clinical practice, where behaviors persist that, for the "patient's good", circumvent the principle of information disclosure. It is possible that a patient, in the healthcare professional's perspective, appears to waive this right, when this might not be the case, or the patient might be shielded by the healthcare professional, often in agreement with family members, to spare them unnecessary distress and the awareness of a condition that no one would ever want to confront.

For instance, the theme of (non)-disclosure in diagnosis and prognosis underscores the tendency among family members to request that healthcare providers withhold distressing information from patients (40). While intended to "protect" patients, this paternalistic approach can place physiotherapists in ethically complex situations where they must navigate between respecting patient autonomy and complying with family wishes—a practice deeply rooted in Italian tradition (40). These instances highlight the importance of culturally sensitive communication strategies that honor individual rights and collective family ethical principles.

If physiotherapists raised this issue in this theme, it is to highlight its prevalence and impact in clinical routine, especially within oncological healthcare settings. The ethical dilemma is real, as it raises the question of whether or not to inform the person in whose care (the healthcare provider, the family members) they are placed. However, professionals also expressed concern about proceeding without the assurance that the patient is fully aware of their health condition, fearing they might create a distorted representation of reality, thereby invalidating treatment consent (29). The ethical problem intensifies in the consideration that someone might actually be substituting for the patient and their will, as well as in the fear of violating legal principles and norms requiring valid informed consent before any intervention (57). From this latter perspective, healthcare professionals' defensive stance is understandable, caught between the duty to recognize the ethical principle (and related legal norms) of patient autonomy and the relationship with the strong presence of family members.

Theme 2, 'Balancing Hope and Realism in Patient and Caregiver Expectations'

When a physiotherapist communicates with a patient regarding an oncological diagnosis and its prognosis, this communication should occur within a context of full understanding and transparency, in alignment with the information already provided by the physician. However, the physiotherapist cannot avoid confronting complex moral issues even in this scenario, as highlighted in this theme. The truth may sometimes be at odds with the patient's expectations, potentially leading to disappointment. This discrepancy can arise from an uncertain prognosis or a desire to offer moral support (30). Similarly, the challenge of balancing hope and realism (Theme 2) also reveals cultural nuances within the Italian healthcare setting. Physiotherapists frequently take on a dual role, supporting patient optimism while managing expectations around treatment outcomes (31). In Italy, preserving patient's optimism is paramount, often requiring physiotherapists to carefully balance transparent communication with a compassionate approach that aligns with ethical principles (45). This dual responsibility reflects a broader societal preference to maintain hope and protect patient morale, which may sometimes contrast with more transparent healthcare models in other contexts (31,45). By addressing these ethical dilemmas, our study underscores the need for a patient-centered approach that integrates ethical sensitivity into clinical decision-making and fosters collaboration between patients, families, and healthcare professionals. Physiotherapists are guided to make ethically sound decisions that integrate professional standards and the socio-cultural context in which they operate (22,24,25,28). Such considerations highlight the importance of ethics training that includes ethics, especially in cancer rehabilitation settings where patients and families face challenging choices (21).

Like other healthcare professionals, physiotherapists found themselves balancing the conveyance of hope with a realistic view of the situation. However, a critical question emerges among physiotherapists: where does the boundary lie between authentic hope and illusion?

Implementation of the Intervention (Withholding or Withdrawing)

Theme 3, 'Weighing Efficacy and Safety in Cancer Rehabilitation'

In cancer rehabilitation, balancing efficacy and safety requires careful assessment of the patient's clinical condition and potential complications (58). Rehabilitation approaches range from more cautious strategies, which minimize risks but may limit benefits, to more aggressive interventions that, while potentially improving functional outcomes, expose patients to greater dangers, such as fractures or falls in cases of bone metastases or balance deficits (58). This dynamic between clinical benefit and potential harm (principle of beneficence vs. non-maleficence) confronts physiotherapists with complex ethical decisions.

A critical element is the oncological context, where safety is paramount but must be considered in light of quality of life and patient expectations (59–61). In particular, physiotherapists find themselves managing the delicate balance of providing treatments that are not only physically safe but also psychologically beneficial, respecting patient preferences. Consequently, the role of the physiotherapist extends beyond rehabilitation to incorporate broader considerations of what efficacy and safety mean for both the patient and their family, who may often desire intensive treatment even when the benefits are uncertain (58).

Furthermore, this discussion extends to research in the field of cancer rehabilitation, where physiotherapists and researchers must grapple with the dilemma of risk in clinical experimentation (62). On the one hand, research aims to optimize rehabilitation approaches, but on the other, it may be challenging to balance this objective with respect for patients' conditions and vulnerabilities (62). The lack of resources or specific protocols for cancer rehabilitation can further limit achieving optimal clinical outcomes without compromising safety (58,62).

Finally, in deciding whether to continue or withdraw a rehabilitative intervention, the continuous evaluation of efficacy and safety is essential (60). Physiotherapists may be reluctant to withdraw from treatment, especially with patients who respond positively or express high expectations for improvement. However, persisting in treatment without concrete benefits can turn intervention into therapeutic obstinacy, moving away from a patient-centered approach (37). In this context, open dialogue with the patient and family is essential to share an understanding of the treatment's risks and limitations, thereby ensuring an informed choice that respects the patient's dignity.

Theme 4, 'Decisions on Withdrawing Treatment'

Physiotherapy stands out from many other areas of medicine for the lack of a clear endpoint (21). It is a territory where the line between the necessary continuation of treatment and its conclusion becomes blurred. Patients might perceive further therapeutic sessions as beneficial, and the physiotherapist might share this belief (21). Although discontinuing rehabilitative intervention does not equate, in terms of fatal consequences, to the decision of Withdrawing Life-Sustaining Treatment, physiotherapists still consider it ethically problematic. The central issue concerns the actual utility of rehabilitation: how can we determine whether it is providing significant benefits to the patient or, conversely, if it is futile, unnecessary, and potentially harmful? In some cases, there are older or terminal patients who might not be fully aware and upon whom physiotherapists perform rehabilitative interventions, even though they know such interventions will not lead to the recovery of their motor functions and might even be perceived as bothersome by the individual. However, the general belief persists that rehabilitation cannot harm, primarily if its intent extends beyond restoring physical functions and encompasses a moral aspect (37). This concept raises questions for physiotherapists about ensuring that their practice is always genuinely beneficial to themselves and society. They are also concerned with the fear of abandoning the patient, especially if their training does not include palliative approaches or a broader view of rehabilitation that considers care's psychological, social, philosophical, and spiritual aspects (30,32,63).

Strengths and Limitations

This study offers valuable insights into the unique bioethical challenges faced by physiotherapists in cancer rehabilitation, an area that has received limited attention in the bioethics literature. By focusing on this specific professional group, our study contributes to a better understanding of the ethical landscape within multidisciplinary cancer care, highlighting complex issues related to the ethical principles of self-determination, beneficence, non-maleficence, and justice and equity in the rehabilitation context.

However, several limitations should be acknowledged. Firstly, the study is limited to a single country, Italy, where the specific socio-cultural and religious context—characterized by predominantly conservative values, a strong family-centered decision-making ethos, and Catholic influences—may shape the ethical perspectives encountered. This cultural specificity could limit the transferability of our findings to other settings; however, given similar social and cultural norms in various European countries, the results may still offer relevant insights for comparable contexts.

Additionally, despite efforts to recruit a diverse participant pool, the study includes only white physiotherapists from northern Italy, potentially overlooking the perspectives of professionals from different ethnic backgrounds, regions, or underrepresented communities within Italy. This demographic limitation points to a need for future studies that encompass a broader range of backgrounds to capture the full spectrum of ethical concerns within cancer rehabilitation.

Furthermore, our study exclusively reflects the perspectives of physiotherapists, and we recognize that these may not fully align with those of patients, caregivers, or other healthcare professionals. Given that patient views on ethical issues could provide a more rounded understanding of these challenges, future research incorporating patient perspectives would be valuable.

Methodologically, the use of online focus groups enabled wider geographic participation and the inclusion of diverse viewpoints; however, this approach has inherent limitations. Online discussions may restrict the depth of non-verbal communication and subtly impact group dynamics, as participants might feel more reserved in discussing sensitive topics. Future studies might consider combining online and in-person methods to enhance the richness of participant interaction. In summary, while these limitations suggest caution in transferring our findings, this study started to fill a notable gap in existing research. By centering on physiotherapists' experiences, it sheds some light on bioethical issues specific to rehabilitation in oncology, which could inform both practice and ethical training in the profession.

Conclusion

This study explored the perceived bioethical concerns in cancer rehabilitation as expressed by Italian physiotherapists, highlighting key issues such as the selection of treatment approaches, patient self-determination, and informed consent or dissent, the balance between providing hope and maintaining realistic expectations, and the complexities around discontinuing care. These bioethical considerations echo the broader literature on ethical challenges in healthcare, suggesting that physiotherapists, like other health professionals, face nuanced ethical dilemmas in their practice (27,33). These findings underscore the need for ethical sensitivity in clinical reasoning, affirming that decision-making in physiotherapy extends beyond technical considerations to involve moral and ethical reflection.

Given the ethical complexities identified in this study, there are clear implications for education and training within the field. Integrating bioethical principles, effective communication techniques, and shared decision-making into physiotherapy training could enhance practitioners' preparedness for the ethical challenges of oncological rehabilitation. Moreover, adopting an interdisciplinary approach within training programs would promote collaborative, ethically sound decision-making in practice. This enhanced focus on ethics within education would support physiotherapists in balancing empathy with clinical transparency and safety, ultimately strengthening their ability to engage patients and families in a respectful, patient-centered manner. Although the cultural context of Italy could shape our findings, they offer valuable insights that may inform bioethical practices in similar healthcare settings. Future research should consider patient and caregiver perspectives to further illuminate these issues, as well as cross-cultural studies to assess the transferability of our findings. Expanding this research could contribute to ethically informed, patient-centered approaches to cancer rehabilitation worldwide.

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