

# BIBLIOGRAPHIC INFORMATION SYSTEM

**JOURNAL FULL TITLE:** Journal of Biomedical Research & Environmental Sciences

**ABBREVIATION (NLM):** J Biomed Res Environ Sci **ISSN:** 2766-2276 **WEBSITE:** <https://www.jelsciences.com>

## SCOPE & COVERAGE

- ▶ **Sections Covered:** 34 specialized sections spanning 143 topics across Medicine, Biology, Environmental Sciences, and General Science
- ▶ Ensures broad interdisciplinary visibility for high-impact research.

## PUBLICATION FEATURES

- ▶ **Review Process:** Double-blind peer review ensuring transparency and quality
- ▶ **Time to Publication:** Rapid 21-day review-to-publication cycle
- ▶ **Frequency:** Published monthly
- ▶ **Plagiarism Screening:** All submissions checked with iThenticate

## INDEXING & RECOGNITION

- ▶ **Indexed in:** [Google Scholar](#), IndexCopernicus (**ICV 2022: 88.03**)
- ▶ **DOI:** Registered with CrossRef (**10.37871**) for long-term discoverability
- ▶ **Visibility:** Articles accessible worldwide across universities, research institutions, and libraries

## OPEN ACCESS POLICY

- ▶ Fully Open Access journal under Creative Commons Attribution 4.0 License (CC BY 4.0)
- ▶ Free, unrestricted access to all articles globally

## GLOBAL ENGAGEMENT

- ▶ **Research Reach:** Welcomes contributions worldwide
- ▶ **Managing Entity:** SciRes Literature LLC, USA
- ▶ **Language of Publication:** English

## SUBMISSION DETAILS

- ▶ Manuscripts in Word (.doc/.docx) format accepted

## SUBMISSION OPTIONS

- ▶ **Online:** <https://www.jelsciences.com/submit-your-paper.php>
- ▶ **Email:** [support@jelsciences.com](mailto:support@jelsciences.com), [support@jbresonline.com](mailto:support@jbresonline.com)

[HOME](#)[ABOUT](#)[ARCHIVE](#)[SUBMIT MANUSCRIPT](#)[APC](#)

 **Vision:** The Journal of Biomedical Research & Environmental Sciences (JBRES) is dedicated to advancing science and technology by providing a global platform for innovation, knowledge exchange, and collaboration. Our vision is to empower researchers and scientists worldwide, offering equal opportunities to share ideas, expand careers, and contribute to discoveries that shape a healthier, sustainable future for humanity.

REVIEW ARTICLE

# Psychosocial Dynamics in Acute Injury Rehabilitation: A Scoping Review of Provider–Patient Relationships

Ubou Akpan<sup>1\*</sup>, David Collins<sup>2</sup>, Alan C MacPherson<sup>3</sup> and Sandi Lyall<sup>4</sup>

<sup>1</sup>Doctoral Researcher, Sport, Physical Education and Health Sciences, Moray House School of Education and Sport, University of Edinburgh, Scotland

<sup>2</sup>Professorial Fellow in Human Performance Science, Institute of Sport, Physical Education and Health Sciences, University of Edinburgh, Scotland

<sup>3</sup>Institute of Sport, Physical Education & Health Sciences, University of Edinburgh, Scotland

<sup>4</sup>Lead Clinician, Edinburgh Sports Clinic, University of Edinburgh, Scotland

## Abstract

**Background:** As an important contributor to rehabilitation outcomes for individuals experiencing acute injury, the provider-patient relationship has attracted research attention. Conventionally, physiotherapy has prioritised the biomedical approaches in the treatment of patients. However, recent interest in the role of psychosocial factors in therapeutic practice indicates the need for a comprehensive understanding of how relational dynamics impact rehabilitation. Therefore, the purpose of this scoping review was to identify and synthesise pertinent empirical evidence regarding the effects of psychosocial factors on provider-patient interactions during rehabilitation for patients experiencing acute injury.

**Methods:** A systematic search was conducted using CINAHL, PubMed, Scopus, and SPORTDiscus. Studies investigating psychosocial factors influence on the provider-patient interaction in acute physiotherapy were considered. Specifically, studies between 2015 and 2025 were selected if they examined psychosocial factors, including interpersonal communication, emotional aspects, and therapeutic alliance within the context of rehabilitation. Twenty-nine studies were finally selected for inclusion in the analysis. The studies included patients, athletes, and health care providers.

**Results:** After careful selection, data from each study were analysed and synthesised into thematic areas. Five main themes emerged: Therapist behaviours and interactions; Patient behaviours and responses; Systemic and Organisational Factors; Therapy Adaptations; and Geographic Disparities in Therapy. Some themes also produced relevant sub-themes. Findings emphasised the need for a therapeutic relationship that encompassed: effective

### \*Corresponding author(s)

**Ubou Akpan**, Doctoral Researcher, Sport, Physical Education and Health Sciences, Moray House School of Education and Sport, University of Edinburgh, Scotland


**Email:** U.E.Akpan1@sms.ed.ac.uk

**DOI:** 10.37871/jbres2305

**Submitted:** 21 March 2026

**Accepted:** 08 June 2026

**Published:** 10 June 2026

**Copyright:** © 2026 Akpan U, et al. Distributed under Creative Commons CC-BY 4.0 

**OPEN ACCESS**

### Keywords

- Psychosocial factors
- Provider–patient relationship
- Acute Injury
- Therapeutic alliance
- Communication
- Physiotherapy

VOLUME: 7 ISSUE: 6 - JUNE, 2026



**How to cite this article:** Akpan U, Collins D, MacPherson AC, Lyall S. Psychosocial Dynamics in Acute Injury Rehabilitation: A Scoping Review of Provider–Patient Relationships. J Biomed Res Environ Sci. 2026 June 10; 7(6): 22. Doi: 10.37872/jbres2305



communication, person-centred care, collaborative efforts, and structural supports to enhance rehabilitation outcomes for patients. Implications for the development of relational skills in practitioners that promote patient engagement and improve the quality of recovery are considered and discussed.

**Conclusion:** Psychosocial factors are critical to successful acute rehabilitation. However, there exists a gap in translating biopsychosocial concepts into practice to meet both the physical and the psychological healthcare needs of patients.

## Introduction

The main objective of this scoping review was to explore the psychosocial dynamics of the provider-patient relationship in acute injury rehabilitation. To realise this aim, a systematic examination and synthesis of empirical studies was employed to identify relevant patterns, and to identify knowledge gaps that enable a broad investigation.

Conventionally within physiotherapy, research focusing on injury has been conceptualised around physical factors, despite evidence indicating that injury produces significant psychosocial impacts as well [19]. Traumatic injuries can involve symptoms such as pain, which may extend beyond psychophysiological and pathoanatomical changes [37,48]. Consequently, this may limit the effectiveness of exclusively biomedical approaches in certain contexts. Moreover, empirical evidence from current studies suggests that the characterisation and experience of injury, including associated pain, varies markedly between patients, with psychosocial factors such as an individual's beliefs and expectations of the outcome shaping the rehabilitation process [34,35,61].

From the standpoint of offering holistic physiotherapy care to patients, biomedical intervention methods have been characterised by some researchers as limited and inadequate [41]. Hence, there is a shift in attention towards a biopsychosocial model that acknowledges the interplay between contextual health moderators, such as an individual's socio-economic conditions, their biological status and function,

and their culture and heritage [27,39,51]. In considering this theoretical shift, a treatment model has emerged that integrates physical and psychosocial processes that strive to improve therapeutic engagement and underpins robust recovery [36].

Expanding on these relational aspects of physiotherapy, a contemporary framework known as the therapeutic alliance (TA) offers a deeper insight into the provider-patient interaction. This framework is enacted through various methods to measure and evaluate the efficacy of the therapist-patient relationship, often termed the therapeutic alliance [23,24,59]. Also linked to the TA is relational competence on the part of the therapist, which shapes communication, emotional interactions, and assesses the overall therapeutic value of their interaction [12,31].

Consequently, the efficacy of rehabilitation, at least in part, depends on effective communication which encourages the development of shared goals and the transmission of pertinent knowledge [25]. Accordingly, current investigations suggest structured, reflective, and practical training for therapists to support the development of person-centred, compassionate, and empathic skills [7]. Accordingly, this training must be supported by robust service delivery systems to ensure continuity of care, even under resource constraints [30].

To address existing gaps in the management of acute injury, however, it is important to understand how biopsychosocial, provider-patient, and systemic factors collectively

influence therapeutic relationships. Accordingly, this scoping review examined psychosocial factors that influence patient-provider relationships in rehabilitation settings for individuals with acute injury. It will classify these factors and assess their effects on patient engagement, adherence, and treatment outcomes. Findings should inform strategies to improve interactions, guide research, and support policy and training that integrate relationally centred care while paying mind to organisational and cultural considerations.

## Methods

The present scoping review adhered to the PRISMA-ScR checklist [55] and the Joanna Briggs Institute [42] protocols, ensuring rigour, expediency, and reliability. The study also employed the Population-Concept-Context (PCC) methodology to investigate the following question: What psychosocial factors might influence provider-patient relationships in physiotherapy and rehabilitation for individuals who are experiencing acute injury? The PCC structure is outlined below and provides a guide as to the eligibility for inclusion and data search methodology (Table 1).

### Search strategy

The purpose of the data search was to locate empirical evidence regarding psychosocial dynamics in physiotherapy and related rehabilitation settings for patients recovering from acute injury. The three PCC elements were represented by a combination of unstructured keywords and regulated vocabulary: Firstly, acute injury was the focus of the population element; secondly, psychosocial dynamics such as communication, empathy, relational competence, and therapeutic alliance were the focus of the concept component; and thirdly, physiotherapy and related rehabilitation settings were the focus of the context aspect. Combinations of these phrases and others were used principally in the search string, as

indicated below. To maintain both precision and sensitivity, search strings were trialled and continuously improved, using syntax tailored to the indexing principles of each database.

Searches were conducted across four electronic databases: PubMed, Scopus, CINAHL, and SPORTDiscus. The search process was undertaken between September 2025 and November 2025. For PubMed, a combination of Medical Subject Headings terms (MeSH) and keywords in the Title/Abstract fields (tiab) was used. This strategy captured studies indexed under standardised subject headings as well as those using relevant terminology in titles or abstracts. In Scopus, searches were conducted using the Article Title, Abstract, and Keywords fields. For CINAHL and SPORTDiscus, searches were performed using the Title and Abstract field options within the EBSCOhost interface (XB field limiter), ensuring that retrieved studies explicitly addressed the core concepts within article titles or abstracts. This approach enhanced search relevance while supporting methodological transparency and reproducibility.

The search string included:

```
("acute pain ") OR ("wounds and injuries")  
OR (injury) OR (injuries) OR (trauma)  
OR (traumas) OR ("postoperative pain")  
OR (fracture) OR ("orthopaedic injury")  
OR ("hand injury") OR ("hand trauma")  
A N D  
("professional-patient relations") OR  
("therapeutic alliance") OR ("provider-patient  
relationship") OR ("psychosocial factors") OR  
(communication) OR (empathy) OR (trust) OR  
("relational competence") OR ("interpersonal  
skills") OR ("patient-centred care") OR  
("shared decision making") OR (rapport)  
OR ("doctor-patient communication")  
AND
```

```
("rehabilitation") OR ("physical therapy  
modalities") OR (physiotherapy) OR ("physical
```

**Table 2:** Emergent themes.

	Themes	Direction - Guidance	Studies
1	Therapists Behaviours & Interactions	1.1. Relationship-building	[2], [8], [9], [11], [14], [17], [20], [22-27].
	Therapists Behaviours & Interactions	1.2. Communication & Information Clarity	[1], [2], [5], [7-9], [11], [16], [18-20], [22], [24-26].
	Therapists Behaviours & Interactions	1.3. Empathy, Emotional Support & Encouragement	[2], [5], [10], [11], [15], [17], [29].
	Therapists Behaviours & Interactions	1.4. Shared Decision-Making	[1], [2], [7], [8], [11], [20].
2	Athletes/Patients Behaviours & Responses	2.1. Identity & Attitude	[2], [4], [6], [18], [26].
	Athletes/Patients Behaviours & Responses	2.2. Self-Regulation [Motivation, Coping & Self-Management]	[1], [2], [4], [6], [10], [13], [18], [20], [21], [22], [24], [26], [28].
3	Systemic & Organisational Factors	3.1. Funding, Staffing, Access, Policies & Design	[2], [3], [10], [14-16], [25], [27].
	Systemic & Organisational Factors	3.2. Environmental & Privacy Concerns	[4], [9], [11], [12].
4	Therapy Adaptations	Cultural & Remote Adaptations	[3], [5], [11], [17], [19].
5	Geographic Disparities in Therapy Provision		[14], [20], [23].

therapy") OR ("rehabilitation processes") OR ("adherence to rehabilitation") OR ("rehabilitation participation") OR ("exercise therapy") OR ("sports medicine") OR ("hand therapy").

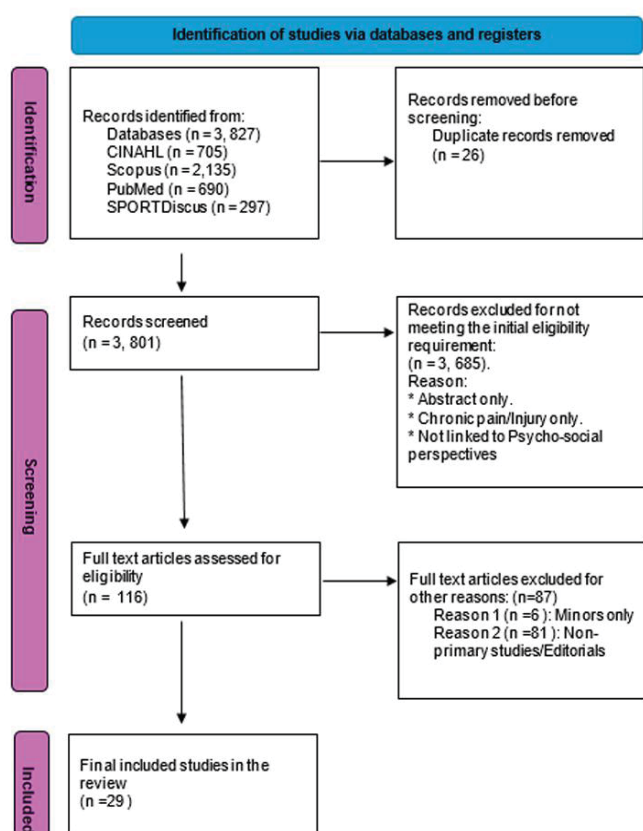
### Eligibility criteria

Primary research and clinical trials with mixed-methods, qualitative, or quantitative approaches were considered. These included studies with only adults as study participants, or participant groups of both adults and minors. In addition, studies with both acute and chronic phases were also considered if outcomes relevant to acute rehabilitation were readily identifiable. Publications were excluded for the following reasons: if they were principally on chronic pain or injury; only abstracts were

available; were unrelated to psychosocial perspectives; featured only minors; or were non-primary research. Lastly, to enable proper representation of contemporary knowledge, capture emerging developments, and to identify relevant knowledge gaps - only studies published between 2015 and 2025 were considered.

### Study screening and selection (Figure 1)

Prior to a full-text review, the identification and selection process was performed in phases - commencing with a thorough electronic database search, followed by an evaluation of articles' titles and abstracts. Screening was performed by the lead researcher and reviewed by the three other co-researchers, with any disagreements were resolved through discussion to reach consensus.



**Figure 1** Prisma flow diagram.

Thereafter, a total of 3,827 papers were obtained from four databases, including CINAHL ( $n = 705$ ), Scopus ( $n = 2,135$ ), PubMed ( $n = 690$ ), and SPORTDiscus ( $n = 297$ ). After deleting 26 duplicates, 3,801 were screened for relevance. Of those screened, 3,685 papers were removed for not meeting the review's initial eligibility criteria. The remaining 116 full-text papers were further reviewed, and another 87 were excluded for being non-primary studies or dealing with only minors as study participants. Finally, a total of 29 studies were selected and retained for analysis.

### Data extraction and analysis

A comprehensive review of each study ( $n=29$ ) was conducted, and the following information was extracted: (1) author/year/country, (2) study title, (3) study aim/focus, (4) design/method/participant/setting, (5) themes/main findings.

In addition, a quality assessment of the studies' outcomes was performed using criteria adapted from the JBI critical appraisal framework [40] (see [appendix 1 in the supplementary File](#)).

Selected studies used a variety of methodological techniques. The majority were qualitative, utilising both semi-structured interviews and focus groups. Several qualitative studies examined patients' and therapists' perspectives, with some reporting the use of biopsychosocial approaches to investigate behavioural patterns in rehabilitation. A limited number of studies utilised quantitative methods, specifically cross-sectional surveys or observational methods. These studies used validated patient-report metrics to study empathy, resilience, social functioning, psychosocial factors, and adherence, with data analysed using regression, correlation, or factor analysis. Mixed-methods approaches were even less common, with feasibility studies using qualitative interviews as a precursor to intervention testing also included.

Research participants were diverse. They included adults with concussion or traumatic brain injury, anterior cruciate ligament rupture or reconstruction, whiplash, burns, spinal cord injury, musculoskeletal trauma, and various fractures including shoulder, ankle, hip, and Lisfranc fractures. The participants' ages ranged from adolescents to mature adults. Participant numbers are normative and varied according to conventions in theoretical orientation and study design.

The study focused on rehabilitation-related experiences, perspectives, and priorities reported by patients and therapists. New interventions, including virtual clinics, shared decision-making tools, and stress inoculation training, were also examined for their viability and utility to patients and therapists. In general, the records offered a comprehensive overview of rehabilitation experiences in acute, outpatient, community, telemedicine, and sports contexts.

## Results

### Study features

The present scoping review is comprised of twenty-nine papers from the following countries: Australia, Brazil, Canada, Denmark, Ireland, Israel, Italy, New Zealand, South Africa, Sweden, United Kingdom, and the United States of America; all the countries included draw heavily on traditional western medicine praxis. The prevalence of qualitative studies in the review reflects a significant interest in exploring lived experiences, relational, and psychosocial engagements between health practitioners and clients. Additionally, quantitative and mixed-method designs provide complementary perspectives by measuring, contrasting, and integrating psychosocial and clinical factors.

All included studies underwent rigorous quality appraisal (Appendix 1, Supplementary File). High-quality studies, as classified by our review process, presented rich participant voices, iterative and reflexive coding, triangulation and member checking, with findings clearly grounded in data. Studies appraised as moderate to high quality also showed robust methodological approaches with well-supported conclusions; but often with less detailed description or details of review. Those rated as moderate or lower quality displayed some methodological limitations but nonetheless contributed relevant insights into patient-provider relational dynamics.

### Data synthesis

In each paper analysed, psychosocial dynamics were considered to be essential in facilitating an effective provider-patient dyad in acute injury rehabilitation settings. Patients rated empathy, communication, and therapeutic partnerships as valuable components in their engagement and recovery outcomes. These observations were consistently supported by the quality appraisal, which highlighted that

high-quality studies - including rich verbatim quotes, diverse perspectives, and transparent analysis processes, confirming the robustness of the findings. Mutual regard and trust in the therapeutic relationship were an indication of patients' motivation to adhere to rehabilitation protocols. Therapists frequently highlighted collaborative planning, goal-setting, and tailored communication as important elements that fostered patient engagement. Patients stated that therapist's guidance and their continual monitoring throughout the rehabilitation process boosted their motivation, confidence, and commitment.

In contrast, however, therapists and patient also described adverse experiences in rehabilitation. These include therapists limited relational and psychosocial skills; a power imbalance between therapists and patient; limited support and collaboration; ineffective communication; and therapists' autocratic behaviours. Even in high-quality studies, gaps between participant expectations and clinical practice were reported, highlighting challenges in the enactment of relational competencies.

Several studies also identified specific disparities between patient and therapist perspectives. Patients wanted to be involved in decision-making about their care, while some therapists reported that relational competencies and collaborative decision-making were not always achievable. Although a positive provider-patient relationship was considered desirable, it was not always realised in practice. Furthermore, patients' expectations and willingness to engage in shared decision-making were contingent on relational competencies from both parties. Mixed-methods and quantitative research revealed that therapeutic relationships, empathy, client engagement, and self-compassion were positively associated with the rehabilitation outcomes. These results indicate that studies with rigorous methodological procedures produced highly credible and well-

supported findings regarding psychosocial and relational factors in rehabilitation.

### Study participants

The review's twenty-nine publications included a broad spectrum of participant populations, including different types of patients and medical professionals. The study population ranged from adolescents to older adults, with many focusing on clients receiving physiotherapy or multidisciplinary therapy. Emergent themes are listed in table 2. A full descriptive breakdown of the studies is shown in appendix 1 in the supplementary file.

#### Theme 1: Therapists' Behaviours and Interactions

**Therapists' relationship building:** In relation to the acute rehabilitation environment, patients' perceptions and interactions with therapists were recorded in many studies [2,11,47]. Beyond making a positive initial impression, therapists were described by patients in terms of their professional qualities such as commitment, competence, trustworthiness, respect, caring, and the empowerment they engendered [22,50,52]. Further relationship building behaviours included politeness, attentiveness, validation of clients' symptoms, obtaining consent, seeking co-operation, and developing personal interactions with patients [22,32,43].

With respect to clinical practice, therapists were described as engaging in early intervention and implementing rehabilitation exercises with patients [56,58,60]. With regard to their patients, they also considered social, psychological, and occupational aspects in therapy sessions, consistent with the biopsychosocial approach [60].

In contrast, some reports noted that therapists provided limited guidance and support during therapy [13,47,56]. Similarly, instances of uniform treatment and authoritative approaches by therapists were noted in some sessions

[11,53]. Additionally, reports noted examples where therapists provided limited attention to individual's needs, restricted therapeutic interactions, inhibited warmth, and reduced levels of counselling during patients' recovery experiences [2,50,52]. Overall, differences in therapists' behaviours and interactions were observed in the context of the provider-patient relationship. Additionally, some of the interactions were pro-active and sought to form an effective patient-therapist alliance and thus demonstrated psycho-social skill, but this pattern was not uniform.

**Therapists' communication and information:** Communication behaviours of therapists within rehabilitation were described across studies as differing in form and delivery. These accounts included attentive and patient-centred approaches, the use of inclusive language, two-way collaborative communication, constructive feedback, and eliciting patients' inputs [11,22,44,50]. Other accounts described staff-dominated discussions, the absence of personalised communication, interruptions, the use of abstract language and assumptions, expressions of pity, authoritarian communication behaviours, and the use of harsh tones during patient-therapist conversation [11,53].

Furthermore, the timing of information provided to patients across different stages of recovery was highlighted across studies. Reports included early counselling practices, diagnostic communication, phone calls, advance information before meetings, and delayed advice at some recovery stages [8,10,56].

In relation to therapists' approaches to communicating with patients or educating them about their health concerns, accounts described variable practice in the clarity of information provided. Studies reported structured education, guidance, explanations regarding patients' conditions, access to information on treatment



options, recovery processes, and managing patients' expectations, including exercise goals, intention/ planning for impact, and recovery expectations [1,8,13,22,38,45,47,58].

In contrast, patients described receiving conflicting information from therapists, including differing diagnoses, inconsistent advice, and changes in initial assessments [8]. Additionally, varied messaging from different therapists was reported in relation to understanding accident conditions, differing interpretations of recovery concepts, and delayed or unclear communication regarding recovery time frames [38,58].

Continuing the dimension of communication, studies described different formats and communication approaches employed by therapists with patients. Tailored learning formats included handouts, emails, videos, verbal interaction, printed materials, and other textual or visual resources [1,2,8,13]. Additional communication-related approaches included personalised information about symptom recognition and medical challenges, feedback styles, reminders, and humour [1,2,11].

However, reports also documented the absence of personalised communication in some settings during therapy sessions and the use of pen-and-paper drawings described as being of limited utility [11,13]. Overall, and in relation to provider-patient interaction within therapy, studies documented variations in therapists' communication style, the timing of pertinent information, and contrasting formats of communication and information delivery.

**Therapists' empathy and emotional support:** Therapists' behaviours directed toward patients during early-stage rehabilitation included relational empathy [16,43,63]; within the same context, some studies documented supportive behaviour from therapists that included reassurance, encouragement, and reminders to patients of the importance of physical activity

for recovery [2,8]. In addition, therapists maintained cheerful tones during therapy sessions and validated patients' symptoms with politeness and attentiveness [22,33]. They also expressed a desire for further training on emotional and/or mental health support [33].

Notably, however, some therapists focused on task completion without providing additional emotional or psychological input, with these behaviours reported as limited in scope for addressing psychological aspects [22] of patient care. Moreover, there were reports of therapists' spontaneously touching trauma survivors during therapy, suggesting a lack of consideration for patient's perceived physical safety [22].

**Therapists' Decision-Making:** Evidence on shared decision-making (SDM) within rehabilitation settings identified variability in therapists' approaches to patient involvement and collaboration. Specific studies reported that therapists delivered SDM to patients who noted that that opportunities were afforded to them to engage in treatment decisions, and that their experiential knowledge was included [1,10,22,47]. In contrast, the planning of some therapy sessions was described as guided by the therapist; limited in scope due to the facilities available; and having to adhere to guidance provided by government agencies, with variability in format and content across sessions noted [1]. Several studies also noted that therapists did not routinely enquire about patients' personal goals, and patients had limited opportunities to voice preferences or participate in care decisions [2,11,22]. Overall, decision-making practices by therapists were reported to vary both in terms as of the degree to which patients were involved, and in the extent to which their input was incorporated into their programme of rehabilitation.

## Theme 2: Patients Behaviours & Responses

**Patients' Identity and Attitude:** Patients' or athletes' identity and attitude were reported

alongside accounts of their conditions and included their observed behavioural responses during injury recovery. Findings included psychological factors such as attitudinal set, and athletic identity and were assayed in relation to patients' perseverance during rehabilitation whilst they experienced painful symptoms during injury recovery [2,6,9,44,58]. Another study described athletes playing through injury-related pain as part of their sport, a perception noted in relation to their effort and fitness during rehabilitation [44]. However, the absence of physical activity was reported alongside changes in athletic identity in the context of injury recovery [6]. Collectively, this evidence highlights the need to carefully consider patients' identities and attitudes during studies investigating rehabilitation experiences.

**Self-Regulation (Motivation, Coping, and Self-Management):** Patients' self-regulation in rehabilitation was reported by recording a variety of observed personal strategies. These included self-initiation of physical activities (cycling and trekking), enjoyment of exercise, and self-monitoring of fitness [1,6,58]. Similarly, patients' recognition of functional improvements through individual goal setting across physical, social, mental, and emotional domains was reported in relation to patient motivation in therapy [2,49]. Within the same context of self-regulatory approaches, patients' self-compassion was reported as being associated with psychological well-being during rehabilitation [62].

In addition, patients employed several self-management strategies including belly breathing, body scanning, stress inoculation training, coping statements, and guided problem-solving in rehabilitation, with some patients describing these strategies as challenging [29,47,50]. Furthermore, it was reported that some of these exercises had limited efficacy in relation to fostering patients' self-management during recovery [47].

Strategies reported by patients to manage fear and anxiety following injury included the avoidance of contact or collisions; in addition, certain movements prior to injury that were previously considered to be innocuous, were now described as unsafe [9,53]. Furthermore, during recovery and in the context of self-management strategies to aid recovery - patients' adaptation to fatigue, stress and activity participation was reported [53]. Athletes recovering from injury described perceiving pain as a warning and as a signal to protect the affected area [44]. Interestingly, patients described the psychological and physical challenges of managing pain through the trial-and-error of various psychosocial strategies [2,44,53]. Patients also described coping during rehabilitation through support from family and friends [16,47].

However, some patients reported hesitancy to discuss their pain management issues with family members, limited assistance from close individuals, and in some instances felt overly protected by their families [2,16,47]. In summary, studies reported both intrinsic and external forms of coping, motivation, and self-management by patients during injury rehabilitation alongside experiences described as satisfying or challenging.

### Theme 3: Systemic & Organisational Factors

**Funding, Staffing, Access, Policies, and Design:** Funding, staffing, and access-related issues were reported across studies in relation to physiotherapy services. Financial and work-related demands were reported in relation to the provision of therapy for patients, including references to funding structures that inhibited access to care [38]. Likewise, a study described the scheduling of key-point appointments and gym programs in relation to cost considerations in certain service settings [60].

In addition to concerns around funding and patient access to therapy, other organisational



factors that influenced the provision of care included resource availability and service capacity. Specifically, best practice advice was described as both acceptable and financially realistic, whilst follow-up care was reported in the context of available resources [56].

Several studies reported staffing-related aspects of physiotherapy services. Some patients reported hesitancy in seeking help during recovery as they perceived staff stress and/or shortages [2]. Staffing issues were perceived by some patients to be linked to late referrals and poor patient-therapist engagement which included the inconsiderate scheduling of appointments [16]. From the therapists' perspectives, staffing challenges within hospital settings were reported, including high patient volume and quick discharge scheduling [16].

Physiotherapy staff education, particularly training was reported as a factor in physiotherapy practice [38]. Within this context, some therapists were described as being unfamiliar with relevant standardised assessments used to assess patients' psychosocial needs [32]. A study also reported that patients received informal emotional support from their therapists in some instances [33]. Whether this support reflected recognition of mental health symptoms or referral to a specialist was not entirely clear. Some therapists acknowledged a gap in their education and reported needing training in psychosocial care [33].

Ease of access to physiotherapy services and multidisciplinary support was a recurring organisational theme in the analysis. Studies noted that timely access to therapy was evident, but in some settings, delays and variability in community provision were observed [33]. Furthermore, patients' need for psychological and social work support within certain therapy services was also reported, but referral mechanisms for them often failed [16]. In addition, limited access to rehabilitation for

some patients, including the non-availability of specialised burn units, was also reported [16]. Collectively, in relation to organisational factors that affected the provision of physiotherapy services, structural financing, staffing, education, and service access for patients. All featured prominently.

Within this broader organisational context, current healthcare practices were reported as focusing on injury management and functional outcomes, with limited reference to patient-centred care, including relational engagement [38]. Other institutional and practical barriers, such as limited services for burn management, were observed [16]. Within the context of service structure, a study reported limitations of screening methods for psychosocial factors included constraints on potential scope [32]. Additionally, the reported influence of historical tradition, medicolegal considerations, and differences in post-fracture rehabilitation guidelines is reflected in the observed variation in early weight-bearing therapies [5]. These highlight organisational and system conditions in rehabilitation settings, including service variability, policy constraints, and institutional practices in which provider-patient interactions occur.

**Environment and Privacy Concerns:** Numerous studies reported rehabilitation experiences alongside descriptions of the suitability of the physical environment. The provision of physiotherapy was reported in a range of settings, including competitive performance environments, calm and secluded spaces, and facilities described as noisy, chaotic, or brightly lit [6,13,22]. With reference to privacy, patient's experiences were recorded in relation to therapists' gender and the physical privacy they were afforded. Male patients were reported that they were directed to remove garments during therapy, while female patients were described as having varied experiences regarding their physical exposure [26].

Similarly, patients reported that attempts were made to maintain their dignity [26]. Overall, studies reported various aspects of the physical environment, and the privacy that was afforded to patients' during rehabilitation sessions.

#### Theme 4: Therapy Adaptations

**Cultural & Remote Considerations:** Studies described adaptations in physiotherapy and rehabilitation therapy in relation to patient engagement and reported care experiences. On such adaptation described in the literature stemmed from the suggestion from patients to adapt delivery to a culturally appropriate telehealth approach which is both a trauma-informed and holistic [22,43]. Furthermore, suggestions to incorporate cultural traditions, such as traditional dance, storytelling, or outdoor sessions into therapy were also reported, while some patients suggested minimal cultural integration of practice [43].

Studies also described the use of both remote and in-person therapy approaches in rehabilitation care services. In view of this, patients suggested hybrid care models described as combinations of in-person and telehealth approaches [43]. In addition, different patient experiences were reported in relation to remote rehabilitation practice [8]. Certain patients described the use of virtual platforms for follow-up and continued engagement with care [5], while others described challenges with remote care strategies, including ineffective communication, technological disruptions, concerns regarding privacy, and limited physical, face-to-face interaction [43]. In another account, in relation to the provision of remote therapy, patients reported limited confidence in the assessment of symptoms [43]. In addition, in this study technology was described as supporting clinician skills, rather than replacing interpersonal skills [45]. Overall, within the context of acute rehabilitation, these

findings report patients' accounts that outline cultural considerations that could potentially inform therapy adaptations and suggest ways to adapt modes of delivery.

#### Theme 5: Geographic Disparities in Therapy Provision

Geographical variation in the provision of therapy was documented across the reviewed studies. In the United States, some of those studied reported attending sessions primarily for insurance purposes, despite expressing doubts about their diagnosis [52]. The same study also mentioned a patient who stated that the costs incurred did not match meet their expectations regarding recovery [52]. In a similar geographic context, therapists reported a reluctance to address psychosocial concerns in relation to medical resistance and payment constraints, and screening methods were described as limited in some instances due to funding-related issues [32].

In Brazil, negative aspects of therapy experiences included challenges in accessing benefits [47]. Within the remaining geographical contexts represented in the included studies, insurance-or benefit-related constraints were not explicitly described in relation to therapy provision. These reports therefore reflect geographically specific features accompanying therapy experiences across national contexts.

## Discussion

### Overview

This scoping review suggests that acute pain and injury rehabilitation is experienced not solely as a technical or biomechanical process, but as a fundamentally relational and meaning-laden engagement which influences patients' health and well-being. Across different acute-injury contexts, psychosocial dynamics, particularly therapist behaviours and communication practices influenced treatment



outcomes. Additionally, the structural and organisational conditions under which treatment was delivered influenced patients' psychological engagement. Rather than being regarded as supplementary skills subordinate to clinical expertise, the psychosocial, relational dynamics between patient and provider, in the context of physiotherapy, featured prominently alongside patients' interpretation of clinical guidance, their engagement with therapy, and with regard to their recovery - influenced their expectations [2,22,43]. The appraisal further highlights that in studies rated as moderate or lower quality, relational and psychosocial observations were observed, but limited by methodological limitations (e.g., sample size, single-site data collection, or measurement constraints) [REFS]. Conversely, studies appraised as high-quality were characterised by steps taken by the researchers to ensure that the data was trustworthy or reliable. Overall, the findings align with the biopsychosocial model, not merely as a conceptual framework but as an aspect of patients and practitioners lived experience [39,51].

Importantly, this alignment extends beyond the simple acknowledgement of biological, psychological, and social domains; the reviewed evidence demonstrates how biopsychosocial dimensions dynamically interact during patients' rehabilitation. The biopsychosocial approach is conceptualised as a counterpoint to the biomedical model [27,39,51]. Accordingly, patients' recovery progressions are shaped through the continuous adaptation between bodily symptoms, personal meaning, and interpersonal context. Therefore, the biopsychosocial perspective views rehabilitation as an emergent, complex process rather than a linear clinical intervention.

This complexity occurs as a result of the psychological meaning-making in interactions; the implications of therapeutic treatment in relation to patients' identities; physical

impairment - be it acute or lifelong; and consideration of patients' social circumstances. These patterns were observed across all documented acute rehabilitation settings, indicating that psychosocial processes are not condition-specific, but are present across the breadth of rehabilitation practice [27,61].

As a scoping review, this synthesis does not imply causality. However, the convergence of findings across studies, alongside evidence of strong methodological rigour identified through quality appraisal, suggests that relational and contextual factors are present and can act as obstacles or enablers in the rehabilitation experiences of patients. This convergence supports the contention that rehabilitation which focuses wholly on biomechanical assessment and therapy is missing a key component - specifically that biopsychosocial insights, applied by the practitioner, are central to therapy effectiveness.

### **Therapists' communication as meaning-making**

Effective communication appeared as a fundamental organising structure through which patients made sense of the pain they were experiencing, processed the injury diagnosis, understood the prognosis, and familiarised themselves with their rehabilitation program. This perception differs from the typical understanding of communication, as merely the passing of clinical details from therapists to patients.

Therefore, effective communication serves as a vital conduit linking injury history to the interpretation of the rehabilitation proposed, and the social validation of the therapist. In this sense, explanations offered by therapists' influence, perceptions of their efficacy, the coping responses of the patient, and patients' behavioural engagement with their rehabilitation. Aligned with the current insight, individualised, consistent, and simple

communication approaches were observed to correspond with patients' understanding and avoidance of disorientation when undergoing rehabilitation [2]. Conversely, ineffective communication approaches were reported alongside patients' confusion, withdrawal, and anxiety [8,33,38,47,58]. Similarly, other behaviours such as employing harsh tones, staff dominating discussions, or interrupting patients were described in relation to patients' limited autonomy and interaction with the process of rehabilitation [11]. Similarly, communication involving multiple therapists exists alongside limited continuity and coherence in therapy, with patients reporting limited understanding and confidence in the treatment procedures [58]. These patterns may be viewed as disruptions to therapeutic alliance cultivation, whereby breakdowns in communication undermine shared understanding and weaken collaborative engagement.

This evidence is consistent with the established communication framework within the healthcare context, which explains that the content and understanding of information shared may depend on the way it is delivered [18,54]. While this review is not about causal relationships between factors, the findings outline the role of effective and ineffective communication as they relate to therapists' intentions and patients' behavioural responses. Additionally, this evidence presents communication as a fundamental therapeutic tool in acute-injury rehabilitation, and not just a supportive psychosocial skill.

### **Therapists' emotional engagement and the limits of biomedical safety**

Psychological support offered by therapists was reported as critical to patients' recovery. Evidence confirms that patients' experiences of psychological safety in difficult and early phases of recovery correlated with therapists' empathy and emotional resources [16,43,63].

Conceptually, psychological safety represents the experiential expression of a strong therapeutic alliance, enabling patients to endure uncertainty and pain whilst recovering from an acute injury.

In addition, patients' trust, openness, and resilience during recovery was identified as being associated with therapists' emotional responsiveness [16,43]. Conversely, where therapists prioritised task accomplishments over patients' psycho-physical well-being, reports described limited attention to emotional or psychological support and the patient's emotional safety [22].

Regardless of the growing recognition of the biopsychosocial contribution to healthcare, evidence from patients' and therapists' accounts suggests that clinical practice continues to emphasise biomechanical assessments and treatment, with patients' emotional and psychosocial needs often remaining unaddressed [11,22,32,38,50]. This differential in practice suggests that a persistent implementation gap exists between the documented support for biopsychosocial care and its operationalisation in everyday clinical environments, versus the hegemony of biomechanical focused assessment and therapy.

With regard to psychosocial support, there appears to exist a gap between the professional intentions and patients' actual experiences, with specific regard to how emotional support is conceptualised within rehabilitation practice. Finally, the findings reveal a rehabilitation ecosystem whereby psychosocial responsibility in acute contexts remains uncertain and inconsistent, with limited structural support for relevant education or training of therapists.

### **Therapists' decision-making**

As reported in several studies [10,22,47,52,60] shared decision-making (SDM) remains within the intersection of three critical factors, namely

professional authority, the organisation of provision, and relational care. These factors linked to shared decision-making in patient care can be understood through relational competence its general therapeutic value [12,31], and the reinforcement of patients' sense of agency and partnership.

In various contexts, collaborative approaches were reported alongside SDM's supportive role. Despite this evidence, collaborative decision making between some therapists and patients was highlighted as partial and inconsistent. Where a large proportion of decision making remained under the locus of the therapists' authority, it resulted in limited choice for patients [1,11,22,60]. Such long-standing hierarchical structures within healthcare indicate that in certain environments institutionalised power dynamics can limit meaningful patient participation.

4.5. The heterogeneity in practice was observed alongside systemic factors, including training and organisational legitimacy, instead of being driven by therapist intent [17,28]. Interestingly, the evidence illustrates the presence of power imbalances in clinical settings, even within patient-centred approaches of rehabilitation [11,28]. Overall, this highlights SDM as a tool to engender relational and organisational engagement across clinical, organisational, and social levels. Additionally, gaps in collaborative practices coexist with persistent power imbalances between providers and patients, highlighting the interplay between shared decision-making and broader relational and organisational dynamics. These areas warrant further investigation.

### **Patients' identity, attitude, coping and the emotional push for recovery**

Building on the discussion of shared decision-making and relational dynamics, the studies also highlight the role of patients' identity, attitudes, coping strategies, and emotional

drive as they navigate through rehabilitation. Challenges to identity, addressing non-facilitative attitudes, and sense-making within the context of rehabilitation are manifest in the reviewed literature. Depending on their circumstances when experiencing injury and/or rehabilitation, patients' identities can be informed by their personal, athletic, and/or occupational circumstances. Consequently, at any given time there can be multiple identities that shape patients' motivation and engagement in therapy [6,44].

Injury and pain were associated with identity disorientation and consequently a weakened sense of self, and a variety of other negative emotions [6,44,53]. Viewed from a biopsychosocial perspective rehabilitation extends beyond functional recovery and becomes a process of identity maintenance, and in some cases reconstruction, mediated through social interaction, and facilitated via the therapeutic relationships - and personal meaning-making. Interestingly, encouragement toward recovery from injury-related pain was described as facilitating the adoption of optimistic attitudes in patients [58], thus revealing that, despite the challenge that injury and rehabilitation present to a person's identity, the judicious deployment of psychosocial skill can aid recovery.

In relation to identity and attitude, patients' personal and emotional drive for recovery was researched and documented. In this context, coping and self-management strategies such as cross-training, hobbies, and self-reflection were employed by patients and described as efforts to achieve a positive recovery [44,58]. During recovery, other self-regulation or personal strategies, including enjoyment of exercise and self-initiated activities (cycling and trekking), were reported by patients and were linked to intrinsic motivation [1,6,58].

Self-compassion remained part of patients adopted psychological approaches during



recovery, with those who possessed higher self-compassion experiencing more positive rehabilitation engagement, and psychological well-being [62]. In a similar way, personal goals set by patients were described as a strategy supporting physical rehabilitation, with patients who set higher-graded goals reporting better outcomes regarding their physical well-being [49]. However, the holistic understanding of injury rehabilitation in a psychosocial context remains limited and approaches to the self-managed recovery from painful injury remains, in many cases, trial-and-error [44,47].

To compliment self-driven efforts, patients were described as seeking, and in some cases relying on support from family and friends. As alluded to previously, being in receipt of such assistance holds benefits, but it was reported that it can also engender complex unforeseen dynamics that can complicate injury rehabilitation [47].

In combination, the interplay of disrupted identity, adaptive and maladaptive emotional coping responses, limited external support, and inconsistency in clinical and self-management approaches to the treatment of pain, creates a knowledge gap and results in the need for psychosocial factors to be considered in the assessment and treatment of acute injuries [45]. It also necessitates the conceptualisation of injury recovery not as time-bound physical rehabilitation, but as an identity challenging process, that necessitates structured and consistent approaches to treatment.

### **Systemic, organisational, and environmental factors in relational care**

With regard to systemic and organisational factors in the provision of acute healthcare, it is important to consider the implications for biopsychosocial care practices. Factors such as shifting policy priorities, work and/or time pressure, limited funding, staffing deficits, poor referral mechanisms, limited education

and training were observed across a variety of contexts. When combined with therapy delays, inconsistent community services, and other constraints certain patients faced limited rehabilitation services and therapists were under pressure to prematurely discharge patients. This resulted in in suboptimal discharge scheduling, and therefore, in certain cases, patterns of readmission [16,32,33,38,56,60].

In view of the challenges identified in the literature, organisational and systemic considerations were reported as key factors in rehabilitation practice and should be given priority, Clearer guidance, structured workflows, and enhanced coordination were also identified as elements that could support more consistent and effective practice. Furthermore, the biopsychosocial model extends beyond one-to-one clinical practice and postulates that organisational environments function as social and environmental determinants of rehabilitation. Therefore, relational care may be conceptualised as structural rather than solely clinical in nature.

Equally interesting are the environmental and privacy factors that were observed alongside psychosocial engagement in physiotherapy. Such factors included a noisy domain, poor spatial design, and limited privacy which were described as conditions that decreased emotional comfort and resulted in an unwillingness for patients to participate in the recovery processes [16,22,26]. Conversely, competitive rehabilitation environments were identified as supportive in relation to patients' motivation and adherence to rehabilitation plans [6], but this may reflect the preferences of patients who choose to be associated with environments that are designed to facilitate human performance, as opposed to health and wellbeing. Furthermore, these differences in patient preferences are important considerations in healthcare design and the associated environment in which care is delivered [14,57].

The evidence reviewed highlights the conceptualisation of person-centred care as being partly within the scope of an individual clinician's competence, whilst it is also acknowledged that systemic organisational factors greatly influence the delivery of relational care. Additionally, without the presence of institutional conditions that govern staffing, education, training, funding, and resource allocation generally, even an expert healthcare professional may be limited in their capacity to deliver biopsychosocial rehabilitation. As such, there is a clear gap for future interventions and workforce development strategies to consider.

### **Cultural and digital adaptations – prospects and constraints**

The suggestions to incorporate cultural considerations and non-in-person approaches highlights efforts to address inequality and improve individuals' access to treatment. Likewise, the hybrid model (a combination of in-person and online formats), provides conditions that support continuity and flexibility in most contexts, particularly when provider relationships were maintained [8,43]. Nevertheless, disruptions in the application of technology, issues of privacy, and low-quality dyadic interactions were reported within the remote model, leading to technology being viewed as an adjunct to clinical care, rather than as a tool to replace therapists' skills [43,45].

In addition, the suggestion to observe and make allowances for patients' cultural norms, and to integrate these considerations into their treatment lends further support to the cultural competence model which suggests that when individual's social and cultural values are considered as part of a treatment and rehabilitation strategy, then consequent benefits are accrued. Analysis of the reviewed literature revealed that taking such an approach shaped positive beliefs regarding prognosis with the resultant pro-active behaviour being

observed in patients' approach to rehabilitation [20,21,46].

Assessing and implementing culturally appropriate rehabilitation that considers patient norms requires a degree of competence and should be observed alongside guidance on the suitability of individualised healthcare interventions; thus, careful and collaborative planning, rather than casual inclusion is required. When done so, a higher level of trust between patient and therapist may be the result [46]. Therefore, the interaction between cultural competence and therapeutic alliance suggests that trust and engagement in therapy may be a culturally situated process, requiring clinicians to be cognisant of and take into account patients' social values rather than applying rote strategies. Overall, these outcomes suggest a preference for a person-centred approach that carefully considers technological and cultural options in therapy, with attention to relational quality and cultural competence, rather than just scalability.

### **Geographic and location disparities in therapy provision**

Across the included studies, reports of insurance-linked attendance, payment constraints, and limitations in screening methods were documented only in the United States [32,52]. In Brazil, patients reported challenges in realising benefits as part of their therapy experiences [47]. One US patient described that the costs they had incurred did not match their expectations of a full recovery, with personal treatment costs noted as a factor in therapy engagement or adherence [52] in private, or premium based healthcare systems. In other locales within the review, it did not explicitly mention insurance- or benefit-related constraints affecting the provision of therapy. This distribution of these reports indicates geographic location as a contextual feature accompanying therapy experiences, without

specifying direct mechanisms, although this may relate to individual country's policies and broader socio-political systems that indirectly shape therapeutic relationships and patient engagement.

### **Study limitations, evidence strength, and contradictions**

While the synthesis identified consistent relational and psychosocial themes, there are important limitations within the evidence base. Most studies were predominantly qualitative and relied largely on participant-reported experiences, which, although offering rich contextual insight, constrain causal interpretation and reduce broader generalisability. Small or selective samples, single-site recruitment, and the absence of longitudinal follow-up further limit the ability to draw definitive conclusions about sustained rehabilitation outcomes.

Despite these limitations, confidence in the overall synthesis is reinforced by the recurrence of similar findings across studies appraised as predominantly high or moderate-high methodological quality. This convergence across diverse settings and injury types indicates a coherent pattern of evidence and supports interpretive conclusions regarding relational and psychosocial dimensions of rehabilitation, even though causal inferences remain beyond the scope of the current review.

Importantly, findings were not entirely uniform across studies. While many investigations described therapeutic relationships as supportive and enabling, others highlighted experiences of power imbalance, authoritarian therapists' behaviour, ineffective communication, and limited collaboration. These divergences suggest that relational outcomes may be influenced by contextual and organisational factors, such as service structure, professional authority, or the implementation of patient-centred approaches, rather than

reflecting inconsistencies in the core concepts themselves.

### **Implications for practice and Theory**

Collectively, the study's outcomes suggest a timely and explicit review of the relational care approach within a biopsychosocial framework in the context of professional acute injury rehabilitation education. While technical competence is required of every therapist, the structural acquisition of relational competence, expertise in the delivery of patient-focused care, and effective communicative skills may be of equal significance [19,37,39,51].

For a robust and result-oriented rehabilitation practice, clinical competencies may be strengthened through professional education and training that is operationalised through psychosocial skill development and reflective practice [7,15]. Recognition that therapy provision is not uniform across geographic contexts may also inform practice development. In parallel, systemic limitations to relational-centred care must be addressed by way of re-engineering organisational policies, including resource allocation, staffing, and funding. Regarding remote rehabilitation practice, it should not be enacted in a way that disrupts therapeutic alliance or physical interaction but rather enhance access to care [8].

Furthermore, the relevance of the biopsychosocial, cultural competence, and therapeutic alliance frameworks to practitioners working in physiotherapy are made manifest in the current review. These findings also position contextual and system-level features as integral components in care delivery. In so doing, the interplay of relational factors, including therapists' behaviours; patients' identity and their response injury; systemic implications of organisation's budgetary and design limitations; the challenges and opportunities associated with utilising technology in healthcare, all reveal significant socio-cultural challenges associated



with delivering high quality rehabilitation [23,24,46,59].

Overall, to translate these insights into practice, rehabilitation services should adopt structured relational skills training programs, incorporate routine reflective practice sessions into professional development, develop clear institutional protocols for patient-centred communication, and establish monitoring mechanisms to ensure equitable and consistent therapy delivery. Furthermore, technology-mediated therapy should adhere to established principles to ensure therapeutic continuity, relational quality, and patient participation.

### Gaps and Future research

The majority of the literature reviewed was qualitative in theoretical and methodological orientation. This form of data is very useful in capturing and analysing patients and therapists' subjective experiences; however, there are limitations associated with this approach, including accessing diverse socio-economically disadvantaged groups, and patients with diverse cultural backgrounds. In addition, there remain difficulties in accessing culturally diverse healthcare settings, as opposed to those derived from Westernised models.

Finally, exploring the feasibility of translating formal psychosocial training into structured practice will not only support the biopsychosocial skill development among therapists, but may also be advantageous to the broader healthcare system. In addition, future research on the enactment of relational and biopsychosocial care practices within resource-constrained contexts may serve as a framework for promoting healthcare among socio-economically disadvantaged populations.

### Methodological reflections

The PRISMA-ScR and JBI processes were adopted in this review due to their assurance of rigour and credibility. However, there are limitations. These include the extraction of only

English language studies, mostly from a Western context that risk the exclusion of valid evidence from non-English or non-Western populations. Additionally, only literature between 2015 and 2025 was included. These date-limitations also risk the omission of significant historical insights from studies conducted prior to this.

A significant proportion of the included studies were qualitative. Although efforts were made to systematically extract and synthesise themes from the included studies, the methodology may limit the transferability of findings and foreshadow subjectivity in the interpretation of psychosocial variables. Similarly, certain studies were not strictly focused on acute conditions, but a mixture of acute and other contexts. However, only acute-related aspects of such studies were systematically extracted and analysed. Above all, regardless of methodological consequences, a rigorous analysis of the patterns of relational engagement within acute injury rehabilitation settings was conducted.

### Conclusion

The collective gain from this scoping review is a thorough treatment and drawing together of the factors that influence the psychosocial delivery of care to patients who have experienced acute injury and treatment. Behaviours ascribed to therapists in relation to communication style, decision-making, and emotional engagement, including patient's identity, coping, and self-motivation, have been described as being collectively linked, to either full, or limited holistic care experiences. Technological innovations and cultural recognition of patients and the resultant adaptation of treatment hold significant potential of relationally appropriate care, but its implementation needs to be systematic and well considered.

In addition, delivering bio-medically informed care that is technically accurate may not be enough to result in high quality

recovery outcomes. Instead, the acquisition of relational, cultural, and psychosocial competencies by therapists through formal training should be the priority of the healthcare systems. Furthermore, the review identified geographically specific features of therapy provision, including insurance, and benefit-related reports concentrated within particular national contexts. Finally, the realisation of these recommendations relies on the systemic implementation of supportive policies. These include sufficient funding, staffing support, training, conducive working environments, and consistency in healthcare delivery – all built on biopsychosocial principles that can be applied even within resource-constrained settings.

## References

1. Aagaard PK, Lyngbye Lollesgaard L, Larsen P, Elsø R, Rathleff MS. Patients' experiences and preferences for rehabilitation following an ankle fracture. *Eur J Physiother.* 2025;27(3):193-200. doi:10.1080/21679169.2024.2385311.
2. Asplin G, Carlsson G, Fagevik Olsén M, Zidén L. See me, teach me, guide me, but it's up to me! Patients' experiences of recovery during the acute phase after hip fracture. *Eur J Physiother.* 2021;23(3):135-143. doi:10.1080/21679169.2019.1650394.
3. Bachelor A. Clients' and therapists' views of the therapeutic alliance: similarities, differences and relationship to therapy outcome. *Clin Psychol Psychother.* 2013;20(2):118-135. doi:10.1002/cpp.792.
4. Bordin ES. The generalizability of the psychoanalytic concept of the working alliance. *Psychotherapy (Chic).* 1979;16(3):252-260. doi:10.1037/h0085885.
5. Bretherton C, Al-Saadawi A, Sandhu PH, Baird PJ, Griffin PX. Healthcare professionals beliefs and priorities for the rehabilitation of patients after ankle fracture surgery: a qualitative study. *Injury.* 2024;55(12):111975. doi:10.1016/j.injury.2024.111975.
6. Burland JP, Toonstra J, Werner JL, Mattacola CG, Howell DM, Howard JS. Decision to return to sport after anterior cruciate ligament reconstruction, part I: a qualitative investigation of psychosocial factors. *J Athl Train.* 2018;53(5):452-463. doi:10.4085/1062-6050-313-16.
7. Byrne M, Campos C, Daly S, Lok B, Miles A. The current state of empathy, compassion and person-centred communication training in healthcare: an umbrella review. *Patient Educ Couns.* 2024;119:108063. doi:10.1016/j.pec.2023.108063.
8. Carolan D, O'Neill S, White B, Lyons F, Colgan G, Ramiah V, et al. Patients' experiences of a Virtual Fracture Assessment Clinic Pathway: a qualitative study. *PLoS One.* 2025;20(4):e0321400. doi:10.1371/journal.pone.0321400.
9. Caron JG, Cadotte G, Collicot C, van Ierssel J, Podlog L. Exploring the factors involved in being "ready" to return to sport following a concussion. *Clin J Sport Med.* 2023;33(4):395-404. doi:10.1097/JSM.0000000000001101.
10. Carter H, Beard D, Dodsley C, Leighton P, McCallion J, Moffatt F, et al. Use of a shared decision-making intervention to support treatment decision-making for patients following an anterior cruciate ligament rupture: a mixed methods feasibility study. *BMJ Open.* 2025;15(8):e095189. doi:10.1136/bmjopen-2024-095189.
11. Christensen I, Power E, Togher L, Norup A. "It Does Not Always Need To Be Staff Choosing the Agenda": The experiences of people with traumatic brain injury when communicating with rehabilitation staff. *Am J Speech Lang Pathol.* 2025;34(5):1-17. doi:10.1044/2025\_AJSLP-25-00032.
12. Courraud C, Lieutaud A, Bois D. The sensible and identity crisis of healthcare workers: the perspective of physiotherapists practicing fasciatherapy. *Sociology Study.* 2018;8(1). doi:10.17265/2159-5526/2018.01.001.
13. Chua J, Reid D, Keung S, Jewell S, Deadman O, Theadom A. 'Their role has a lot of purpose beyond being just being about exercises': a qualitative study of patients' experiences of physiotherapy following a mild traumatic brain injury. *BMJ Open Sport Exerc Med.* 2024;10(3):e002027. doi:10.1136/bmjsem-2024-002027.
14. Devlin AS, Andrade CC. Quality of the Hospital Experience: Impact of the Physical Environment. In: Pol E, Fleury-Bahi G, Navarro O, editors. *Handbook of Environmental Psychology and Quality of Life Research.* Cham: Springer International Publishing; 2017. p. 421-440. doi:10.1007/978-3-319-31416-7\_23.
15. Driver C, Lovell GP, Oprescu F. Psychosocial strategies for physiotherapy: a qualitative examination of physiotherapists' reported training preferences. *Nurs Health Sci.* 2021;23(1):136-147. doi:10.1111/nhs.12771.



16. Dunpath T, Chetty V, Van Der Reyden D. Acute burns of the hands - physiotherapy perspective. *Afr Health Sci*. 2016;16(1):266-275. doi:10.4314/ahs.v16i1.35.
17. Elwyn G, Frosch D, Thomson R, Joseph-Williams N, Lloyd A, Kinnersley P, et al. Shared decision making: a model for clinical practice. *J Gen Intern Med*. 2012;27(10):1361-1367. doi:10.1007/s11606-012-2077-6.
18. Epstein RM, Street RL. The values and value of patient-centered care. *Ann Fam Med*. 2011;9(2):100-103. doi:10.1370/afm.1239.
19. Forsdyke D, Smith A, Jones M, Gledhill A. Psychosocial factors associated with outcomes of sports injury rehabilitation in competitive athletes: a mixed studies systematic review. *Br J Sports Med*. 2016;50(9):537-544. doi:10.1136/bjsports-2015-094850.
20. Gallegos JS, Harris OD. Toward a model for the inclusion of ethnic minority content in doctoral social work education. *J Educ Soc Work*. 1979;15(1):29-35. doi:10.1080/00220612.1979.10671541.
21. Gallegos JS, Tindall C, Gallegos SA. The need for advancement in the conceptualization of cultural competence. *Adv Soc Work*. 2018;9(1):51-62. doi:10.18060/214.
22. Heywood S, Bunzli S, Dillon M, Bicchi N, Black S, Hemus P, et al. Trauma-informed physiotherapy and the principles of safety, trustworthiness, choice, collaboration, and empowerment: a qualitative study. *Physiother Theory Pract*. 2025;41(1):153-168. doi:10.1080/09593985.2024.2315521.
23. Hutting N, Caneiro JP, Ong'wen OM, Miciak M, Roberts L. Person-centered care for musculoskeletal pain: putting principles into practice. *Musculoskelet Sci Pract*. 2022;62:102663. doi:10.1016/j.msksp.2022.102663.
24. Hutting N, Caneiro JP, Ong'wen OM, Miciak M, Roberts L. Patient-centered care in musculoskeletal practice: key elements to support clinicians to focus on the person. *Musculoskelet Sci Pract*. 2022;57:102434. doi:10.1016/j.msksp.2021.102434.
25. Jesus TS, Silva IL. Toward an evidence-based patient-provider communication in rehabilitation: linking communication elements to better rehabilitation outcomes. *Clin Rehabil*. 2016;30(4):315-328. doi:10.1177/0269215515585133.
26. Johnson GM, Little R, Staufenberg A, McDonald A, Taylor KGM. How do they feel? Patients' perspectives on draping and dignity in a physiotherapy outpatient setting: a pilot study. *Man Ther*. 2016;26:192-200. doi:10.1016/j.math.2016.08.007.
27. Johnson MI. An integral vision of pain and its persistence: a whole-person, whole-system, salutogenic perspective. *Front Pain Res (Lausanne)*. 2025;6:1641571. doi:10.3389/fpain.2025.1641571.
28. Joseph-Williams N, Edwards A, Elwyn G. Power imbalance prevents shared decision making. *BMJ*. 2014;348:g3178. doi:10.1136/bmj.g3178.
29. Kelly JM, Bunzli S, Ritchie C, Kenardy J, Smeets R, Sterling M. Physiotherapist-delivered stress inoculation training for acute whiplash-associated disorders: a qualitative study of perceptions and experiences. *Musculoskelet Sci Pract*. 2018;38:30-36. doi:10.1016/j.msksp.2018.09.005.
30. Khatri R, Endalamaw A, Erku D, Wolka E, Nigatu F, Zewdie A, et al. Continuity and care coordination of primary health care: a scoping review. *BMC Health Serv Res*. 2023;23(1):750. doi:10.1186/s12913-023-09718-8.
31. Krohne K, Torres S, Slettebø Å, Bergland A. Individualizing standardized tests: physiotherapists' and occupational therapists' test practices in a geriatric setting. *Qual Health Res*. 2013;23(9):1168-1178. doi:10.1177/1049732313499073.
32. Kurrus MB, Jewell VD, Gerardi S, Gerg M, Qi Y. Psychosocial factors addressed by occupational therapists in hand therapy: a mixed-methods study. *J Hand Ther*. 2023;36(3):632-640. doi:10.1016/j.jht.2022.07.006.
33. Leggett H, Lister J, Hewitt C, Sharma H, McDaid C. Patients' and staffs' experiences of clinical support after a lower limb reconstruction: an interview study. *Clin Rehabil*. 2025;39(4):536-548. doi:10.1177/02692155251317500.
34. Lewis H, Jinadu H, Kelley R, Medford N, Trigwell P, Guthrie E. Trust, belief and transitions: people's experiences of multidisciplinary inpatient treatment for persistent physical symptoms. A qualitative study. *Disabil Rehabil*. 2025;47(13):3342-3352. doi:10.1080/09638288.2024.2420833.
35. Louw A, Schuermann T, Zimney K, Puentedura EJ. Pain neuroscience education for acute pain. *Int J Sports Phys Ther*. 2024;19(6):758-767. doi:10.26603/001c.118179.
36. Marques LM, Battistella LR. Well-being as a core element of rehabilitation: preventing mental health challenges in a global context. *Glob Health J*. 2025;9(1):1-5. doi:10.1016/j.glohj.2025.02.004.
37. Mescouto K, Olson RE, Hodges PW, Setchell J. A critical review of the biopsychosocial model of low back pain care: time for a new approach? *Disabil Rehabil*.



- 2022;44(13):3270-3284. doi:10.1080/09638288.2020.1851783.
38. Middlebrook N, Heneghan NR, Moffatt M, Silvester L, Falla D, Rushton AB, et al. Experiences, views and perceptions of recovery following musculoskeletal trauma of patients and physiotherapists: a qualitative study. *PLoS One*. 2025;20(5):e0323575. doi:10.1371/journal.pone.0323575.
39. Morera-Balaguer J, Botella-Rico JM, Martínez-González MC, Medina-Mirapeix F, Rodríguez-Nogueira Ó. Physical therapists' perceptions and experiences about barriers and facilitators of therapeutic patient-centred relationships during outpatient rehabilitation: a qualitative study. *Braz J Phys Ther*. 2018;22(6):484-492. doi:10.1016/j.bjpt.2018.04.003.
40. Munn Z, Barker TH, Moola S, Tufanaru C, Stern C, McArthur A, et al. Methodological quality of case series studies: an introduction to the JBI critical appraisal tool. *JBI Evid Synth*. 2020;18(10):2127-2133. doi:10.11124/JBISRIR-D-19-00099.
41. Nicholls DA, Atkinson K, Bjorbækmo WS, Gibson BE, Latchem J, Olesen J, et al. Connectivity: an emerging concept for physiotherapy practice. *Physiother Theory Pract*. 2016;32(3):159-170. doi:10.3109/09593985.2015.1137665.
42. Peters MDJ, Godfrey C, Mclnerney P, Khalil H, Larsen P, Marnie C, et al. Best practice guidance and reporting items for the development of scoping review protocols. *JBI Evid Synth*. 2022;20(4):953-968. doi:10.11124/JBIES-21-00242.
43. Petry Moecke D, Holyk T, Maddocks S, Campbell KL, Ho K, Camp PG. First nations peoples' perspectives on telehealth physiotherapy: a qualitative study focused on the therapeutic relationship. *Rural Remote Health*. 2024;24(4):9022. doi:10.22605/RRH9022.
44. Purcell C, Fullen B, Walsh CB, Van Oirschot G, Ward T, Caulfield B. 'Another world of pain'—athlete and sport physiotherapist perspectives on the unique experience of pain in sport. *BMJ Open Sport Exerc Med*. 2024;10(3):e002020. doi:10.1136/bmjsem-2024-002020.
45. Purcell C, Walsh CB, Van Oirschot G, Fullen BM, Ward T, Caulfield BM. Exploring athlete pain assessment experiences and priorities; a two-part qualitative series of athlete and physiotherapist interactions. Part Two. "Forging our future"—athlete and physiotherapists' priorities for pain assessment and beyond. *J Sci Med Sport*. 2025;28(3):170-178. doi:10.1016/j.jsams.2024.10.004.
46. Reeves K, Job S, Blackwell C, Sanchez K, Carter S, Taliaferro L. Provider cultural competence and humility in healthcare interactions with transgender and nonbinary young adults. *J Nurs Scholarsh*. 2024;56(1):18-30. doi:10.1111/jnu.12903.
47. Rizzato MMSA, Freitas LJ, Serenza FDS, de Oliveira AS. Empathy heals: patients' perception after an upper limb fracture and their experiences during and after the treatment discharge: a qualitative study. *Disabil Rehabil*. 2025;1-10. doi:10.1080/09638288.2025.2494730.
48. Rosenbloom B, Khan F, McCartney CJ, Katz J. Systematic review of persistent pain and psychological outcomes following traumatic musculoskeletal injury. *J Pain Res*. 2013;6:39-51. doi:10.2147/JPR.S38878.
49. Schroeder H, Israeli A, Liebergall M, Or O, Abu Ahmad W, Paltiel O, et al. Utilising patient-reported outcomes for goal-directed therapy of hip fracture patients: a sequential controlled trial. *BMJ Open Qual*. 2023;12(4):e002402. doi:10.1136/bmj-2023-002402.
50. Silva Guerrero AV, Setchell J, Maujean A, Sterling M. "I've learned to look at things in a different way": exploring patients' perspectives on participation in physiotherapist delivered integrated stress inoculation training and exercise for acute whiplash. *Disabil Rehabil*. 2022;44(18):5191-5198. doi:10.1080/09638288.2021.1931480.
51. Smart KM. The biopsychosocial model of pain in physiotherapy: past, present and future. *Phys Ther Rev*. 2023;28(2):61-70. doi:10.1080/10833196.2023.2177792.
52. Smith-Forbes EV, Howell DM, Willoughby J, Armstrong H, Pitts DG, Uhl TL. Adherence of individuals in upper extremity rehabilitation: a qualitative study. *Arch Phys Med Rehabil*. 2016;97(8):1262-1268.e1. doi:10.1016/j.apmr.2015.11.008.
53. Sole G, van Deventer A, Harris L, Wassinger C, Olds M. The "glass shoulder": patients' lived experiences of a traumatic shoulder dislocation—a qualitative study. *Musculoskelet Sci Pract*. 2024;73:103143. doi:10.1016/j.msksp.2024.103143.
54. Street RL Jr, Makoul G, Arora NK, Epstein RM. How does communication heal? Pathways linking clinician-patient communication to health outcomes. *Patient Educ Couns*. 2009;74(3):295-301. doi:10.1016/j.pec.2008.11.015.
55. Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med*. 2018;169(7):467-473. doi:10.7326/M18-0850.



56. Tutton E, Gould J, Lamb SE, Costa ML, Keene DJ. Experience of patients and physiotherapists within the AFTER pilot randomised trial of two rehabilitation interventions for people aged 50 years and over post ankle fracture: a qualitative study. *BMJ Open*. 2023;13(7):e071678. doi:10.1136/bmjopen-2023-071678.
57. Ulrich RS, Zimring C, Zhu X, DuBose J, Seo HB, Choi YS, et al. A review of the research literature on evidence-based healthcare design. *HERD*. 2008;1(3):61-125. doi:10.1177/193758670800100306.
58. van den Boom NAC, Douwes I, Poeze M, Evers SMAA. Patient experiences and preferences during treatment and recovery of Lisfranc fractures: a qualitative interview study. *Injury*. 2022;53(12):4152-4158. doi:10.1016/j.injury.2022.10.013.
59. Varela AJ, Gallamore MJ, Hansen NR, Martin DC. Patient empowerment: a critical evaluation and prescription for a foundational definition. *Front Psychol*. 2024;15:1473345. doi:10.3389/fpsyg.2024.1473345.
60. von Aesch AV, Perry M, Sole G. Physiotherapists' experiences of the management of anterior cruciate ligament injuries. *Phys Ther Sport*. 2016;19:14-22. doi:10.1016/j.ptsp.2015.08.004.
61. Wassinger CA, Edwards DC, Bourassa M, Reagan D, Weyant EC, Walden RR. The role of patient recovery expectations in the outcomes of physical therapist intervention: a systematic review. *Phys Ther*. 2022;102(4):pzac008. doi:10.1093/ptj/pzac008.
62. Wortley K, Schellenberg BJ. Self-compassion and willingness to adhere to return-to-play protocol following sport-related concussions. *J Sport Rehabil*. 2024;34(3):242-248.
63. Zackova M, Rucci P, Di Staso R, Ceretti S, Bonavina G, Delmestro E. Perceived relational empathy and resilience in people with spinal cord injury at the end of acute care: a cross-sectional study. *Healthcare (Basel)*. 2024;12(16):1559. doi:10.3390/healthcare1216155.