

## What Influences Patient-Therapist Interactions in Musculoskeletal Physical Therapy? Qualitative Systematic Review and Meta-Synthesis

Mary O’Keeffe, Paul Cullinane, John Hurley, Irene Leahy, Samantha Bunzli, Peter B. O’Sullivan, Kieran O’Sullivan

**Background.** Musculoskeletal physical therapy involves both specific and nonspecific effects. Nonspecific variables associated with the patient, therapist, and setting may influence clinical outcomes. Recent quantitative research has shown that nonspecific factors, including patient-therapist interactions, can influence treatment outcomes. It remains unclear, however, what factors influence patient-therapist interaction.

**Purpose.** This qualitative systematic review and meta-synthesis investigated patients’ and physical therapists’ perceptions of factors that influence patient-therapist interactions.

**Data Sources.** Eleven databases were searched independently.

**Study Selection.** Qualitative studies examining physical therapists’ and patients’ perceptions of factors that influence patient-therapist interactions in musculoskeletal settings were included.

**Data Extraction.** Two reviewers independently selected articles, assessed methodological quality using the Critical Appraisal Skills Programme (CASP), and performed the 3 stages of analysis: extraction of findings, grouping of findings (codes), and abstraction of findings.

**Data Synthesis.** Thirteen studies were included. Four themes were perceived to influence patient-therapist interactions: (1) physical therapist interpersonal and communication skills (ie, presence of skills such as listening, encouragement, confidence, being empathetic and friendly, and nonverbal communication), (2) physical therapist practical skills (ie, physical therapist expertise and level of training, although the ability to provide good education was considered as important only by patients), (3) individualized patient-centered care (ie, individualizing the treatment to the patient and taking patient’s opinions into account), and (4) organizational and environmental factors (ie, time and flexibility with care and appointments).

**Limitations.** Only studies published in English were included.

**Conclusions.** A mix of interpersonal, clinical, and organizational factors are perceived to influence patient-therapist interactions, although research is needed to identify which of these factors actually influence patient-therapist interactions. Physical therapists’ awareness of these factors could enhance patient interactions and treatment outcomes. Mechanisms to best enhance these factors in clinical practice warrant further study.

M. O’Keeffe, BScPhysio, Department of Clinical Therapies, University of Limerick, Health Sciences Building, Limerick, Ireland. Address all correspondence to Ms O’Keefe at: mary.okeeffe@ul.ie.

P. Cullinane, BScPhysio, Department of Clinical Therapies, University of Limerick.

J. Hurley, BScPhysio, Department of Clinical Therapies, University of Limerick.

I. Leahy, BScPhysio, Department of Clinical Therapies, University of Limerick.

S. Bunzli, BScPhysio, School of Physiotherapy, Curtin University of Technology, Perth, Australia.

P.B. O’Sullivan, PhD, PGDip, School of Physiotherapy, Curtin University of Technology.

K. O’Sullivan, PhD, MManipTher, BPhysio, SMISCP, MISOM, Department of Clinical Therapies, University of Limerick.

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Patients with musculoskeletal pain are commonly treated by physical therapists, yet the mechanisms by which physical therapy interventions influence clinically relevant outcomes such as pain and disability are complex.<sup>1-3</sup> Research shows that factors associated with the physical therapist, patient, and setting<sup>4,5</sup> may influence clinical outcomes, in addition to the specific physical interventions provided. These factors make up the context and are often described as nonspecific factors.<sup>6</sup> Therefore, it is being increasingly recognized that musculoskeletal physical therapy involves both specific and nonspecific factors.<sup>6</sup>

Abundant research has focused on the impact of the relationship between patients and therapists on treatment outcome. This concept is usually referred to as the patient-therapist interaction.<sup>7</sup> This interaction is an example of a nonspecific factor and is fundamental to the therapeutic process. It is defined as the sense of collaboration, warmth, and support between the patient and therapist.<sup>2,8</sup> The 3 main components are proposed to consist of: (1) patient-therapist agreement on goals, (2) patient-therapist agreement on interventions, and (3) the affective bond between patient and therapist.<sup>9</sup> Physical therapy relies on a complex interplay of technical skill, communicative ability, and reflective capacity of the therapist to respond to the patient.<sup>2</sup> Other constructs, such as trust,<sup>10</sup> empathy,<sup>11</sup> and verbal and nonverbal communication, may be important prerequisites to positive interaction.<sup>12</sup>

Evidence has emerged that positive patient-therapist interactions in physical therapy settings are linked with reduced pain, reduced disability, and higher treatment satisfaction.<sup>2,13-17</sup> The main systematic review in this area<sup>2</sup> provided rich quantitative data on the positive effect of the patient-therapist relationship on treatment outcome in physical therapy, but not specifically in a musculoskeletal population. No review has yet systematically investigated physical therapists' and patients' views on factors important to the patient-therapist interaction. An investigation of the factors that may facilitate or hinder its develop-

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AND
psych* OR rapport OR relat* OR educat* OR communic* OR empath* OR interact* OR understand* OR listen* OR "non verbal" OR "non-verbal" OR "nonverbal" OR "eyecontact" OR "eye-contact" OR support* OR respons* OR trust* OR bond* OR intima* OR attach* OR genuine* OR alliance OR encounter* OR therapeutic OR connect* OR emotion* OR express* OR perspect* OR mutual* OR honest* OR "patient-centred" OR "patient-centered" OR "patient centred" OR "patient centered" OR interocept* OR cogniti* OR affect* OR regard* OR goal* OR "body language" OR "body-language" OR hear* OR care OR caring OR discuss* OR dialogue* OR judge* OR aware* OR feed* OR attenti* OR acknowledge* OR facilitate* OR confiden* OR concern* OR compassion* OR appreciate* OR warm* OR comprehend* OR consider* OR prosocial* OR "pro-social" OR soci* OR close* OR respect* OR observ* OR encourag* OR friend* OR react* OR adopt* OR imitate* OR copy* OR context* OR feel* OR personal* OR trait* OR apprais* OR link* OR valu* OR motivat* OR expert* OR shar* OR engag* OR think* OR intern* OR explain* OR verbal* OR need* OR resonan* OR interplay* OR sensitive* OR recept* OR reflect* OR identifi* OR subjective* OR tone* OR recognis* OR recogniz* OR interpersonal* OR comfort* OR mirror* OR harmon* OR unease* OR empower* OR cooperat* OR reassur* OR "re-assur*" OR assur* OR negotiat* OR collaborat* OR help* OR agree* OR adher* OR behav* OR satisf* (Abstract)
AND
pain OR musculo* OR orth* OR healthcare (Abstract)
AND
"physical therap*" OR physiotherap* (Abstract)

Figure 1. Literature search strategy.

ment, therefore, is appropriate. Given that patient-therapist interactions are unique, qualitative methods may be most suited to this investigation, as they would gather the perspectives of both physical therapists and patients, giving a holistic understanding of interaction. Therefore, the aim of this review was to systematically investigate physical therapists' and patients' perceptions of factors that influence patient-therapist interactions in musculoskeletal settings.

## Method

### Data Sources and Searches

This review has been registered in the PROSPERO database (CRD42014014336) and has been reported in accordance with the ENTREQ guidelines.<sup>18</sup> The electronic databases Academic Search Complete, AMED, Biomedical Reference Collection, CINAHL, MEDLINE, PsycARTICLES, PsycINFO, SPORTDiscus, EMBASE, Web of Science, and Scopus were searched independently during March through July 2014 by 3 authors (M.OK., P.C., I.L.). The search strategy used several combinations of the following key words: (1) qualitative research, (2) interaction, (3) pain, and (4) physical therapy. The complete list of key words is listed in Figure 1. Titles were screened

and abstracts were read where appropriate initially. Relevant full-text versions were retrieved and evaluated if they fulfilled the inclusion criteria or if the abstract was insufficiently detailed to determine eligibility. Manual searches of reference lists of the identified studies were also completed.

### Study Selection

Studies were short-listed by 3 authors (M.OK., P.C., I.L.) independently, with any disagreements resolved by consensus. Studies were included if they examined the opinions of patients or physical therapists regarding facilitators and barriers to a positive interaction between the patient and the physical therapist.

Studies were excluded if they were solely quantitative in nature; were not reported in English; measured only the strength of the interaction between the patient and the physical therapist, rather than the factors which influence it; examined physical therapists' perceptions only as part of a group of health care professionals; did not specifically focus on musculoskeletal physical therapy settings or conditions; examined opinions prior to rehabilitation only; or

focused on clinical reasoning decisions only.

### Quality Assessment

Trustworthiness of the included studies was determined by 2 authors (M.O.K., P.C.) independently using the Critical Appraisal Skills Programme (CASP) Qualitative Research Assessment Tool,<sup>19</sup> with any disagreements resolved by consensus or consultation with another author (K.O.S.) (Appendix). This tool was chosen due to its extensive use in other qualitative systematic reviews in musculoskeletal populations.<sup>20–22</sup>

### Data Extraction

Data extraction was performed using a purpose-designed format by one author (M.O.K.) and cross-checked by another author (J.H.) (Tab. 1). For 2 studies,<sup>23,24</sup> the original authors were contacted to clarify information about study participants.

### Data Synthesis and Analysis

A thematic synthesis approach was used to gather information and identify all themes. It is the most appropriate approach for qualitative meta-synthesis. The inductive analysis by Sandelowski and Barroso<sup>25</sup> was adapted and used 3 stages: (1) extraction of findings and coding of findings for each article; (2) grouping of findings (codes) according to their topical similarity to determine whether findings confirm, extend, or refute each other; and (3) abstraction of findings (analyzing the grouped findings to identify additional patterns, overlaps, comparisons, and redundancies to form a set of concise statements that capture the content of findings).

All stages were performed simultaneously, as opposed to sequentially, as recommended.<sup>25</sup> All data under the headings “Results” and “Conclusions” were read several times, line by line, to gain an idea of the topics. Relevant quotes were copied and pasted into a Microsoft Word (Microsoft Corp, Redmond, Washington) document, and these quotes were analyzed and organized into codes and groupings. By a process of constant comparative analysis,<sup>26</sup> emerging groupings from early codings were checked with ongoing coding and used to guide later

coding. Final groupings were reviewed to ensure codings were similar in all groups and that no potential groupings were missed during the process. This process was simultaneously performed by 2 authors (M.O.K., P.C.) independently to ensure against any biases influencing the analysis and coding of themes, with any disagreements resolved by consensus or consultation with another author (K.O.S.).

### Consideration of Systematic Review’s Trustworthiness

The authors of this study are clinical and research physical therapists. Several different authors were involved in different stages of the review—from designing the initial search strategy to the coding, grouping, and abstraction processes. All authors have experience in performing qualitative research.<sup>20</sup>

## Results

### Identification of Studies

Figure 2 summarizes study identification. A total of 7,768 journal articles were retrieved. One article was retrieved from a reference list, and the remaining articles were retrieved from the databases. A total of 5,651 duplicate journal articles were removed, and 2,117 journal articles (titles and abstracts) were screened. Twenty-two journal articles were retrieved after screening the abstracts, of which 9 did not meet the inclusion criteria. Thirteen journal articles were included in the systematic review and meta-analysis. A total of 253 patients and 78 physical therapists were interviewed in the 13 studies. The authors were consistent in the number of studies retrieved and included, with no disagreements taking place.

### Quality Assessment

The CASP criteria of trustworthiness unmet by each study are presented in Table 1. The authors were consistent in the scoring of the CASP criteria for each study. Eight studies failed to meet criterion 6, for not considering the researcher-participant relationship. Six studies failed to meet criterion 7, for not considering ethical issues. Three studies failed to meet criterion 4, for not justifying the recruitment strategy. Four studies failed to meet criterion 3, for not justifying

the research design, and another 4 studies failed to meet criterion 5, for not providing thorough information on data collection. One study failed to meet criterion 8, as the data analysis was not sufficiently rigorous.

### Identification of Codes/Themes

Initial coding of the eligible journal articles resulted in 12 codes, which were reduced and organized into 4 themes (Tabs. 2 and 3). These themes were: (1) physical therapist interpersonal and communication skills, (2) physical therapist practical skills, (3) individualized patient-centered care, and (4) organizational and environmental factors (Fig. 3).

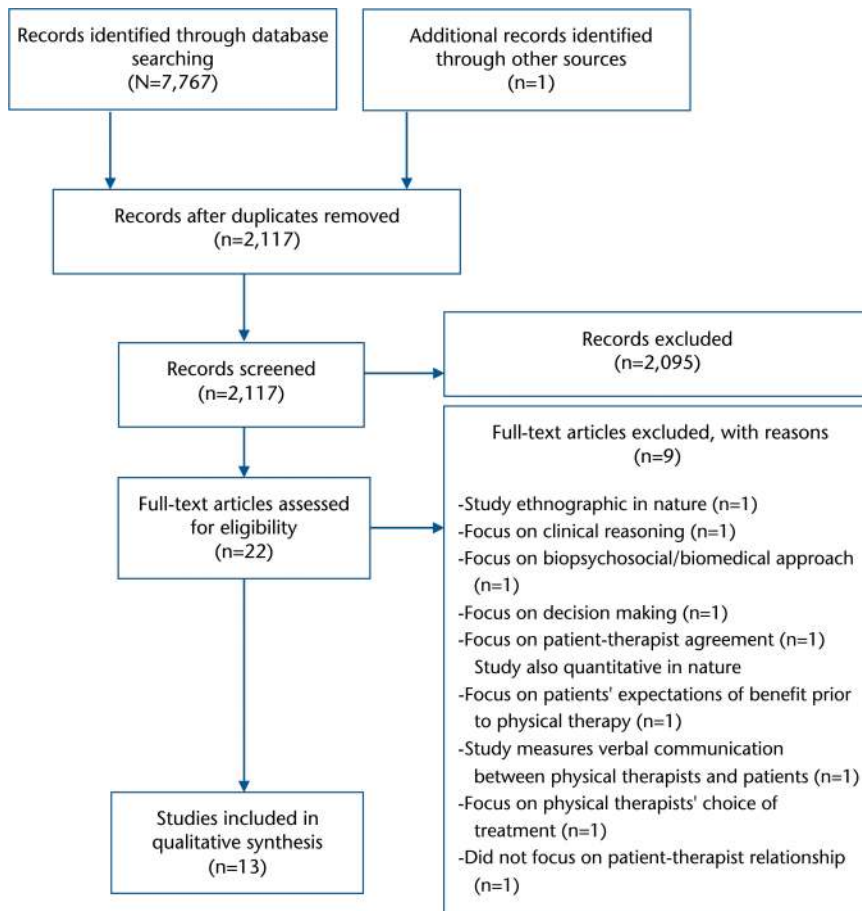
### Description of Results

There was good agreement among the studies in this review, with similar themes emerging. No clear contradictions were apparent. However, some studies focused more on interpersonal and communication skills,<sup>27–29</sup> whereas other studies focused more on organizational and environmental factors.<sup>30,31</sup>

### Theme 1: Physical Therapist Interpersonal and Communication Skills

**Active listening.** One of the most common aspects to emerge regarding physical therapists’ communication skills was active listening.<sup>24,27–34</sup> Both physical therapists and patients felt that it was important for physical therapists to listen and to allow patients to tell their stories.<sup>24,27–34</sup> This approach allowed a bond to develop between the patient and the therapist, as the patients felt that they were valued.<sup>27,28,30,33</sup> Patients were unhappy when they were interrupted and could not tell their story.<sup>30,31,34</sup> Patients also felt that not just listening but also understanding what the patient was saying was very important.<sup>28,30,33</sup> Some physical therapists felt that listening was such an important facilitator of a positive patient-therapist interaction that they should be taught to improve their listening skills.<sup>24</sup>

**Empathy.** Another significant factor mentioned by physical therapists and patients as necessary to develop a positive interaction was empathy.<sup>27–29,32–36</sup> Physical therapists viewed empathy as a



**Figure 2.** PRISMA flow diagram.

fundamental component of the patient-therapist relationship.<sup>27,29,32,37</sup> They felt that the treatment should take into consideration the pain and suffering that the patient has endured.<sup>28,29</sup> Patients appreciated when the therapist understood what patients had to suffer and did not just treat them as if the pain they had was a minor irritation. Patients felt it was important for therapists to realize how much of an impact pain could have on their lives and for therapists to empathize with them about this issue.<sup>27,35,36</sup> Conversely, lack of empathy was a major barrier to a positive interaction, and patients did not develop a bond with therapists who could not empathize with them.<sup>34</sup>

**Friendliness.** Patients believed that being able to chat with their physical therapist in a friendly manner was important for positive interaction.<sup>27-30,33,35</sup>

Talking with the physical therapist in an open way helped deepen the relationship between the patient and the therapist. Patients mentioned that a pleasant greeting from their therapist every day encouraged further interaction.<sup>27,30</sup> Both physical therapists and patients mentioned that having a sense of humor was another way to develop a positive relationship.<sup>30,32</sup> Patients found it difficult to engage with therapists when they were not as friendly, and the interaction suffered as a consequence.<sup>31,35</sup>

**Encouragement.** Motivation and encouragement helped patients feel that the therapist cared about them and that they had a strong relationship with their therapist.<sup>28,33,35,38</sup> These skills were important for many reasons, as the encouragement motivated some patients to adhere to the prescribed rehabilitation and strive to improve.<sup>27,33,35,38</sup> The rea-

son also provided emotional support to patients, which further deepened the bond between the patient and the therapist as they shared personal feelings and experiences.<sup>35</sup>

**Confidence.** Patients reported that feeling confident in their therapist was an important factor and meant that they could respect their therapist and trust his or her opinion.<sup>27,29,30,36</sup> Physical therapists stated that over time patients will become confident in their therapists and develop a sense of trust, which will enhance the interaction between patients and therapists.<sup>27,29,36</sup> However, some patients felt that their physical therapist was too confident and behaved in an arrogant manner, which was a significant barrier to a positive patient-therapist interaction.<sup>30</sup>

**Nonverbal communication.** Patients and physical therapists acknowledged that nonverbal communication was a vital part of communication skills.<sup>24,30,32,36</sup> Patients expressed that the therapist acting in what they felt was an appropriate manner made them feel more comfortable with their therapist.<sup>30,36</sup> Physical contact between the patient and therapist also enhanced the patient-therapist interaction, according to both physical therapists and patients.<sup>30</sup> Physical therapists believed that it was very important to pay attention, not just to what the patient said, but also to the manner and behavior of the patient as he or she was talking.<sup>24,32</sup>

### Theme 2: Physical Therapist Practical Skills

**Patient education.** A physical therapist skill that patients felt enhanced the patient-therapist interaction was the ability to provide a simple, clear explanation.<sup>27,29,30,32-36,38</sup> Patients valued an easy explanation of what their problem was, how the physical therapist could help them, and why the therapist was prescribing certain exercises.<sup>27,32,34-36,38</sup> Patients felt more comfortable when they knew what their treatment plan was and felt interaction with their therapist was enhanced as a result.<sup>27,34-36,38</sup> On the other hand, patients did not like when the education given to them was technical and felt that this factor had a

**Table 1.**  
Description of Included Studies<sup>a</sup>

Study	Population	Age (y)	Sex (%)		Sample Size	Data Source	Study Aims	Key Findings on Factors Influencing Interaction	CASP Criteria Unmet
			Male	Female					
Cooper et al (2008) <sup>34</sup>	Patients with CLBP	18–65	20	80	25	Semistructured interview	To explore the patient “patient-centeredness” in physical therapy for CLBP	<ul style="list-style-type: none"> <li>-Communication (listening, understanding, explaining exercises)</li> <li>-Physical therapists’ personality (caring, friendly, pleasant and professional, interested or abrupt)</li> <li>-Physical therapists’ competence (knowledge, be specialized)</li> <li>-Individualized care</li> <li>-Involvement in decision making</li> <li>-Information sharing and education</li> <li>-Organization of care (waiting times, rescheduling appointments, quick access, follow-up)</li> </ul>	3, 5, 6, and 7
Dean et al (2005) <sup>23</sup>	Patients with nonspecific or intermittent LBP	28–59	24	76	17 (9 patients)	Focus group	To investigate patients’ and physical therapists’ perceptions of why patients with LBP choose to adopt, or not adopt, the advice and exercises given in primary care outpatient physical therapy	<ul style="list-style-type: none"> <li>-Managing time</li> <li>-Bargaining process (importance of physical therapist listening, exploring beliefs and expectations around management of pain)</li> <li>-Reviewing future (identify fears about long-term disability, highlight importance of recovery time)</li> </ul>	4 and 6
Del Baño-Aledo et al (2014) <sup>35</sup>	Patients with MSK conditions	>18	58	42	57	Focus group	To identify elements of the therapist-patient interaction considered by patients when evaluating the quality of care in outpatient rehabilitation	<ul style="list-style-type: none"> <li>-Physical therapists’ willingness to provide information and education</li> <li>-Physical therapists’ technical expertise</li> <li>-Physical therapists’ interpersonal manners (respect, emotional support, and sensitivity changes in patient’s status)</li> </ul>	None
Escolar-Reina et al (2010) <sup>38</sup>	Patients with CLBP and NP	25–70	32	68	34	Focus group	To explore perceptions of patients with CLBP and NP about how features of HEP and care provider style during clinical encounters may affect adherence to exercises	<ul style="list-style-type: none"> <li>-Education about condition</li> <li>-Provision of feedback and encouragement during exercise</li> <li>-Reminders given to exercise</li> <li>-Motivation given by physical therapist</li> </ul>	None

(Continued)

**Table 1.**  
Continued

Study	Population	Age (y)	Sex (%)		Sample Size	Data Source	Study Aims	Key Findings on Factors Influencing Interaction	CASP Criteria Unmet
			Male	Female					
Gard (2007) <sup>29</sup>	Physical therapists for patients who have undergone torture	38–60	0	100	10	Semistructured interview	To identify factors important for a good interaction between physical therapists and patients who have been tortured	<ul style="list-style-type: none"> <li>-Personal characteristics (respect, humor, empathy, honesty, flexibility, self-awareness, handle negative emotions)</li> <li>-Professional and therapeutic competence (seek help or supervision when required)</li> <li>-Language factors (interpret meaning, metaphors and humor used)</li> <li>-Time and frames (structured treatment with adequate time)</li> <li>-Cultural factors (sensitivity to the patient's needs, norms, and values)</li> <li>-Treatments tailored to the patient's needs confidence and trust</li> <li>-Religious factors (respect beliefs)</li> </ul>	3, 5, 6, 7, and 8
Gyllenstein et al (1999) <sup>32</sup>	Primary care physical therapists	44–62		100	10	Cross-case analysis/interview	To investigate expert physical therapists' perceptions of important factors influencing the quality of the interaction in physical therapy treatment in primary care	<ul style="list-style-type: none"> <li>-Practical professional skills and patient experiences</li> <li>-Physical therapy education and theoretical courses completed</li> <li>-Physical therapists' life experiences and values</li> <li>-Physical therapists' personal characteristics</li> <li>-Teamwork</li> <li>-Work organization and environment</li> <li>-Communication and interpersonal skills (being sensitive, intuitive, listening, holistic, acknowledging body language, motivating)</li> <li>-Identification of patient resources</li> <li>-Patient education and clear explanations of problem</li> <li>-Giving time</li> <li>-Patient participation in goal setting</li> </ul>	3, 6, and 7
Harman et al (2011) <sup>24</sup>	Patients with subacute LBP	Not stated	18	82	44	Focus group	To investigate client education provided by physical therapists in private practice to workers with subacute LBP	<ul style="list-style-type: none"> <li>-Education about pain and multiple aspects involved</li> <li>-Physical therapists' tacit knowledge</li> <li>-Active listening</li> <li>-Reassurance</li> <li>-Individualized approach</li> <li>-Understanding body language</li> <li>-Support and encouragement provided</li> <li>-Understanding of patient needs</li> <li>-Involving patient in treatment plan</li> </ul>	4 and 6

(Continued)

**Table 1.**  
Continued

Study	Population	Age (y)	Sex (%)		Sample Size	Data Source	Study Aims	Key Findings on Factors Influencing Interaction	CASP Criteria Unmet
			Male	Female					
Hills and Kitchen (2007) <sup>31</sup>	Patients with MSK conditions	36–70	40	60	30	Focus group	To investigate the factors that affect patients' satisfaction with MSK outpatient physical therapy within the NHS system of care in the United Kingdom	<ul style="list-style-type: none"> <li>-Expectations addressed or not addressed</li> <li>-Patient needs met or unmet</li> <li>-Communication and education about condition</li> <li>-Perceptions of the therapist (knowledgeable, good/poor communicator, empathy perceived or not perceived, encouragement given)</li> <li>-Treatment process (content, frequency of sessions, follow-up, waiting time)</li> </ul>	None
Kidd et al (2011) <sup>27</sup>	Outpatients with MSK conditions	20–68	50	50	8	Semistructured interview	To investigate patients' perspectives of components of patient-centered physical therapy and its essential elements	<ul style="list-style-type: none"> <li>-Ability to communicate (listen, reassure, educate)</li> <li>-Physical therapists' confidence</li> <li>-Physical therapists' knowledge and professionalism</li> <li>-Physical therapists' understanding of people and an ability to relate (empathy, encouragement)</li> <li>-Taking patients' opinions into account</li> <li>-Transparency of progress and outcome (focus on progress and measurement)</li> </ul>	3, 5, 6, and 7
May et al (2007) <sup>64</sup>	Patients with LBP	29–77	41.2	58.8	34	Semistructured interview	To investigate patients' attitudes to and satisfaction with physical therapy for LBP	<ul style="list-style-type: none"> <li>-Physical therapists' personal and professional manner</li> <li>-Explanations, teaching, and education provided</li> <li>-Patient involvement in process</li> <li>-Organization (time and access to care)</li> </ul>	6 and 7
Oien et al (2011) <sup>28</sup>	1. Physical therapists specializing in NPMP	44–68	17	83	17 (11 patients and 6 physical therapists)	Semistructured interview, focus group, personal notes, and repeated video recording	To analyze how patients and physical therapists communicate verbally and nonverbally during demanding situations	<ul style="list-style-type: none"> <li>-Shared understanding</li> <li>-Taking patients' opinions into account</li> <li>-Patience and understanding nonverbal activity</li> <li>-Physical therapists' sensitivity of and ability to negotiate tasks with patient</li> </ul>	5 and 7
	2. Patients with CLBP or NP	22–47	9	91					
Peiris et al (2012) <sup>33</sup>	Patients with MSK conditions	60–92	16	84	19	Semistructured interview	To explore how inpatients in a rehabilitation setting experience physical therapy rehabilitation	<ul style="list-style-type: none"> <li>-Empathetic and caring physical therapists (friendly, knowledgeable, and compassionate)</li> <li>-Physical therapist encouragement and motivation</li> </ul>	None

(Continued)

**Table 1.**  
Continued

Study	Population	Age (y)	Sex (%)		Sample Size	Data Source	Study Aims	Key Findings on Factors Influencing Interaction	CASP Criteria Unmet
			Male	Female					
Potter et al (2003) <sup>30</sup>	Patients with MSK conditions	20–79	39	62	26	Nominal group Technique Interview	To identify the attributes of a “good” physical therapist and characteristics of “good” and “bad” experiences in private practice physical therapy from a patient’s perspective	-Good or poor physical therapist communication and interpersonal skills (listening, empathy, builds trust, caring, friendly, inspires confidence) -Education and explanations provided -Physical therapists’ professional behavior (appropriate skills and knowledge) -Physical therapists’ organizational ability (punctuality) -Service characteristics (diagnostic and treatment expertise, pleasant and welcoming environment, convenience and accessibility)	4 and 6

<sup>a</sup> CASP=Critical Appraisal Skills Program, CLBP=chronic low back pain, LBP=low back pain, MSK=musculoskeletal, NP=neck pain, HEP=home exercise program, NPMP=Norwegian psychomotor physical therapy, NHS=National Health Service.

negative impact on the patient-therapist relationship.<sup>29–31,34,35,38</sup>

**Physical therapist expertise and training.** Patients believed it was vital that physical therapists possessed excellent technical ability and skills.<sup>27,29,30,33–36</sup> This expertise and training enhanced the trust between the therapist and patient, and patients felt they could rely on their therapist, which helped develop a positive interaction.<sup>27,33–36</sup> Physical therapists echoed this belief and stated that it was imperative that they continue to develop their practical skills so that they can manage their patients effectively and continue to improve the patient-therapist relationship.<sup>29,32</sup>

**Theme 3: Individualized Patient-Centered Care**

**Individualized.** Patients reported that they felt a stronger bond with their therapist when their treatment was individualized and related specifically to their presentation.<sup>30,31,35,36</sup> Patients appreciated when their therapist made an effort to adjust the treatment when they experienced problems and made it easier for them.<sup>30,31,35,36</sup> Patients who did not receive individual care and reported being treated like just another patient felt they did not have a positive interaction.<sup>29–31,34,38</sup> Physical therapists also acknowledged the need to provide individual care for each patient and to answer any specific questions that the patient may have as opposed to providing generic information.<sup>24,29</sup>

**Taking patient opinion and preference into consideration.** Physical therapists mentioned that it was important to consider the patient’s point of view and opinions.<sup>32</sup> This consideration encouraged patients to engage in the treatment process and interact with their therapist.<sup>29</sup> It also showed patients that their opinions were important to the therapist, which encouraged a better interaction between the therapist and patient and helped form a stronger bond.<sup>32</sup> Patients found it annoying when their therapists ignored their preferences and abilities when prescribing exercises, which had a negative impact on the patient-therapist interaction.<sup>30,33,34</sup>



**Table 2.**  
Identification of Themes From Initial Coding

Themes	Codes
Physical therapist interpersonal and communication skills	1. Listening 2. Empathy 3. Friendliness 4. Encouragement 5. Confidence 6. Nonverbal communication
Physical therapist practical skills	1. Patient education 2. Physical therapist expertise and training
Individualized, patient-centered care	1. Individualized care 2. Taking patient opinion and preference into consideration
Organizational and environmental factors	1. Time 2. Flexibility with patient appointments and care

**Theme 4: Organizational and Environmental Factors**

**Time.** Many physical therapists perceived that giving their patients time to describe their problem, and having the time to be listened to, was an essential factor in positive patient-therapist interactions.<sup>23,29,32</sup> Some patients did not feel that they had enough time with the physical therapist and that they had to wait a long time to get an appointment.<sup>30,31</sup> Some patients mentioned that they would like more time with the physical therapist to discuss their treatment, as they were unsure about some aspects.<sup>31,34,38</sup> Patients appreciated having the time to sit down and interact with someone and not being rushed during appointments.<sup>23</sup>

**Flexibility with patient appointments and care.** Patients appreciated when the physical therapists were flexible when setting up patient appointments.<sup>30-32</sup> Patients liked when they could arrange appointments that did not disrupt their days and felt grateful to their therapist for accommodating their needs.<sup>30,31</sup> Patients also felt that it was very useful being able to contact their physical therapists following their treatment and get some advice.<sup>30,31</sup> Patients felt reassured that they could talk to their therapist when they were uncertain about some activities, which encouraged a stronger interaction between the therapist and patient.<sup>31</sup>

**Discussion**

To our knowledge, this is the first systematic review to investigate physical

therapists’ and patients’ perceptions of factors that influence patient-therapist interactions in musculoskeletal settings. Four themes—physical therapist interpersonal and communication skills, physical therapist practical skills, individualized patient-centered care, and organizational and environmental aspects—were identified as the main factors thought to influence patient-therapist interactions. The presence or absence of these factors may act to positively or negatively influence interactions.

Physical therapists and patients both acknowledged the importance of the physical therapists’ communication and interpersonal skills. Patients appreciated a physical therapist who listened and who was empathetic, friendly, humorous, confident, and encouraging and had a good “bedside manner.” These findings are in line with other qualitative studies on health care professionals’ (HCPs’) relationships with patients.<sup>3,39-41</sup> For example, Laerum et al<sup>3</sup> investigated patients’ opinions of medical specialists and found that being “seen, heard, and believed” was crucial to the quality of the interaction. In particular, patients wanted professionals who expressed interest in what they said and who showed signs of empathy, active listening, and understanding of their problem. Similarly, Oosterhof et al,<sup>39</sup> who explored factors that are associated with a successful treatment outcome in patients with chronic pain and professionals participating in a multidisciplinary rehabilitation program, reported that patients wanted to be taken seri-

ously and have an open interaction with HCPs. An open interaction was explained as the professional having a calm, personal manner and being able to listen well. The lack of these 2 components was reported to be associated with a failure in rehabilitation.<sup>39</sup> In addition, a clinical ethnographic study<sup>41</sup> revealed that patients with chronic low back pain felt communication with HCPs was enhanced by factors such as friendliness, empathy, respect, and a more conversational and relaxed style of communication (yarning). Furthermore, Strutt et al<sup>40</sup> revealed similar themes in an osteopathic training clinic with patients considering empathy (caring, reassuring, listening, and continuity), atmosphere (friendly, relaxed, courteous), and manner (gentle, holistic) as crucial to their interaction with HCPs and their treatment satisfaction.

Therefore, across numerous qualitative studies in different health care settings, communication and good interpersonal skills are perceived as vitally important to interaction, treatment success, and satisfaction. Williams<sup>42</sup> reported that, within the medical field, approximately 80% of patient complaints are thought to arise secondary to a breakdown in communication. Interestingly, no study in this review explored causes of such breakdown in communication. For example, no study mentioned traits of patients that may prevent interaction (eg, patients thought to be annoying or angry).<sup>20</sup> It is no surprise that there is increasing emphasis placed on communication skills training in physical therapy.<sup>43-45</sup> This review shows that good communication should be a fundamental part of every treatment encounter.

Physical therapists’ practical skills also were highlighted to be of importance. Patient education (what the physical therapist says) and expertise and training (what the physical therapist does) were the main practical skills perceived to be significant. The importance of patient education is in line with other qualitative and quantitative literature. A recent systematic review<sup>46</sup> concluded that cognitive reassurance (giving knowledge) is important for treatment outcomes and satisfaction in primary care settings.

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## Patient-Therapist Interaction Influences in Musculoskeletal Physical Therapy

**Table 3.**

Frequency With Which Themes and Codes Were Identified Across the Studies Included in This Review

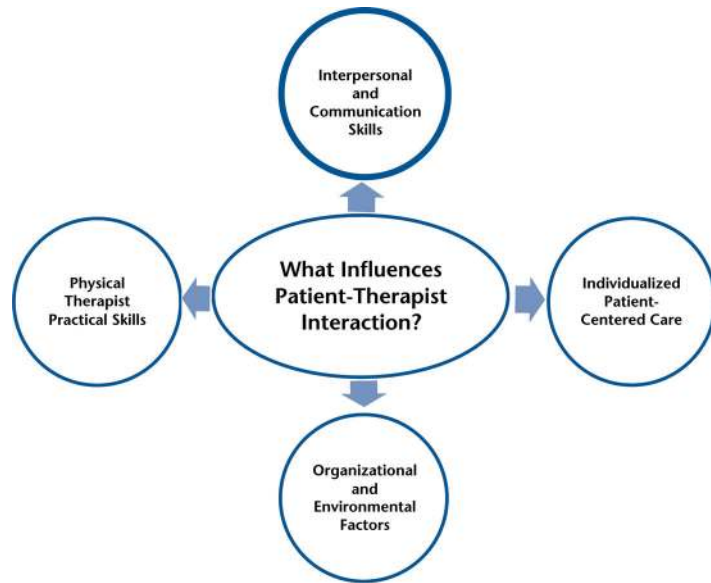
Themes	Codes	Physical Therapist/Patient	No. of Statements	No. of Articles
Physical therapist interpersonal and communication skills	Listening	Physical therapist	7	4
		Patient	12	6
	Empathy	Physical therapist	6	3
		Patient	7	5
	Friendliness	Physical therapist	4	3
		Patient	8	5
	Encouragement	Physical therapist	0	0
		Patient	9	4
	Confidence	Physical therapist	2	1
		Patient	4	3
	Nonverbal communication	Physical therapist	2	2
		Patient	2	2
Physical therapist practical skills	Patient education	Physical therapist	2	1
		Patient	25	8
	Physical therapist expertise and training	Physical therapist	4	2
		Patient	6	6
Individualized patient-centered care	Individualized	Physical therapist	11	2
		Patient	15	6
	Taking patient opinion and preference into consideration	Physical therapist	3	1
		Patient	0	0
Organizational and environmental factors	Time	Physical therapist	9	3
		Patient	7	6
	Flexibility with patient appointments and care	Physical therapist	1	1
		Patient	5	2

However, although patient education was viewed as important by patients in this review, physical therapists did not refer to its importance for interaction. Similarly, Laerum et al<sup>3</sup> found that explanations and knowledge were important to patients. In particular, it was important for patients to receive an understandable explanation of their condition. Effective education was deemed to be achieved when the patients received clear information in the form of simple explanations and metaphors. Such methods have been recommended by quantitative data<sup>47,48</sup> revealing the importance of analogies and metaphors in explaining pain to patients. Oosterhof et al<sup>39</sup> similarly outlined that patients appreciated a thorough explanation of any assessments or investigations from HCPs. Patients were satisfied when they had a similar shared understanding of their pain with

their HCPs. A clear recognizable explanation enabled understanding of pain and the ability to explain it to others. Patients also required information about how to manage their pain and ways to cope to improve function. In addition, in another study,<sup>41</sup> patients in an osteopathic clinic were dissatisfied with information about their pain if it did not meet their expectations of a good explanation or when information was provided with excessive medical terminology. Both were viewed as barriers to good communication.

The same studies<sup>3,39,41</sup> revealed that education using complex medical jargon hindered interaction and successful rehabilitation. Discrepancies in the explanation of factors involved in pain between professionals and patients were deemed to

be disadvantageous to interaction and outcome. Furthermore, physical therapists felt that their own limited knowledge of pain was a barrier to providing good patient education. Although they mentioned knowledge as a barrier to communication, as mentioned earlier, they did not see education as important for interaction. This finding may raise the issue of physical therapist role and scope of practice and how physical therapists think they cannot charge for education and need to use their skills to treat something else. This area has not been explored enough, however, and it is difficult to differentiate this area from the review findings. Overall, given that patient understanding of pain is related to changing beliefs and better self-efficacy,<sup>49</sup> good-quality patient education is of crucial importance.



**Figure 3.**  
Systematic review themes.

The finding that physical therapist training and expertise are important is also in line with the literature. Peersman et al,<sup>50</sup> who investigated patients' priorities in outpatient physical therapy, found that the physical therapists being experts in their professional field was the most important aspect for patients. Similarly, Strutt et al<sup>40</sup> found that physical therapists have to be competent in their treatment approach and have to be thorough, knowledgeable, and dedicated. It is not possible to differentiate from the findings of this review whether it is actually greater technical expertise and technical skills that are needed or merely the perception that physical therapists are technical experts that is important.

This review showed that it also was important that physical therapists individualize treatment to the patient and take patient opinions and preferences into account. This finding is in line with literature showing that patients' health outcomes and patients' satisfaction benefit from a patient-centered approach. Laerum et al<sup>3</sup> explored patients' opinions of a good consultation with medical HCPs and found that patients appreciated patient-centered management where the professional actively sought the patients' perspective in terms of thoughts and expectations. Similarly,

Oosterhof et al<sup>39</sup> found that patients were dissatisfied when they were not involved in the treatment planning with HCPs. Quantitative data also have shown that identification of patient needs, goals, and expectations affects outcome.<sup>51-53</sup> Interestingly, although physical therapists mentioned the importance of taking patient preferences into account, no study in this review mentioned patients valuing this component. This finding is contrary to guidelines encouraging patient preferences for treatment in management. It may indicate that patients are happy if the treatment chosen makes sense in terms of their main problems and presentation. Some recent trials focusing on individualizing and tailoring treatment to the patient presentation and needs have shown positive findings.<sup>54-56</sup> As quantitative and qualitative data highlight the potential importance of individualizing treatment, musculoskeletal physical therapy may benefit from greater emphasis on delivering an individualized approach together with good communication and education.

Organizational and environmental aspects of physical therapy also were a main theme in this review. Patients were generally dissatisfied about a lack of organization regarding time, appointments, and appropriate resources and facilities.

This finding is in line with other literature on patient-therapist interactions.<sup>3,39</sup> For instance, Oosterhof et al<sup>39</sup> revealed that patients reported canceled appointments, professionals arriving late, and changes in the treatment program that were not implemented or explained adequately hindered interactions and outcomes. Similarly, Laerum et al<sup>3</sup> found that patients were dissatisfied when there was a lack of information provided about the layout of the treatment session. In a large survey<sup>50</sup> of HCPs, including 2,793 physical therapists, 60% reported they did not have enough time to "treat patients to their satisfaction." Other patients commented that the physical therapist was "rushed," which might be interpreted by patients as a lack of interest in them.<sup>57</sup> Patient satisfaction has been previously related to accessibility, availability, and convenience.<sup>58</sup>

### Strengths and Limitations

A key strength of this review is that the research question is highly relevant to the physical therapy profession. With the emerging international consensus that musculoskeletal pain is a multidimensional disorder associated with a complex interaction of factors across the biopsychosocial spectrum that can be resistant to change,<sup>59,60</sup> research is increasingly encouraging clinicians to harness both specific and nonspecific aspects of treatment to improve outcome, with patient-therapist interactions among the most important of these nonspecific factors. High-quality quantitative data reveal that a positive patient-therapist interaction can positively influence treatment outcomes.<sup>2,12-14</sup> The findings of this review will inform physical therapists about important factors that may need consideration when enhancing interaction. Only studies published in English were included. Gray literature was excluded from the review, as we wanted to include only studies that have been peer reviewed. We acknowledge that potentially relevant studies could have been missed; however, we have used this method in a similar qualitative systematic review.<sup>20</sup> The CASP quality assessment was not assessed for reliability; however, studies were rated independently, and agreement was reached for all studies. Furthermore, as

some studies did not meet the CASP criteria, the credibility, transferability, and dependability of the results may have been affected. This review did not consider the specific interventions provided during treatment, as this was not the focus of this review. There is no suggestion that the specific treatment used is irrelevant, merely that the effectiveness of any specific treatment may be enhanced by better patient-therapist interactions. It must be acknowledged that this review has only identified factors that are perceived to be related to patient-therapist interactions. Further research is needed to examine whether these factors are actually related to the quality of these interactions or indeed patient outcomes.

### Clinical Implications

Addressing factors that are thought to influence patient-therapist interactions may enhance the experience of musculoskeletal physical therapy for patients and improve adherence and outcomes. Physical therapists should be aware that these factors can act as facilitators of, and barriers to, positive interaction. Even though it could be argued that using these factors effectively could be time consuming and thus costly in the short term due to longer waiting lists, adopting these factors could be beneficial in the long term through promoting better adherence and better patient outcomes. Ultimately, the responsibility lies with the physical therapist, health care service providers, and wider society to make time available to listen to patients' stories and provide the resources necessary to successfully treat patients. Given the higher number of patients to be seen, physical therapists may need to adopt creative methods of dealing with long waiting lists or organizational aspects that affect patient-therapist interactions. These methods could involve the use of telephone triaging<sup>61</sup> or the use of tools that assess the quality of patient-therapist interactions, such as the Working Alliance Inventory and Communication Assessment Tool.<sup>62,63</sup>

This review revealed a disparity between physical therapists' and patients' views about the importance of education, with patients rating it as highly important and

physical therapists failing to see its benefit as a determinant of interaction quality. This disparity is a potential concern in management and may reveal physical therapists' view of their profession (ie, that they need to deliver a particular intervention, as opposed to placing a greater emphasis on listening and educating patients). Given the high importance placed on education by patients, physical therapists need to prioritize education in their management as a strategy to enhance adherence and outcomes. The provision of training courses in the cognitive and affective domains of patient-therapist interactions, improving physical therapist communication skills, and the ability to educate and take an individualized approach to treatment may enhance patient-therapist interactions.

Further research in clinical settings is needed to observe whether physical therapists account for these factors in their interactions. It also would be interesting to evaluate whether training programs specifically targeting the factors identified in this review can have an effect on treatment delivery and outcome compared with an intervention that does not acknowledge these factors.

In conclusion, physical therapists and patients believe physical therapist communication and interpersonal skills, physical therapist practical skills, individualized care, and organizational and environmental factors have a key influence on patient-therapist interaction in musculoskeletal settings. The presence or absence of any of these factors may act as a facilitator of, or barrier to, the patient-therapist interaction. Further study is needed to examine which of these factors are best related to patient-therapist interactions and clinical outcomes. However, increased emphasis on communication, education, individualized care, and attention to organizational and environmental factors could enhance the perceived interaction between patients and physical therapists.

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Kieran O'Sullivan provided writing. Ms O'Keeffe, Mr Cullinane, and Ms Leahy provided data collection. Ms O'Keeffe, Mr Cullinane, Mr Hurley, Ms Bunzli, and Dr Kieran O'Sullivan provided data analysis. Ms O'Keeffe and Dr Kieran O'Sullivan provided project management. Dr Kieran O'Sullivan provided facilities/equipment and institutional liaisons. Ms O'Keeffe, Mr Cullinane, Mr Hurley, Ms Bunzli, Ms Leahy, Prof Peter O'Sullivan, and Dr Kieran O'Sullivan provided consultation (including review of manuscript before submission).

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### Appendix.

#### Critical Appraisal Skills Program (CASP) Tool

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- I. Was there a clear statement of the aims of the research?
- II. Is a qualitative methodology appropriate?
- III. Was the research design appropriate to address the aims of the research?
- IV. Was the recruitment strategy appropriate to the aims of the research?
- V. Were the data collected in a way that addressed the research issue?
- VI. Has the relationship between researcher and participants been adequately considered?
- VII. Have ethical issues been taken into consideration?
- VIII. Was the data analysis sufficiently rigorous?
- IX. Is there a clear statement of findings?
- X. How valuable was the research?