Patient-centeredness in physiotherapy: What does it entail? A systematic review of qualitative studies

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Patient-centeredness in physiotherapy: What does it entail? A systematic review of qualitative studies

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ABSTRACT

Purpose: The literature review is aimed at examining and summarizing themes related to patient-centeredness identified in qualitative research from the perspectives of patients and physiotherapists. Following the review, a secondary aim was to synthesize the themes to construct a proposed conceptual framework for utilization within physiotherapy. Methods: A systematic search of qualitative studies was conducted including all articles up to 2015 September. Methodological quality was examined with a checklist. The studies were examined for themes suggestive of the practice of patient centeredness from perspective of the therapists and/or the patients. Data were extracted using a data extraction form and analyzed following “thematic synthesis.” Results: Fourteen articles were included. Methodological quality was high in five studies. Eight major descriptive themes and four subthemes (ST) were identified. The descriptive themes were: individuality (ST “Getting to know the patient” and ST “Individualized treatment”), education, communication (ST “Non-verbal communication”), goal setting, support (ST “Empowerment”), social characteristics of a patient-centered physiotherapist, a confident physiotherapist, and knowledge and skills of a patient-centered physiotherapist. Conclusions: Patient-centeredness in physiotherapy entails the characteristics of offering an individualized treatment, continuous communication (verbal and non-verbal), education during all aspects of treatment, working with patient-defined goals in a treatment in which the patient is supported and empowered with a physiotherapist having social skills, being confident and showing specific knowledge.

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KEYWORDS

Models (theoretical); patient-centered care; physiotherapy; qualitative research; qualitative review; review

Introduction

Healthcare is continuously evolving globally, one reason being the increase in incidence and prevalence of patients with (multiple) chronic diseases. In response to these changes, the complexity of healthcare is continuously expanding and the delivery of healthcare, even with all the advantages, may often be complicated, uncoordinated, and unsafe. According to the US Institute of Medicine, patient-centered care has a potential to address some of these deficits in the healthcare system. Therefore patient-centered care has a high priority in the restructuring of healthcare in the twenty-first century. The federal government of the USA has established a Patient-Centered Outcomes Research Institute that underlines their recommendations for changes in healthcare. These recommendations have been developed, however, without patient participation.

As Lorig (2012) suggests, “if a service is to be patient centered, then both the health care system and the patient have to be involved in determining what this means. Each has its own view of meaning, and patient-centered care will never be achieved if patients are not part of the solution” (p. 524). This highlights the importance of patient-centeredness in healthcare policy-making today.

There are many different definitions of patient-centeredness in healthcare. Patient-centeredness was first described in medicine by McWhinney (1989) as, “the physician tries to enter the patients’ world, to see the illness through the eyes of the patients.” Patient-centered healthcare in hospital settings entails eight characteristics of care: respect for the patient’s values, preferences, and expressed needs; coordinated and integrated care; clear, high-quality information and education for the
patient and family; physical comfort, including pain management; emotional support and alleviation of fear and anxiety; involvement of family members and friends, as appropriate; continuity, including through care-site transitions; and access to care (Gerteis, Edgman-Levitan, Daley, and Delbanco, 2002). Probably the most commonly used framework of patient centeredness in medicine is a model described by Mead and Bower (2000) with five interconnecting components: 1) biopsychosocial perspective; 2) the “patient-as-person”; 3) sharing power and responsibility; 4) the therapeutic alliance; and 5) the “doctor-as-person.” Patient centeredness has also been described as a moral philosophy of healthcare professionals to endorse high-quality healthcare (Epstein et al, 2005).

In physiotherapy, however, there is a lack of understanding surrounding the concept of patient centeredness. It is considered important to examine the existing literature on patient centeredness to assist in developing a deeper understanding of the concepts and implications in physiotherapy. Mead and Bower’s framework (2000) uses largely qualitative descriptives, and it could be argued that qualitative research is the most effective way to provide an in-depth understanding of patient-centeredness perspectives.

As physiotherapists we are healthcare professionals that endorse patients’ self-management in which we incorporate the biopsychosocial perspective, by combining functional training for the body and coaching (Bandura, 1977; Bandura, Adams, and Beyer, 1977). In medicine, it is known that patient centeredness can strengthen the biopsychosocial perspective by enhancing the relationship (improving empathy, attentiveness, and communication) between the healthcare professional and the patient. Furthermore, patient-centered medicine shows positive effects on a range of qualitative measures relating to clarify patients’ concerns and beliefs (Dwamena et al, 2012).

For the reasons outlined above, a systematic review of the available qualitative research literature related to patient-centeredness in physiotherapy was conducted. The literature review is aimed to: 1) examine and summarize themes related to patient centeredness identified in qualitative research; and 2) provide a framework from which to develop applications to physiotherapy. The particular phenomenon of interest was the understanding of patient centeredness from the perspectives of patients and physiotherapists.

We only included qualitative articles as they allow for seeking meaning and understanding of a phenomenon, in this case patient centeredness. Information was to be drawn from the experiences of both physiotherapists and patients. Following the review, a secondary aim was to synthesize the themes to help construct a conceptual framework describing patient centeredness for utilization within the context of physiotherapy. Therefore, the research question of this qualitative systematic review is: To what extent is patient centeredness examined in physiotherapy in qualitative research and can a theoretical framework be constructed from this research for patient centeredness in physiotherapy?

Methods

A systematic search (Appendix 1) was conducted in PubMed (MEDLINE), EMBASE, Cochrane, PsychINFO, CINAHL, PEDro, and Scopus including articles from 1970 until 2015 September, 15. The time span was limited as patient centeredness was first introduced in 1970 (Balint, 1970). In addition, the reference lists of all selected articles were screened for relevant papers not identified through the search. The search was carried out without additional limits. The PICo was used to identify the P-Population (adult patients who received physiotherapy and physiotherapists), the I-Interest (experiences), and Co-Context (physiotherapy in all settings). Based on the PICo, the following search terms were used to search each of the trial registers and databases listed above: “patient centeredness,” “patient centred,” “patient centered,” “patient oriented,” “patient focused,” “physiotherapy,” “physical therapy,” “factors,” and “aspects.” Medical Subject Headings (MESH) terms were used for patient-centered care and physiotherapy. Search terms were combined using AND and OR. Search strategies were peer reviewed by PvW and ANB.

All articles were examined for eligibility by checking the inclusion and exclusion criteria. Inclusion criteria were: 1) qualitative studies; 2) studies assessing patient-centeredness or aspects of patient centeredness (or a synonym) in physiotherapy; 3) studies involving rehabilitation mentioning physiotherapy (in that case only the parts/quotes involving physiotherapy were used for this review); and 4) articles written in English, Dutch, or German.

Exclusion criteria were: 1) studies that examined patient centeredness only in other medical professions besides physiotherapy; 2) articles that examined patient satisfaction only; 3) articles that involved pediatric physiotherapy (due to the triangle-relationship with children, parents, and therapist); and 4) studies that examined themes suggestive of the practice of patient centeredness from the perspective of therapists and/or the patients. Eligibility assessment of the articles was
performed by one researcher (AJW). Duplicates were removed. Retrieved records were first screened on title and abstract.

The reporting of components dealing with methodological quality was assessed by AJW and ANB. A checklist based on three different checklists was created to obtain a complete methodological overview. This checklist was based on the COREQ statement for qualitative research (Tong, Sainsbury, and Craig, 2007), the checklist used by Schoeb and Burge (2012) and the checklist of the British Medical Journal (BMJ). The COREQ contained non-informative items, was dichotomized and supplemented with relevant items of the checklist by Schoeb and Burge (2012) and the BMJ. The development of the checklist was done by the first researcher (AJW) and reviewed by the second researcher (ANB). The full checklist is displayed in Appendix 2. For each selected paper, all the items included in the checklist were rated as Yes (Y), No (N), or unclear (?) by summing all items scored positive (scored with a Y). According to Veerbeek, Van Degen, Harmeling-Van Der Wel, and Kwakkel (2011), a study has low risk for bias when it scores ≥75% of the maximum score and at high risk for bias when it scores ≤75%. The methodological reviewing of the studies was done independently by AJW and ANB. Cohen’s Kappa was used to assess inter-rater agreement between the two researchers assessing the study quality of the included studies (Fleiss and Cohen, 1973).

Data were extracted using a data extraction form, (available upon request with the corresponding author) prior to data analysis by one reviewer, AJW. The data extraction form was pilot tested and refined. Information was extracted from each included article on: 1) characteristics of participants; 2) type of study design; 3) findings; and 4) special features. Principle summary measures were aspects that describe patient centeredness. Data synthesis was done following the method of thematic synthesis (Thomas and Harden, 2008), in which approaches from both meta-ethnography and grounded theory are used for analysis. Before data synthesis, articles were read several times to ensure familiarization with the study. Further to the free line-by-line coding of these studies, performed by the first author (AJW), the resulting “free codes” were reviewed by ANB and PvW. In case of discrepancy across reviewers, consensus was derived by discussion between the reviewers.

The “free codes” were then organized into related areas to construct “descriptive” themes and “analytical themes.” The development of the descriptive and analytical themes was performed by AJW and SCJMv and later reviewed by PvW, (available upon request). Lastly, a proposed conceptual framework was developed by AJW, ANB, and PvW through brainstorm sessions based on the analytical themes, and reviewed by all authors. The goal of the proposed conceptual framework is to explain the interaction between the themes and to clearly state these connections. Empirical data saturation was reached by consensus between the reviewers.

**Results**

The flowchart of the study selection is displayed in Figure 1. All 14 selected articles were qualitative studies and published in English.

Although all the included studies collected qualitative data relevant to patient centeredness, the methodology varied. The study designs included: grounded theory (Kidd, Bond, and Bell, 2011; Melander Wikman and Faltholm, 2006; Rindlesch, 2009; Trede, 2000); nominal group technique (Potter, Gordon, and Hamer, 2003); ethnography (Hiller, Guilleming, and Delany, 2015; Thomson, 2008); a descriptive qualitative approach (Pashley et al, 2010); phenomenography (Larsson, Lilhjeldahl, and Gard, 2010); phenomenology (Cooper, Smith, and Hancock, 2008; Rutberg, Kostenius, and Ohrling, 2013); or no specific design (Harman, Bassett, Fenety, and Hoens, 2011; Leach, Cornwell, Fleming, and Haines, 2010; Thornquist, 1991).

Study quality was assessed for each study and varied from 40% up to 75% (Table 1). Five studies were defined as high quality. The inter-rater agreement between the two researchers assessing the study quality of the included studies was computed and resulted in a Cohen’s Kappa of 0.511, p < 0.005, which is a moderate agreement (Fleiss and Cohen, 1973; Landis and Koch, 1977). Although the agreement was moderate, after discussion the reviewers agreed on the final study ratings presented in Table 1.

The combined number of participants (n = 231) across the included studies were recruited through physiotherapy practices and rehabilitation centers. Some studies (N = 7) included physiotherapists, others (N = 5) included patients, and two studies included both (Leach, Cornwell, Fleming, and Haines, 2010; Trede, 2000) in the data collection. The participants’ age ranged from 18 to 84; four studies did not report the participants’ age (Harman, Bassett, Fenety, and Hoens, 2011; Hiller, Guilleming, and Delany, 2015; Leach, Cornwell, Fleming, and Haines, 2010; Trede, 2000). Data collection methods varied from observations, open interviews, semi-structured interviews, emails, and semi-structured focus groups to highly
structured focus groups. Study findings varied from a specific aspect of patient centeredness to a description of patient centeredness in physiotherapy. In Table 2, an overview of study characteristics is provided.

In the descriptive analysis, 13 descriptive themes were found. During the analytical analysis phase, these were gathered into eight major descriptive themes and four subthemes (ST) (two ST were conjoined) described below and in the proposed conceptual framework (Figure 2). The descriptive themes were:

1. The concept of individuality in patient centeredness

   ST (1) Getting to know the patient; and ST (2) Individualized treatment

   (1) Continuous tailored communication in lay speech
   (2) ST(3) Non-verbal communication
   (3) Education during and about all aspects of the treatment
   (4) Working with patient-defined goals
   (5) A patient-centered treatment in which the patient is supported
   (6) ST(4) Empowerment
   (7) Social characteristics of a patient-centered physiotherapist
   (8) A confident physiotherapist
   (9) Knowledge and skills of a physiotherapist in patient centeredness
   (10) Individuality
   (11) Individuality was found in all of the articles and was both from the patient’s and the therapist’s perspective referred to as important. This concerned specific patient-tailored education, communication, and treatment. ST were “getting to know the patient” and “individualized treatment.”

Subtheme: getting to know the patient

It was found that both patients and physiotherapists believed that getting to know the patient as a person was important for individualization in physiotherapy. This involved getting to know patients’ history, needs, preferences, personality, beliefs, values, expectations, motivation, and circumstances (Cooper, Smith, and Hancock, 2008; Harman, Bassett, Fenety, and Hoens, 2011; Kidd, Bond, and Bell, 2011; Larsson, Liljedahl,
### Table 1. Methodological quality scores of the included studies.

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Was there stated how many participants where approached? *</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>6</td>
<td>Were the important characteristics of the sample described? *</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>7</td>
<td>Does the sample produce the type of knowledge necessary to understand the structures and processes within which the individuals or situations are located? #</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>8</td>
<td>Was there stated that the interview was open, semi structured or if there were focus groups? *</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>9</td>
<td>Were repeated interviews carried out? *</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>?</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>11</td>
<td>Was data saturation discussed/ reached? *</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>12</td>
<td>Were there two or more researchers that coded the data? *</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>?</td>
<td>N</td>
<td>Y</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>14</td>
<td>Did themes derive from the data? *</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>15</td>
<td>Were participant quotations presented to illustrate themes/items? *</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>16</td>
<td>Were major themes clearly presented in the findings? *</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>17</td>
<td>Is the description in sufficient detail to allow the researcher or the reader to interpret the meaning and context of what is being researched? #</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>18</td>
<td>Does the researcher move from description of the data, through quotations or examples, to an analysis and interpretation of their meaning and significance? #</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>19</td>
<td>Are claims being made for the generalizability of the findings to other bodies of knowledge? (within scientific research) #</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>20</td>
<td>Are claims being made for the generalizability of the findings to other populations? #</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

| Overall quality in % | 65 | 75 | 70 | 45 | 75 | 55 | 75 | 55 | 40 | 60 | 50 | 65 | 75 | 75 |

* = original from the COREQ statement (Tong, Sainsbury, and Craig, 2007), # = original from Schoeb and Burge (2012), $ = original from the British Medical Journal quality checklist (Checklist)

Y = described in the article/good quality, N = definitely not described or poor quality, ? = not clearly described in the article if it is done or not

Overall quality in %.
Table 2. Detailed description of included studies.

<table>
<thead>
<tr>
<th>First author, year</th>
<th>Country</th>
<th>Population</th>
<th>Setting</th>
<th>Methodology</th>
<th>Primary aim(s)</th>
<th>Methods</th>
<th>Major themes</th>
<th>Perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melander Wilman and Fältholm, 2006</td>
<td>Sweden</td>
<td>6 Patients rehabilitating at three different healthcare centers, 3 month or longer in rehabilitation (age 35–58, 2 male, 4 female) with neurological, circulatory and/or orthopaedic diseases</td>
<td>In a room at the healthcare (4) center and at home (2)</td>
<td>Grounded Theory</td>
<td>To describe the patient’s experiences of influence and participation in the rehabilitation process. Based on patient-centered care</td>
<td>In depth interviews</td>
<td>The parallel process of rehabilitation: The traditional medical model with compliance, sub ordination and the invisible physiotherapist (at the hospital) and the individual model with being confirmed, sense of coherence, searching for information and daring to demand (within primary healthcare).</td>
<td>Patient’s</td>
</tr>
<tr>
<td>Kidd, Bond, and Bell, 2011</td>
<td>New Zealand</td>
<td>8 Musculoskeletal patients (age 20–68, 4 female and 4 male) receiving a maximum of 10 treatments</td>
<td>Workplace (2), home (1) or at the researchers’ workplace (5)</td>
<td>Grounded Theory</td>
<td>To determine patients’ perspectives of components of patient-centered physiotherapy and its essential elements</td>
<td>Semi-structured interviews</td>
<td>Ability to communicate, confidence, knowledge and expertise, understanding people and an ability to relate, transparent focus on progress and outcome.</td>
<td>Patient’s</td>
</tr>
<tr>
<td>Cooper, Smith, and Hancock, 2008</td>
<td>Scotland, Grampian</td>
<td>25 Chronic low back pain patients (age 18–65, 5 male, 20 female) receiving physiotherapy in the last 6 months</td>
<td>At home or National Health Service hospital (not physiotherapy department)</td>
<td>Framework method of qualitative data analysis</td>
<td>To define patient-centeredness, in the context of physiotherapy for CLBP, from the patient’s perspective</td>
<td>Semi-structured interviews</td>
<td>Communication (most important), individual care, information sharing, the physiotherapist, decision-making, organization of care.</td>
<td>Patient’s</td>
</tr>
<tr>
<td>Potter, Gordon, and Hamer, 2003</td>
<td>Australia, Western</td>
<td>26 Current and former patients, no common complaint (age 20–79, mean 48.8 years, 10 male, 16 female) in private practice</td>
<td>Not described</td>
<td>Nominal group technique</td>
<td>To explore patients’ perspectives regarding the qualities of a “good” physiotherapist and to gain insight into the characteristics of good and bad experiences in private practice physiotherapy. Based on patient-centered private sector physiotherapy</td>
<td>Highly structured meeting process (focus group)</td>
<td>Communication ability (interpersonal skills, physiotherapist’s manner, teaching/education), other attributes of the physiotherapist (professional behavior, organizational ability), characteristics of the service provided by the physiotherapist (diagnostic and treatment expertise, the environment, convenience and accessibility).</td>
<td>Patient’s</td>
</tr>
<tr>
<td>Thomson, 2008</td>
<td>England</td>
<td>5 Physiotherapists working with chronic pain patients, 3-week intensive program (age 24–45, 4 female, 1 male, 2–20 years’ experience) in a National Health Service Hospital</td>
<td>Physiotherapists were shadowed and interviewed in an National Health Service Hospital</td>
<td>Critical ethnography</td>
<td>To describe and interpret the interactions between therapists and their patients on a chronic pain unit in an National Health Service Hospital from the perspectives of the therapists</td>
<td>Interviews and observations</td>
<td>Therapy-patient interactions, communication, equality of power, rehabilitation as a risk-taking negotiating process.</td>
<td>Therapist’s</td>
</tr>
<tr>
<td>Rindflesch, 2009</td>
<td>USA</td>
<td>9 Physiotherapists in acute care (3), inpatient (3) and outpatient rehabilitation (3) (age 28–56, 8 female, 1 male, 4–32 years’ experience) in an Academic medical center</td>
<td>Onsite observation in an Academic medical center, where focus groups took place is not described</td>
<td>Grounded theory</td>
<td>To describe the practice of patient education in physical therapy among nine physical therapists from three practice areas</td>
<td>Focus groups and observations</td>
<td>Patient education is physical therapy, patient education is empowerment, the content of patient education is patient-centered, outcome of patient education is evaluated through function.</td>
<td>Therapist’s</td>
</tr>
<tr>
<td>Pashley et al, 2010</td>
<td>Canada, Greater Toronto Area</td>
<td>10 Physiotherapists in outpatient orthopaedics (age 30–62, mean 44.4 years, 8 female, 2 male, 1.5–41 years’ experience, mean 18.65 years)</td>
<td>Not described</td>
<td>Descriptive qualitative approach</td>
<td>(1) to describe the relevant factors that physiotherapists take into account in discontinuing treatment of adults in the outpatient orthopaedic setting and (2) to explore how these factors mediate the decision-making process</td>
<td>Key informant interviews and focus groups</td>
<td>Physiotherapists experience, funding source, facilitating self-management, negotiating patient goals and managing expectations, using objective findings, patient education</td>
<td>Therapist’s</td>
</tr>
<tr>
<td>First author, year</td>
<td>Country</td>
<td>Population</td>
<td>Setting</td>
<td>Methodology</td>
<td>Primary aim(s)</td>
<td>Methods</td>
<td>Major themes</td>
<td>Perspective</td>
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<tr>
<td>Larsson, Liljedahl, and Gard, 2010</td>
<td>Sweden, southern</td>
<td>Physiotherapists in different areas: orthopaedics, rheumatology, neurology, respiratory diseases and surgery (8 female, 3 male, 1–42 years’ experience, median 15 years)</td>
<td>In a room at Health Sciences Centre at Lund University or, in 4 cases, at the respondent’s workplace</td>
<td>Phenomenography</td>
<td>To describe how physiotherapists experience client participation. Based on patient-centered care</td>
<td>Semi-structured interviews</td>
<td>Collaboration as biopsychosocial client-centered client participation. Guidance as biomedical perspective of client participation, blocks client-centeredness. Expertise as well as biomedical perspective of client participation, but paternalistic and not client-centered. Greeting; note taking; gaze; bodily expression of caring and attentiveness; body position, orientation and closeness; manual therapy-practice: exchange of body messages; psychomotor practice: perception of body relationships</td>
<td>Therapist’s</td>
</tr>
<tr>
<td>Thornquist, 1991</td>
<td>Norway</td>
<td>Manual, psychomotor and home visiting physiotherapists</td>
<td>First encounters at normal work surroundings (physiotherapists practice) and at home</td>
<td>Not described</td>
<td>What do physiotherapists do to establish a relationship in encounters with patients? And more specifically: How do they relate to their patients through their bodies?</td>
<td>Observations (videos) and interviews</td>
<td>Greeting; note taking; gaze; bodily expression of caring and attentiveness; body position, orientation and closeness; manual therapy-practice: exchange of body messages; psychomotor practice: perception of body relationships</td>
<td>Therapist’s</td>
</tr>
<tr>
<td>Leach, Cornwell, Fleming, and Haines, 2010</td>
<td>Australia, Queensland</td>
<td>8 Therapists (occupational, speech and physiotherapy) and 5 stroke patients (age 49–84, 1 female, 4 male) in subacute rehabilitation</td>
<td>Emails</td>
<td>Not described</td>
<td>To examine current clinical approaches to goal-setting through the multiple disciplines of occupational therapy, speech pathology and physiotherapy within one rehabilitation facility. Specifically, it aimed to identify the degree and quality of patient input into the goal-setting process from the perspective of the therapist and compare the therapists’ goals with those perceived to be the patient’s goals using the ICF framework</td>
<td>Semi-structured emails</td>
<td>Goal-setting approaches: Therapist controlled, therapist led, patient focused. Goals identified by therapists versus perceived patient goals. Facilitators and barriers</td>
<td>Patient’s and therapist’s</td>
</tr>
<tr>
<td>Trede, 2000</td>
<td>Australia, Sydney</td>
<td>8 Physiotherapists and 7 patients with low back pain</td>
<td>Not described</td>
<td>Grounded Theory</td>
<td>What educational practices are currently applied and what educational theories could inform effective educational practice?</td>
<td>Semi-structured interviews</td>
<td>Professional power and compliance, hands-off attitude versus hands-on technique, the role of pain in education, and transformation from physiotherapist-centered to patient centered approaches</td>
<td>Patient’s and therapist’s</td>
</tr>
<tr>
<td>Harman, Bassett, Fenety, and Hoens, 2011</td>
<td>Canada, Nova Scotia and British Columbia</td>
<td>44 Physiotherapists from private practice (36 male, 8 female, mean 17.5 years’ experience (range: 0.5–38 years)</td>
<td>Not described</td>
<td>Not described</td>
<td>To explore client education provided by physiotherapists in private practice who treat injured workers with subacute low back pain (SA-LBP)</td>
<td>Semi-structured focus groups</td>
<td>The critical importance of education, education: A multidimensional concept, understanding the physiotherapist-client relationship</td>
<td>Therapist’s</td>
</tr>
<tr>
<td>Rutberg, Kostenuis, and Ohrling, 2013</td>
<td>Sweden</td>
<td>11 Patients with migraine (age 20–69 years, 9 female, 2 men, migraine diagnosis &lt;1–59 years)</td>
<td>At the home or workplace of the participant (6), or were conducted at Luleå University of Technology (5)</td>
<td>Phenomenology</td>
<td>Exploring the lived experience of physical therapy of persons with migraine</td>
<td>Semi-structured interviews</td>
<td>Meeting a physical therapist with professional tools and a personal touch. Investing time and energy to feel better, relying on the competence of the physical therapist, wanting to be treated and to become involved as an individual, being respected in a trustful relationship</td>
<td>Patient’s</td>
</tr>
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</table>
and Gard, 2010; Leach, Cornwell, Fleming, and Haines, 2010; Melander Wikman and Fältholm, 2006; Pashley et al., 2010; Potter, Gordon, and Hamer, 2003; Rutberg, Kostenius, and Ohrling, 2013) and remembering them. Patients appreciated being seen as an integration of body and soul (Melander Wikman and Fältholm, 2006) and knowing the patient as a person was an essential part of this integration.

Subtheme: individualized treatment
Patients wanted themselves, rather than the techniques, to be in the center of concern (Trede, 2000). An individualized treatment involved an individualized treatment plan so patients can learn independently (Trede, 2000), including exercises, advice, and education that was composed in dialogue and collaboration with the patient (Cooper, Smith, and Hancock, 2008; Harman, Bassett, Fenety, and Hoens, 2011; Pashley et al, 2010; Rindflesch, 2009; Rutberg, Kostenius, and Ohrling, 2013). During the treatment, the therapist had to be aware of the changing needs of the patient (Rutberg, Kostenius, and Ohrling, 2013). The exercises and given advice affected patient adherence (Cooper, Smith, and Hancock, 2008), suggesting that patient centeredness required the physiotherapist to ensure that the patient experienced the exercises as important and individualized (Trede, 2000). Adjustments made by the physiotherapist in response to patients’ feedback was experienced as important (Cooper, Smith, and Hancock, 2008; Trede, 2000). Not only the content of the treatment should be individualized, but the delivery of treatment as well (Cooper, Smith, and Hancock, 2008).

Communication
Both therapists and patients mentioned communication as a part of patient centeredness in all the articles. The most important aspect of communication was the need of an ongoing dialogue with patients. Moreover, the communication style should be tailored to the individual patient in clear and lay speech (Cooper, Smith, and Hancock, 2008; Hiller, Guillemín, and Delany, 2015; Kidd, Bond, and Bell, 2011; Pashley et al, 2010; Rutberg, Kostenius, and Ohrling, 2013; Trede, 2000). This required openness of the therapist about themselves and the therapy, and ultimately created safety for the patient to open up (Rutberg, Kostenius, and Ohrling, 2013; Trede, 2000). Personal communication and communication skills were far more important than the provision of scientific facts (Trede, 2000). By personal communication, a bond was established and the therapy shifted
from therapist to patient centered (Hiller, Guillemin, and Delany, 2015).

Communicative abilities of a patient-centered physiotherapist meant being receptive to what the patient has to say, correctly interpreted, and giving explanations in a way patients understand (Fleiss and Cohen, 1973; Trede, 2000). Purposefully changing communication styles depending on the patient (Hiller, Guillemin, and Delany, 2015). Having the ability to explain in lay terms, directly speaking to the patient, listening, and asking appropriate questions were of importance (Cooper, Smith, and Hancock, 2008; Kidd, Bond, and Bell, 2011; Pashley et al, 2010; Potter, Gordon, and Hamer, 2003).

Subtheme: non-verbal communication

Non-verbal communication incorporated eye contact, nodding, and facial expressions (Harman, Bassett, Fenety, and Hoens, 2011; Hiller, Guillemin, and Delany, 2015; Thornquist, 1991). This indicated interest into the patient, availability for contact, and made sure the patient perceives the contact as “being seen” (Thornquist, 1991). Furthermore, therapists used their own body language and facial expression, as well as that of the patient, to establish a bond and reflect if it was indeed established (Harman, Bassett, Fenety, and Hoens, 2011; Hiller, Guillemin, and Delany, 2015).

Both the patients and the therapists experienced non-verbal communication as consisting of physiotherapists’ body movements. It comprised of using their hands, touch, cushions for comforting, and creating a trustful body language (Hiller, Guillemin, and Delany, 2015; Rutberg, Kostenius, and Ohrling, 2013; Thornquist, 1991). Furthermore, non-verbal communication comprised of active listening to the patient and making sure that the patient was aware of this active listening (Cooper, Smith, and Hancock, 2008; Harman, Bassett, Fenety, and Hoens, 2011; Potter, Gordon, and Hamer, 2003; Thornquist, 1991; Trede, 2000).

Non-verbal communication created a sense of being respected (Hiller, Guillemin, and Delany, 2015; Rutberg, Kostenius, and Ohrling, 2013), caring for the patient (Hiller, Guillemin, and Delany, 2015; Thornquist, 1991), demonstrating empathy, respect, consideration, made the patient feel at ease (Hiller, Guillemin, and Delany, 2015; Kidd, Bond, and Bell, 2011), and created room for emotions.

Education

All studies mentioned education as related to patient centeredness. Education was mentioned as explanation about physical symptoms, the problem, intake, diagnosis, treatment, and treatment course. The content taught during education should be useful and focused on the patient’s problems (Kidd, Bond, and Bell, 2011). Visualizing, using metaphors and demonstrating toward the patient was found to be constructive in patient-centered education (Kidd, Bond, and Bell, 2011; Potter, Gordon, and Hamer, 2003). Education was more than simplifying in plain language, the information had to be compatible with patients’ reality, perceptions, and be meaningful (Trede, 2000).

There was an interaction of this theme with social characteristics, communication, individuality and goal setting, as the content in the education should be interactively communicated in a manner that patients understand and tailored on the patients’ needs and goals (Cooper, Smith, and Hancock, 2008; Kidd, Bond, and Bell, 2011; Pashley et al, 2010; Potter, Gordon, and Hamer, 2003; Rindflesch, 2009). Written education was not perceived as individualized and patient centered by patients (Cooper, Smith, and Hancock, 2008).
Goal Setting

Goal setting was used by physiotherapists to activate and motivate patients, to determine what meaningful therapy would be for the patient and to set discharge limits (Leach, Cornwell, Fleming, and Haines, 2010; Pashley et al, 2010; Rindflesch, 2009; Thomson, 2008). Goal setting seemed particular of physiotherapists interest, as patients did not spontaneously mention goal setting as important for patient-centered physiotherapy. Patient-centered physiotherapists, however, tried to allow the patients to define their own goals in collaboration (Larsson, Liljedahl, and Gard, 2010; Pashley et al, 2010; Thomson, 2008; Trede, 2000). This was done by facilitating them and guiding them, using education and dialogue to determine the patients’ goals (Larsson, Liljedahl, and Gard, 2010; Leach, Cornwell, Fleming, and Haines, 2010; Rindflesch, 2009; Thomson, 2008; Trede, 2000). Goals were mostly created in collaboration between the physiotherapist and the patient (Leach, Cornwell, Fleming, and Haines, 2010; Trede, 2000). However, some physiotherapists made no or little mention of patient-centered goals (Pashley et al, 2010).

Support

Support from the physiotherapist consisted of a mixture of individuality, equality of responsibility, understanding, feeling important, reassuring, and empowerment (Cooper, Smith, and Hancock, 2008; Harman, Bassett, Fenety, and Hoens, 2011; Kidd, Bond, and Bell, 2011; Larsson, Liljedahl, and Gard, 2010; Melander Wikman and Fältholm, 2006; Pashley et al, 2010; Potter, Gordon, and Hamer, 2003; Rindflesch, 2009; Rutberg, Kostenius, and Ohrling, 2013; Thomson, 2008; Trede, 2000). Patients valued the feeling of a physiotherapist having their back, by supporting them, relating to them, and seeing them as a complete person (Melander Wikman and Fältholm, 2006).

Being supportive in patient-centered physiotherapy demanded an interaction with the descriptive themes social characteristics, individualization, communication, and education. As a physiotherapist could not be supportive until he knew and understood the patient (individualization). This support was established by verbal and non-verbal communication, such as touch and educating the patient. This supported and empowered the patient. This empowerment, however, could not be accomplished without the social characteristics of a patient-centered physiotherapist.

Subtheme: empowerment

Patient-centered empowerment was mentioned as a personal feeling by the patient, where the physiotherapist tries to give responsibility and power to the patient (Harman, Bassett, Fenety, and Hoens, 2011; Melander Wikman and Fältholm, 2006; Thomson, 2008). Strengthening of the empowerment was mostly done by touch (Hiller, Guillemin, and Delany, 2015), education, or showing improvements in symptoms and functions (Kidd, Bond, and Bell, 2011; Rindflesch, 2009; Trede, 2000). Furthermore, counseling (exploration of choices, support, encouragement, and back-up) was an applied strategy (Melander Wikman and Fältholm, 2006; Trede, 2000). Being able to make an appointment quickly made patients feel empowered and helped them with coping (Rutberg, Kostenius, and Ohrling, 2013). Physiotherapists strived for optimal patient empowerment (Thomson, 2008).

Social Characteristics of a Patient-Centered Physiotherapist

Patients described the social characteristics of a patient-centered physiotherapist as respectful, non-judgmental, non-egotistical with an open interested attitude and mind (Kidd, Bond, and Bell, 2011; Larsson, Liljedahl, and Gard, 2010; Pashley et al, 2010; Potter, Gordon, and Hamer, 2003; Rutberg, Kostenius, and Ohrling, 2013; Thomson, 2008). Physiotherapists should be honest about his/her limitations and reflective of his/her own behavior and emotions (Harman, Bassett, Fenety, and Hoens, 2011; Potter, Gordon, and Hamer, 2003), put the patient’s needs first, and build a trusting relationship and rapport with the patient (Kidd, Bond, and Bell, 2011; Rutberg, Kostenius, and Ohrling, 2013; Thomson, 2008; Trede, 2000). This involved being friendly, supportive, considerate, patient, genuine, polite, positive, caring for the patient, the ability to care for the patient, taking the patient seriously, believing in the patient, recognition of the patients’ emotions, making a commitment to the patient, and making the best effort (Cooper, Smith, and Hancock, 2008; Harman, Bassett, Fenety, and Hoens, 2011; Hiller, Guillemin, and Delany, 2015; Kidd, Bond, and Bell, 2011; Rutberg, Kostenius, and Ohrling, 2013; Thomson, 2008; Trede, 2000). In essence, the therapist should understand the patient and relate to them (Harman, Bassett, Fenety, and Hoens, 2011).

However, perceiving the therapist as “being nice” was not the only aspect of a patient-centered approach (Cooper, Smith, and Hancock, 2008). In addition, communicative abilities of the physiotherapist were judged.
as important (Rutberg, Kostenius, and Ohrling, 2013). These abilities are mentioned in the theme “Communication.”

Although patients appreciated getting to know the person behind the physiotherapist (Rutberg, Kostenius, and Ohrling, 2013), a professional distance and professionalism should be maintained, as well as dedication to the profession (Cooper, Smith, and Hancock, 2008; Kidd, Bond, and Bell, 2011; Potter, Gordon, and Hamer, 2003; Rutberg, Kostenius, and Ohrling, 2013). From these examples it may be suggested that patient centeredness is all about the role the physiotherapist adopts to place the patient at the center of the treatment.

A Confident Physiotherapist

Both patients and physiotherapists underlined the importance of a confident physiotherapist. Besides a confident physiotherapist, it was also acknowledged that the physiotherapist should inspire confidence in the patient (Kidd, Bond, and Bell, 2011). Confident body language and verbal communication, and confidence in explaining to the patient were described as key ingredients (Cooper, Smith, and Hancock, 2008; Kidd, Bond, and Bell, 2011; Rutberg, Kostenius, and Ohrling, 2013). Feeling the confidence of the therapist in his/her treatment inspired confidence in the patient (Kidd, Bond, and Bell, 2011) and decreased worries and fears (Rutberg, Kostenius, and Ohrling, 2013). Furthermore, patients felt that the physiotherapist should feel confident enough to discuss any issues with their patients (Harman, Bassett, Fenety, and Hoens, 2011; Potter, Gordon, and Hamer, 2003). The underlying concepts and behaviors of a confident physiotherapist were not explained in any of the studies.

Knowledge and Skills of a Physiotherapist in Patient-Centeredness

The physiotherapist should be competent enough to deal with the patient’s specific disorder (Cooper, Smith, and Hancock, 2008) and this is not only achieved by keeping skills and knowledge up to date, but also by using this knowledge and expertise with good teaching skills (Cooper, Smith, and Hancock, 2008; Kidd, Bond, and Bell, 2011; Potter, Gordon, and Hamer, 2003; Thomson, 2008). Knowledge should be disease specific, contains familiarity with body dysfunctions, and includes the understanding of the patient’s perspective. Besides, the therapist should have a very good understanding of the patient in order to tailor treatment (Larsson, Liljedahl, and Gard, 2010; Leach, Cornwell, Fleming, and Haines, 2010; Thomson, 2008).

Interestingly, physiotherapists found that the greater their experience and maturity, the more they felt being able to practice with patient centeredness (Pashley et al, 2010; Potter, Gordon, and Hamer, 2003; Rindflesch, 2009). This may be associated with increased confidence but how experience, maturity, and patient centeredness were related was not described in detail.

Patients valued the input of physiotherapist’s knowledge by means of the physiotherapist being the expert (Kidd, Bond, and Bell, 2011), however, did not specify this knowledge. Patients wanted to have clear explanations, but also desired the ability to make their own or shared decisions (Cooper, Smith, and Hancock, 2008).

The proposed conceptual framework (Figure 2) was based on brainstorm sessions and consensus with multiple authors (AJW, ANB, and PvW) and reviewed by all authors. During the analysis, the authors uncovered that patient centeredness in physiotherapy is a dynamic concept with closely related themes and ST.

The analysis and brainstorm sessions uncovered that there is a difference in the themes we found. There are themes related to the physiotherapist characteristics and there are themes related to the patient-physiotherapist interaction. Figure 2 is designed according to these two differences.

The themes related to the patient-physiotherapist interaction (i.e., individuality, communication, education, goal setting, and support) are located on the left side of the proposed conceptual framework because our writing directions are from left to right, thereby suggesting that these themes are prior to the themes related to the physiotherapist characteristics. The themes (i.e., individuality, communication, education, goal setting, and support) are all of equal importance, connected, intertwined, and all have an influence on each other.

Even though the patient is the most important in patient centeredness, the physiotherapists in itself play an important role: he/she is the one who places the patient in the center. Furthermore the physiotherapist and his/her behavior (i.e., social characteristics, knowledge and skills, and confidence) influences all other themes: the individuality of the therapy; communication; education; goal setting; and support.

Discussion

This review identified 14 articles from qualitative studies investigating patient centeredness in
physiotherapy. From these studies, a synthesis of interrelated themes (individuality, communication, education, goal setting, support, social characteristics of a patient-centered physiotherapist, a confident physiotherapist, knowledge and skills of a physiotherapist in patient centeredness) with ST and a proposed conceptual framework (Figure 2) of patient centeredness in physiotherapy was made. All relevant articles related to patient centeredness in physiotherapy were included. The findings from this review may be used as a basis for educating students and continuous education of clinicians. Whereby the proposed conceptual framework may be an indication and example of how the different themes interact and relate to each other.

Patient centeredness in physiotherapy entails the characteristics of offering an individualized treatment, continuous communication (verbal and non-verbal), education during all aspects of treatment, working with patient-defined goals, a treatment in which the patient is supported and empowered, and a physiotherapist with patient-centered social skills, confidence, and knowledge.

“Individuality” concerns specific patient-tailored education, communication, and treatment. “Communication” is the need for a continuous individualized dialogue with patients in clear and lay speech. When doing so patient satisfaction and therapeutic alliance improves (Oliveira et al, 2012). Physiotherapist should be aware of these communication needs and require training during and after physiotherapy education (Murray et al, 2015; Synnott et al, 2015). “Education” primarily involves advice about the problem, diagnosis, treatment, and treatment course. “Goal setting” is used by physiotherapists to activate and motivate patients, however, was not spontaneously mentioned by patients. “Support” from the physiotherapist is seen as a mixture of individuality, equality of responsibility, understanding, reassuring, and empowerment. “The social characteristics,” “confidence,” and “skills and knowledge” of a patient-centered physiotherapist are personal skills and encompass for instance: being able to relate to the patient, confident body language, up to date knowledge, and teaching skills. This theme can be used to create awareness among physiotherapist and offers the opportunity to physiotherapists to reflect upon whether their attitude and behavior are patient centered.

The concepts of this review are to some extent similar to previous frameworks constructed for patient centeredness in overall care: The Picker Institute’s principles (Gerteis, Edgman-Levitan, Daley, and Delbanco, 2002); medicine (Epstein et al, 2005; Mead and Bower, 2000); and nursing (Kitson, Marshall, Bassett, and Zeitz, 2013). For instance, in all reviews, individuality of the patient (i.e., the patient as a person (Mead and Bower, 2000) and respect for patients’ values, preferences, and expressed needs (Gerteis, Edgman-Levitan, Daley, and Delbanco, 2002)) were identified as important, which in our review was the largest theme. Furthermore, both Mead and Bower (2000) as well as Epstein et al (2005) included “sharing power and responsibility” in their framework. This is to some extent similar to “Support” in our review. “Patient participation and involvement” and “the relationship between the patient and the healthcare professional” from the review of patient centeredness in nursing (Kitson, Marshall, Bassett, and Zeitz, 2013) are also well represented in the themes identified in the present review, highlighting the importance of these two topics in both professions.

Unlike the frameworks in overall care, medicine and nursing, the setting/organization was not an important part of patient centeredness in physiotherapy. The Picker Institute’s principles mention the “Involvement of family and friends,” “transition and continuity,” and “coordination and integration of care” (Gerteis, Edgman-Levitan, Daley, and Delbanco, 2002). In nursing, “the context where care is delivered” implied the environment, such as policy, equipment, lack of time, and deeper philosophical issues within the nurse and team (Kitson, Marshall, Bassett, and Zeitz, 2013). This discrepancy might be due to the different settings, and hence may reflect true differences. Both, the Picker Institute and nursing frameworks are based on thorough investigations of patient centeredness in hospitals (Gerteis, Edgman-Levitan, Daley, and Delbanco, 2002; Kitson, Marshall, Bassett, and Zeitz, 2013), whereas most of the patients and physiotherapists from the original studies in this review work in a private practice and (sub-acute) rehabilitation settings.

From the above reflection of this review and prior research on patient centeredness in overall care, nursing, and medicine, it can be argued that there are similarities as well as differences between the models. The variance between these models might reflect on true dissimilarities between the professions and settings, hence represent various forms of patient centeredness. Therefore it is proposed that there are distinct needs of patient centeredness in physiotherapy compared to overall care, nursing, and medicine due to professional differences. As a result, this review and proposed conceptual framework are an enhancement on prior research in overall care, nursing, and medicine, as it is specific for physiotherapy.

The findings of this review are also comparable to the findings of Edwards et al (2004) about clinical reasoning strategies in physiotherapy. Their extensive grounded theory study reveals several conceptual
frameworks (clinical reasoning strategies, cue-based combining of reasoning strategies, and interplay of reasoning strategies in different paradigms of knowledge generation) with subcategories. Even though their study was based on defining clinical reasoning strategies, their constructs overlap with ours. This indicates that patient centeredness and clinical reasoning are closely connected.

There are also comparisons between the review and a recent qualitative review of O’Keeffe et al (2016) on patient-therapist interactions in musculoskeletal therapy. Whereby they found the following themes: physiotherapists interpersonal and communication skills (i.e., listening, encouragement, confidence, being empathetic and friendly, and non-verbal communication); practical skills (i.e., expertise and level of training, although the ability to provide good education was considered as important only by patients); individualized patient-centered care (i.e., individualizing the treatment to the patient and taking patient’s opinions into account); and organizational and environmental factors (i.e., time and flexibility with care and appointments). Even though their aim was based on outcomes (i.e., to investigate the factors that influence the patient-physiotherapist interactions), and the aim of this review on determinants (i.e., creating a synthesis of patient centeredness), the themes of both reviews are comparable suggesting that maybe in which manner a physiotherapist works patient-centered affects the outcomes of the interactions between the patient and physiotherapist. While their search terms were different, both reviews included four articles that are the same (Cooper, Smith, and Hancock, 2008; Harman, Bassett, Fenety, and Hoens, 2011; Kidd, Bond, and Bell, 2011; Potter, Gordon, and Hamer, 2003), suggesting a great deal of overlap between the different constructs. The difference to their review and the current review, besides the focus, is that they included studies focusing on satisfaction and excluded studies that focused on physiotherapy in a rehabilitation setting. While this review excluded studies focusing on satisfaction because it was suggested that satisfaction is an outcome of patient centeredness rather than a base/determinant. Furthermore, this review included all settings and by that created an overall synthesis of patient centeredness based on all settings in physiotherapy.

**Study Limitations**

Due to the limited number of available studies, we included several different qualitative study designs in this review. There is a debate ongoing about combining study designs in qualitative reviews. However, the use of multiple methodologies can increase the understanding of the phenomenon/process, can compensate the limitations of individual methods (Paterson, Thorne, Canam, and Jillings, 2001), and exclusion based on qualitative methodology diminishes insight in the research topic (Booth, 2001).

We included articles that either assessed patient centeredness or aspects of patient centeredness (or a synonym) in physiotherapy. As a result, the primary aim of the studies included were not all based on assessing patient centeredness. However, all studies mentioned patient centeredness in their full text. They either had aims based on patient-centered care, used patient centeredness as an outcome of their results, or reflected on their findings in the light of previous definitions of patient-centered care.

Within qualitative research there is debate about the preferred techniques one can use to assess the methodological quality of individual studies for example saturation (included as number 11 in the methodological checklist). Saturation is a technique whereby researchers stopped collecting data when no new information emerges from the data that will add to the understanding of the phenomenon under study (Creswell, 2007). Within GT it is mentioned that data saturation is usually reached between 20–30 interviews (Creswell, 2007). However, other researchers suggest saturation as a method to obtain methodological quality may be inapplicable (O’Reilly and Parker, 2013).

The inter-rater agreement between the two researchers assessing the study quality of the included studies was “moderate” (Fleiss and Cohen, 1973; Landis and Koch, 1977). During the analysis we decided to not bring a third reviewer forward due to practical implications, however, we did reach consensus on the final scoring.

One could argue that within the profession of physiotherapy many differences exist between monodisciplinary and multidisciplinary physiotherapy. Six of the 13 included articles in this review conducted research in acute or sub-acute rehabilitation, with the focus on physiotherapy. Therefore, it can be assumed that this review gives a complete overview of patient centeredness in the different areas of physiotherapy (except for pediatric physiotherapy).

More sound qualitative research on this topic should be performed to further investigate in which manner and to what extent patient centeredness is implemented in clinical practice. Hiller et al. were, to our knowledge, the first to investigate this with observations and interviews and found that physiotherapists’ approach are more likely to be therapist centered than patient centered (Hiller, Guillemien, and Delany, 2015). Qualitative
research should further enhance our understanding about the perceptions of physiotherapists of patient centeredness, see if there are differences between conditions (for instance between non-life threatening conditions, chronic conditions, and conditions in which the patient cannot clearly communicate) and how to implement patient-centered strategies in clinical practice. These qualitative studies should contain patient centeredness or a well-defined synonym in the title or key words to ease the search of qualitative articles (Jones, 2004).

Additionally, the present overview calls for quantitative research to study the implementation and implications of working patient centered in physiotherapy practice according to the provided description and framework. Not only does research show that patient-centered medicine has positive effects on clarifying patients’ concerns and beliefs (Dwamena et al, 2012), patient-centered medical care also reduces costs by lowering unnecessary diagnostic tests and referrals (Stewart et al, 2000). This increased effectiveness might also occur in physiotherapy and is worth studying further.

Our findings show a better understanding of the concept patient centeredness in adult patients. This model, however, cannot be generalized to all health in physiotherapy conditions, for instance in patients with acute stroke or in patients with dementia of young children. Further research may focus on potential models of patient-centered strategies in these patient groups.

Conclusion

Patient centeredness in physiotherapy is a framework containing multiple closely related themes: individuality; communication; education; goal setting and support; the social characteristics, confidence and skills and knowledge of a patient-centered physiotherapist. The results presented in this review provide insights into patient centeredness in physiotherapy. A proposed conceptual framework is constructed to help physiotherapists improve their understanding of patient centeredness. It is hoped that the proposed conceptual framework developed from these study findings will assist physiotherapists in their understanding of patient centeredness and the implications of patient centeredness in clinical practice. Further research is needed in order to further enhance our understanding about the clinical applicability of the proposed conceptual framework and to assess the implementation and implications.

Declaration of interest

The authors declare that there is no conflict of interest.

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Veerbeek JM, Van Wegen EE, Harmeling-Van Der Wel BC, Kwakkel G 2011 Is accurate prediction of gait in nonambulatory stroke patients possible within 72 hours post-stroke? The EPOS study Neurorehabilitation and Neural Repair 25: 268–274.
Appendix 1. Search strategy

<table>
<thead>
<tr>
<th>Key search terms</th>
<th>Physiotherapy</th>
<th>Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient/person/client centeredness</td>
<td>Physical Therapy</td>
<td>Aspects</td>
</tr>
<tr>
<td>Patient/person/client centered care</td>
<td>Rehabilitation</td>
<td>Components</td>
</tr>
<tr>
<td>Patient/person/client centred</td>
<td>Remedial exercise</td>
<td>Features</td>
</tr>
<tr>
<td>Patient/person/client orientated</td>
<td></td>
<td>Elements</td>
</tr>
<tr>
<td>Patient/person/client tailored</td>
<td></td>
<td>Parts</td>
</tr>
<tr>
<td>Patient/person/client focused</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Search Strategy PubMed (MEDLINE):

Topic: Patient-centeredness

01. (((((((((((((((((((((((((Patient centeredness") OR patient centered care[MeSH Terms]) OR "patient centered") OR "patient centred") OR "Patient orientated") OR "Patient oriented") OR "Patient Focused") OR "Person centered") OR "Person centred") OR "Person centred") OR "person oriented") OR "person orientated") OR "person orientated") OR "patient oriented") OR "patient focused") OR "client orientated") OR "Client centred") OR "Client centred") OR "client orientated") OR "client orientated") OR "client oriented") OR "client focused") OR "client oriented") OR "client tailored"

Topic: Physiotherapy

02. ((((((("physical therapy") OR physical therapist[MeSH Terms]) OR modalities, physical therapy[MeSH Terms]) OR physical therapy specialty[MeSH Terms]) OR physiotherapy) OR rehabilitation) OR rehabilitation[MeSH Terms]) OR "remedial exercise") OR remedial AND exercise) OR physical AND therapy

Topic: Factors:

03. (((Factors) OR aspects) OR components) OR features) OR elements) OR parts

04. (#01) AND #02) AND #03

Search Strategy EMBASE:

01. 'physiotherapy'/exp OR (physical AND 'theraphy'/exp) OR 'physical therapy'/exp

02. 'patient centred' OR 'patient orientated' OR 'patient oriented' OR 'patient tailored' OR 'patient focused' OR 'person centredness' OR 'person centred' OR 'person orientated' OR 'person oriented' OR 'person tailored' OR 'person focused' OR 'client centredness' OR 'client centred' OR 'client orientated' OR 'client orientated' OR 'client focused' OR 'client tailored' OR 'patient centredness' AND [embase]/lim

03. factors OR aspects OR components OR features OR 'elements'/exp OR parts AND [embase]/lim

04. #01 AND #02 AND #03

05. #04 AND 'qualitative research'/de(limit)

Appendix 2. Checklist methodological quality assessment

<table>
<thead>
<tr>
<th>No.</th>
<th>Checklist item</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Was the researcher experienced or trained?</td>
<td>Grounded theory, discourse analysis, ethnography, phenomenology, case study</td>
</tr>
<tr>
<td>2</td>
<td>Was the research question clearly defined?</td>
<td>Demographic data, date, where data was collected</td>
</tr>
<tr>
<td>3</td>
<td>Was the methodological orientation suitable for this research question?</td>
<td>Choice of informants whose knowledge or experience is relevant to the substantive focus and theoretical framework of the study</td>
</tr>
<tr>
<td>4</td>
<td>Was theoretical or purposeful sampling used?</td>
<td>Repeated interviews derive more information</td>
</tr>
<tr>
<td>5</td>
<td>Was there stated how many participants where approached?</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Were the important characteristics of the sample described?</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Does the sample produce the type of knowledge necessary to understand the structures and processes within which the individuals or situations are located?</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Was there stated that the interview was open, semi structured or if there were focus groups?</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Were repeated interviews carried out?</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Were field notes made?</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Was data saturation discussed/reached?</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Were there two or more researchers that coded the data?</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Was software used to manage the data?</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Did themes derive from the data?</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Were participant quotations presented to illustrate themes/items?</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Were major themes clearly presented in the findings?</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Is the description described in sufficient detail to allow the researcher or the reader to interpret the meaning and context of what is being researched?</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Does the researcher move from description of the data, through quotations or examples, to an analysis and interpretation of their meaning and significance?</td>
<td>Evidence of analysis and interpretation of data at conceptual and theoretical level</td>
</tr>
<tr>
<td>19</td>
<td>Are claims being made for the generalizability of the findings to other populations?</td>
<td>Findings are related to broader theoretical concerns and/or other empirical context</td>
</tr>
<tr>
<td>20</td>
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</tbody>
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