

# Physiotherapy Theory and Practice

An International Journal of Physical Therapy

ISSN: 0959-3985 (Print) 1532-5040 (Online) Journal homepage: <https://www.tandfonline.com/loi/iptp20>

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To cite this article: Jeanette Melin, Åsa Nordin, Caroline Feldthusen & Louise Danielsson (2019): Goal-setting in physiotherapy: exploring a person-centered perspective, *Physiotherapy Theory and Practice*, DOI: [10.1080/09593985.2019.1655822](https://doi.org/10.1080/09593985.2019.1655822)

To link to this article: <https://doi.org/10.1080/09593985.2019.1655822>



Published online: 26 Aug 2019.



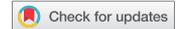
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## Goal-setting in physiotherapy: exploring a person-centered perspective

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### ABSTRACT

**Objective:** To analyze definitions and related requirements, processes, and operationalization of person-centered goal-setting in the physiotherapy research literature; to discuss those findings in relation to underlying principles of person-centeredness; and to provide an initial framework for how person-centered goal-setting could be conceptualized and operationalized in physiotherapy.

**Methods:** A literature search was conducted in the databases: CINAHL, PubMed, PEDro, PsycINFO, REHABdata and Scopus. A content analysis was performed on how person-centered goal-setting was described.

**Results:** A total of 21 articles were included in the content analysis. Five categories were identified: 1) Understanding goals that are meaningful to the patients; 2) Setting goals in collaboration; 3) Facing challenges with person-centered goal-setting; 4) Developing skills by experiences and education; and 5) Changing interaction and reflective practice. These categories were abstracted into two higher-ordered interlaced themes: 1) To seek mutual understanding of what is meaningful to the patient; and 2) To refine physiotherapy interaction skills, which we suggest would be useful for further conceptualization.

**Conclusion:** In this analysis, we interpreted person-centered goal-setting in physiotherapy as a process of interaction toward a mutual understanding of what is meaningful to the patient. Future research may explore how to integrate mindful listening, embodied interaction and continuous ethical reflection with different assessments and treatment methods.

### ARTICLE HISTORY

Received 30 September 2017

Revised 18 June 2019

Accepted 11 July 2019

### KEYWORDS

Goal-setting; patient-centered care; patient care planning; professional-patient relations; professional competence; professional competence gap; review

## Introduction

Person-centeredness is nowadays widely encouraged in the healthcare services and stresses the importance of addressing the person's unique and holistic properties (Ekman et al., 2011; Jesus, Bright, Kayes, and Cott, 2016; Leplege et al., 2007; Smithson and Kennedy, 2012; Thorarinsdottir and Kristjansson, 2014). In rehabilitation, the process of goal-setting is central and clearly linked to person-centeredness. Person-centeredness builds on the philosophical and ethical underpinnings of personalism. A person is a human being with feelings, wishes, needs, beliefs, and responsibilities (Ekman et al., 2011) and the person's goals in rehabilitation are his or her desired future states (Siegert and Levack, 2015). Therefore, person-centered goal-setting must relate to the patient's needs, values and expectations (Leplege et al., 2007; Levack and Dean, 2012; Smithson and Kennedy, 2012). The process of goal-setting can be defined as "identification of and agreement on a target or targets that

*the patient, therapist, or team will work toward over a specified period of time*" (Wade, 1999). Likewise, a person-centered approach requires a partnership characterized by dignity, compassion and respect between the patient and the healthcare professionals (Jesus, Bright, Kayes, and Cott, 2016). In turn, this will have a positive impact on the patient's rehabilitation in terms of increased motivation to reach his or her goals (Rose, Rosewilliam, and Soundy, 2017; Scobbie, Dixon, and Wyke, 2011).

Person-centeredness implies an ethical consciousness about the patient as a capable person; *who* he or she is rather than *what* health problem he or she has (Ekman et al., 2011). Such ethical reflections can include how the physiotherapist meets and collaborates with the patient (Hammond, Cross, and Moore, 2016; Praestegaard and Gard, 2011). Pryor and Dean (2012) place emphasis on reflections about one's attitudes, values, and beliefs to enhance bringing 'a *compassionate perspective*' into practice. Since physiotherapy deals

with interactional aspects, a human science perspective is encouraged to complement biomedical models (Bithell, 2005; Nicholls and Gibson, 2010; Shaw and DeForge, 2012; Wikstrom-Grotell and Eriksson, 2012). In such terms, the physiotherapy process not only relates to clinical reasoning and diagnostics, but also involves how to connect with the patient and guide the patient toward understanding their health (problem) in their everyday life (Chowdhury and Bjorbaekmo, 2017). This process is considered to enhance the patient's agency and motivation to self-management (Hay, Connelly, and Kinsella, 2016; Wijma et al., 2017).

Goal-setting is one of five closely related themes in a framework for patient-centeredness in physiotherapy proposed in a recent review by Wijma et al. (2017). Other themes are: individuality; communication; education; and support. The themes were extracted from findings in qualitative studies (Wijma et al., 2017), while studies with other designs such as intervention studies, position papers and observations were not included. To the best of our knowledge, no study has yet explored the meaning and application of person-centered goal setting in physiotherapy, including all types of study designs. An enhanced theoretical understanding of person-centered goal-setting in physiotherapy could further develop the physiotherapy profession as well as contribute to refined and advanced physiotherapist skills. The aims of this study were: to analyze descriptions of definitions and related requirements, processes, and operationalization of person-centered goal-setting in the physiotherapy literature; to discuss those findings in relation to underlying principles of person-centeredness; and to provide an initial framework for how person-centered goal-setting could be conceptualized and operationalized in physiotherapy.

## Methods

### *Data generation and literature extraction*

A literature search was conducted in the databases: CINAHL, PubMed, PEDro, PsycINFO, REHABdata and Scopus. Several search terms were used in different combinations: "physiotherapy", "goal-setting" and "person-centered". A full list of combinations and the number of hits are reported in [Appendix A](#). The literature search was conducted in February 2018 with no limit on the period studied or other search limitations. The data extraction was conducted in three steps: 1) reading titles and abstracts; 2) reading full texts; and 3) searching

reference lists for new articles (i.e. snowball searching). Inclusion criteria were: 1) original research articles; and 2) articles with descriptions of person, patient, or client-centeredness related to goal-setting in physiotherapy, provided in any section of the article (i.e. background, methods or results sections); and 3) articles published in the English language. The intention was to include all articles describing person-centered goal-setting, regardless of study design. The reason for this was to capture not only how person-centered goal-setting has been understood from qualitative perspectives, but also how it has been described and carried out in clinical settings. Exclusion criteria were articles that: 1) did not provide any unique information regarding physiotherapy practice and/or physiotherapists, and 2) articles about family-centered approaches to children and youths with disabilities. The literature extraction was prepared by one of the authors and then jointly decided upon through several meetings within the research group.

### *Quality appraisal*

Four different checklists were used for quality appraisal depending on the nature of each article. The interventions studies were assessed by using the National Heart, Lung and Blood Institute (NHLBI) study quality assessment tool for: 1) Controlled Intervention Studies (n = 4); 2) Before-After (Pre-Post) Studies With No Control Group (n = 3); 3) case studies were assessed using the NHLBI study quality assessment tool for Case Series Studies (n = 2); and 4) qualitative studies were assessed by the Critical Appraisal Skills Programme (CASP) checklist for qualitative research (n = 10). Two articles were not assessed due to their nature (e.g. a perspective paper and a developmental study). Three of the coauthors performed the quality appraisal independently. Where there were disagreements in ratings, the ratings were discussed until consensus was reached.

### *Data analysis*

The principles of content analysis were applied (Krippendorff, 2013). Content analysis has been claimed to be "*an unobtrusive technique that allows researchers to analyze relatively unstructured data*" (Krippendorff, 2013). Therefore it was considered suitable as we included diverse text sources and data had different levels of abstraction. A conventional approach was used, which is

generally recommended when the research literature is limited (Hsieh and Shannon, 2005).

The aim of content analysis is to organize and categorize the data into core consistencies and categories (Hsieh and Shannon, 2005; Krippendorff, 2013; Patton, 2015). The procedure by Krippendorff (2013) was followed. Units of meaning in the data (i.e. sentences or paragraphs originating from the results or from the intervention designs and argumentations) that captured definitions and related requirements, processes, and operationalization of person-centered goal-setting in physiotherapy were extracted and coded based on the content. Each article was read thoroughly and independently coded by one of the authors and then checked by another to enhance validity. Codes reflecting similarities were then grouped into tentative categories. Subsequently this was discussed on several occasions among the authors. The categories were further developed, contrasted, and refined as a joint effort in order to describe the different categories in written text.

In parallel with the content analysis the principles of a negative case analysis were applied (i.e. content that differed from what had already been found or previously known were sought) (Morse et al., 2002). This was done in order to provide an understanding of how new data diverge from what is already found and known, and to develop a final understanding of how person-centered goal-setting was described in the physiotherapy literature.

### **Prior understanding**

All members of the research group are physiotherapists, with different clinical backgrounds in terms of length and field. All four authors have conducted previous research at the University of Gothenburg Center for Person-centered Care (GPCC). JM has worked with adults born with disabilities as well as research addressing patient participation in neurological rehabilitation. ÅN has clinical and research experience in neurological rehabilitation with particular focus on supported discharge and home rehabilitation. CF works clinically in a rheumatology unit and the main research area concerns health promotion through a person-centered approach. LD has a clinical background in mental health physiotherapy and has conducted research on the interactions between patient and physiotherapist from a phenomenological perspective. The researchers prior understanding was useful when considering the relevance in the data as well as when interpreting the data. At the same time, researchers' subjectivity

needs to be 'bridled' (Dahlberg, Dahlberg, and Nyström, 2008) in the sense of holding back assumptions and staying open to the data. Accordingly, in order to remain open-minded during the analytical process, we continually reflected on our backgrounds and their relations to the emerging results.

## **Results**

### **Included papers**

Figure 1 presents a flowchart of the literature extraction. The literature search resulted in 120 unique papers. After reading all titles and abstracts 64 papers remained according to the inclusion criteria and, of these, 18 papers remained after reading the full texts. The main reason for exclusion was articles addressing rehabilitation teams or occupational therapy. Snowball searching followed, and after going through reference lists, three additional papers were added. Thus, in total, 21 papers were included. Table 1 presents all included articles and Appendix B includes the quality appraisal. Studies with pure qualitative (n = 10) and quantitative (n = 3) approaches have been included, as well as mixed-methods (n = 5). In addition, one perspective paper and two case studies were included. In 12 studies, data were generated from both patients and physiotherapists, in three studies from only patients, and in five studies from only physiotherapists. The perspective paper did not include any generated data. Overall, most of the qualitative papers had higher ratings on the quality appraisals compared to the intervention studies. For the content analysis, no weighting of article contributions was performed in relation to the results from the quality appraisal.

### **Qualitative analysis**

In the analysis of the 21 included papers, the descriptions of definitions and related requirements, processes, and operationalizations of person-centered goal-setting generated five categories: 1) Understanding goals that are meaningful to the patients; 2) Setting goals in collaboration; 3) Facing challenges with person-centered goal-setting; 4) Developing skills by experiences and education; and 5) Changing interaction and reflective practice. These categories could make sense of the vast array of literature relating to how physiotherapists have interpreted, operationalized, and reported on person-centered goal-setting in the included papers. These categories are presented below:

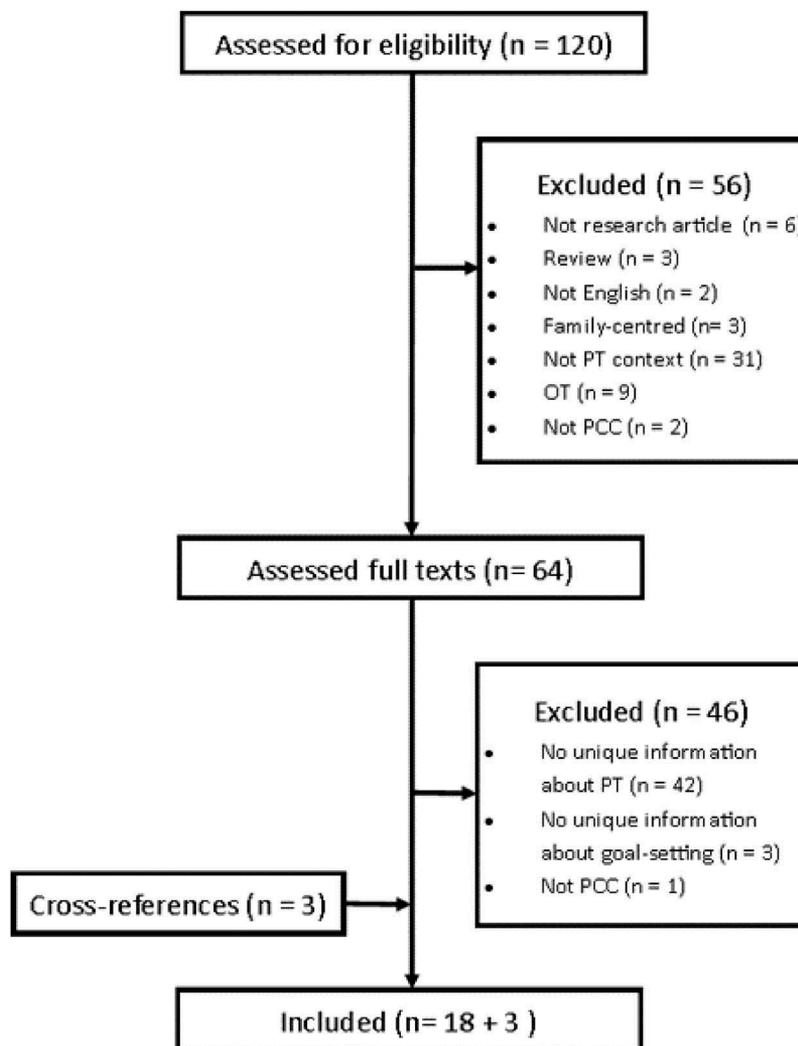


Figure 1. Flow-chart of data extraction.

### **Understanding goals that are meaningful to the patients**

The literature revealed that, with a person-centered approach to goal-setting, the goals should be meaningful and relevant to the patient (Deutsch, Maidan, and Dickstein, 2012; de Vries et al., 2015, 2016; Gardner et al., 2015; Hale and Piggot, 2005; Josephson, Woodwad-Kron, Delant, and Hiller, 2015; Kasven-Gonzales, Souverain, and Miale, 2010; Kersten et al., 2015; Mudge, Stretton, and Kayes, 2014; Oosting et al., 2018; Randall and McEwen, 2000; Stevens, Köke, van der Weijden, and Beurskens, 2017a, 2017b; Stevens et al., 2016; Thomson, 2008). This was evident from both patients' and physiotherapists' perspectives and across all settings in the included articles. Goals should be meaningful in the patient's own environment, rather than what the physiotherapist assumed to be best for the patient. As an example from a narrative study

before total hip arthroplasty: *PTs, but also family members, may probably at best guide people with disabilities during their recovery of functioning by focusing on meaningful participation goals chosen by the disabled persons themselves* (Oosting et al., 2018). Gardner et al. (2015) found that, in out-patient rehabilitation, the patients reported goals that were not associated with the traditional measures of pain, range of motion (ROM), or strength. They set goals in relation to physical activity, their workplaces, coping skills, relationships, and sleep/energy. Moreover, Mudge, Stretton, and Kayes (2014) suggested that goals should be seen as hopes, aspirations, and dreams rather than dichotomized into realistic and unrealistic goals.

### **Setting goals in collaboration**

It was clearly stated, both from the patients' and physiotherapists' perspectives, that person-centered goals

**Table 1.** Summary of included papers.

Authors, year	Design	Aim	Sample and setting	Intervention	Data collection	Motivation for inclusion
Cameron,	Ethnographic approach. Multiple qualitative methods.	To explore the ways clinicians engage rehabilitation patients in patient-centered goal setting and identify factors influencing the goal-setting process	17 rehabilitation patients, 18 allied health clinicians (of them, 7 physiotherapists) and one family member. Sub-acute rehabilitation	N.A.	Multiple qualitative methods: audio recorded goal-setting interviews, associated entries in the patient medical record. Focus groups with clinicians were conducted to validate themes identified	Results section describes experiences and observations of person-centered goal setting in a rehabilitation context.
de Vries et al., 2015	Pilot, development of intervention, pre-post evaluation	To develop a physical therapy strategy, Coach2Move.	12 patients with mobility problems, 2 physiotherapists	Coach2Move: three different profiles in the intervention group	Interviews with patients and group discussions with physiotherapists and research group.	Results section describes shared decision making on meaningful treatment goals in the Coach2Move approach.
de Vries et al., 2016	Randomized controlled trial	To test the Coach2Move strategy on (cost-) effectiveness.	Elderly patients with mobility problems: 64 patients intervention group and 66 patients control group	Coach2Move: three different profiles in the intervention group	Pre-post evaluation: physical functioning and self-reported health status	Results section evaluates the Coach2Move approach including shared decision making on meaningful treatment goals
Deutsch, Maidan, and Dickstein, 2012	Case study	To describe the implementation of an integrated motor imagery intervention and the delivery of therapy both on site and through telerehabilitation	1 patient with stroke. On site and telerehabilitation	Integrated motor imagery	Evaluations baseline, 3 months and 6 months: physical functioning and self-reported health status, number of falls during 3 months, health care utilization	Discusses a treatment that consists of patient-centered goal setting.
Gardner et al., 2015	Pre-post intervention longitudinal cohort study	To explore goals important to patients with chronic low back pain and to investigate the extent of their alignment with outcome measures.	20 patients with chronic low back pain	"Participant Workbook", goal setting according to the SMART model, five sessions and two monthly follow up sessions	Thematically coded goals, IMPACCT outcome domains.	Results evaluates patient-led goal setting by exploring goals that are important to patients.
Hale and Piggot, 2005	Grounded theory approach. Semi-structured interviews	To address the paucity of information on the content of physiotherapeutic home-based stroke rehabilitation	20 physiotherapists	N.A.	Semi-structured interviews	Results describe physiotherapists' perceptions of patient-centered goals related to successful home based stroke rehabilitation.
Josephson, Woodward-Kron, Delant, and Hiller, 2015	Discourse analysis, Appraisal theory. Video- or audio recorded consultations	Examine how therapists and patients evaluate aspects such as physical capacity, sensation, and emotions within the physiotherapy consultation	18 consultations	N.A.	Video- and audio recorded data	Results describe different aspects of interaction in physiotherapy goal setting.

(Continued)

Table 1. (Continued).

Authors, year	Design	Aim	Sample and setting	Intervention	Data collection	Motivation for inclusion
Kasven-Gonzales, Souverain, and Miale, 2010	Case study	Describe rehabilitation intervention with a woman diagnosed with osteosarcoma and leukemia during the final stage of her life	1 patient with cancer, physiotherapist Terminal care	N.A.	N.A.	Describes and discusses occupational and physiotherapists work with a critically-ill patient to create person-centered realistic and meaningful goals
Kersten et al., 2015	Pilot, mixed methods: randomized controlled trial and interviews	To test the feasibility and acceptability of this specific implementation intention strategy, <i>if-then</i> plans.	10 patients with MS, 10 patients with stroke, 4 physiotherapists Out-patient rehabilitation; in the home setting	If-then plans	Focus group and individual interviews with patients and physiotherapists. Pre-post evaluation: physical functioning and self-reported health status	Results section describes participants experiences of setting activity goals for their self-managed rehabilitation and the feasibility of if-then plans to bridge the goal intention-action gap
Langford et al., 2015	Pilot; a parallel 1:1 randomized controlled feasibility study	To test feasibility of the planned design, the interventions, and the outcome measures, and to facilitate a power calculation for a future randomized controlled trial to improve adherence to recovery goals following hip fracture	Community-dwelling adults over 60 years of age with a recent hip fracture Post-discharge	Education, telephone coaching	Feasibility, specifically recruitment and retention of participants. EQ5D-5L, gait speed, and ICEpop CAPability and the HAD Scale	Describes and evaluates a person-centered education program with mobility recovery goal setting in older adults with recent hip fractures.
Leach, Cornwell, Fleming, and Haines, 2010	Qualitative analysis. Semi-structured email interviews.	To describe current practices in goal-setting within a subacute rehabilitation setting from the perspective of therapists	Physiotherapists (and occupational and speech therapists) Sub-acute stroke rehabilitation	N.A.	Semi-structured interviews	Results describe rehabilitation professionals' experiences of the goal setting process and quality of patient input.
Lloyd, Roberts, and Freeman, 2014	Constructivist grounded theory. Semi-structured interviews.	To explore physiotherapists' perceptions about involving patients in goal setting	9 physiotherapists Sub-acute stroke rehabilitation	N.A.	Interviews	Results describe physiotherapists' perceptions of goal setting in collaboration with patients.
Mudge, Stretton, and Kayes, 2014	Autoethnographic approach	To understand our shared conflicting responses and discomfort to person-centered rehabilitation	2 physiotherapists Neurorehabilitation	N.A.	Independent written reflections and joint discussions	Results describe physiotherapists' perception of discomfort in person-centered goal setting in rehabilitation.
Oosting et al., 2018	Qualitative case study	To get insight into personal meaning of a person involved in a physical therapy intervention	A old woman, her daughter and physiotherapist Before total hip arthroplasty	N.A.	Narrative method	Results describes differences in goals between patient and physiotherapist and how this can help applying patient centered goal setting

(Continued)

**Table 1. (Continued).**

Authors, year	Design	Aim	Sample and setting	Intervention	Data collection	Motivation for inclusion
Peirone, Goria, and Anselmino, 2014	Randomized controlled trial	To evaluate the safety, feasibility and effectiveness of a dual-task home-based rehabilitation on balance impairments after acquired brain injury	16 patients post-acquired brain injury Out-patient rehabilitation	50-minutes individualized traditional physiotherapy sessions three times a week for seven weeks. The intervention group also performed an individualized dual-task home-based program, six days a week for seven weeks	Balance Evaluation System Test, Activities-specific Balance Confidence Scale and Goal Scaling	Evaluates a rehabilitation program in which the participant, together with their physiotherapist, identified two goals that were realistic and of interest to the participant.
Randall and McEwen, 2000	Perspectives	Provide a definition of patient-centered functional goals	N.A.	N.A.	N.A.	The perspective describes a patient-centered functional approach to goal writing that are individually meaningful to patients.
Stevens et al., 2016	Qualitative descriptive design. Observations and interviews.	To get insight into the patient's perspective about the feasibility of the PSC	23 physiotherapy sessions, 23 patients with chronic conditions Community rehabilitation	PSC instrument into daily practice.	Observations and interviews	Results describe aspects of patient involvement in goal negotiation and tailoring of goals in physiotherapy, from the therapist perspective. Results describe patients' experiences of their involvement and participation in physiotherapy goal setting.
Stevens, Köke, van der Weijden, and Beurskens, 2017a	A non-controlled intervention study	To examine the feasibility of the PSG in daily physiotherapy practice, and to explore the potential impact of the new method.	218 patients and 51 physiotherapists Community-based health care	PSC instrument into daily practice.	Quantitative and qualitative data by recording consultations and assessing patient files, questionnaires and written reflection reports	Results describes physiotherapists experiences of patient-specific instruments to support patient involvement in the goal-setting process
Stevens et al., 2017	Directed content analysis. Observations and interviews.	To examine physiotherapy goal-setting and the use of the PSC and physiotherapists' perception of the PSC usefulness of the PSC	23 patients and 10 physiotherapists Chronic conditions	PSC instrument into daily practice.	Audio-tapes and semi-structured interviews	Results describe the process to improve an instrument for involving patients in goal setting.
Stevens, Köke, van der Weijden, and Beurskens, 2017b	Development study with a user-centered design	To improve the Patient-Specific Complaints instrument	Patients and physiotherapists	N.A.	Expert group meeting, questionnaires, field testing feedback	Results describe physiotherapists interactions with patients to outline and meet the patients' treatment goals.
Thomson, 2008	Ethnographic study	To explore how therapist/patient interactions influence success or contribute to meeting the patients' goals on a pain management program	A team of 5 physiotherapist Hospital	N.A.	Observations	Results describes physiotherapists interactions with patients to outline and meet the patients' treatment goals.

should be formulated in a non-directive collaboration (Josephson, Woodwad-Kron, Delant, and Hiller, 2015; Kasven-Gonzales, Souverain, and Miale, 2010; Lloyd, Roberts, and Freeman, 2014; Mudge, Stretton, and Kayes, 2014; Peirone, Gorla, and Anselmino, 2014; Randall and McEwen, 2000; Thomson, 2008). A balance between patient- and therapist-directed goal-setting was suggested by physiotherapists in sub-acute stroke rehabilitation (Lloyd, Roberts, and Freeman, 2014) (i.e. a collaboration where they in co-operation jointly set goals). In home-based stroke rehabilitation it was important for the physiotherapists to “*think outside of the square and try to work specifically on what the client wants to work on, not what you want to work on*” (Hale and Piggot, 2005).

To formulate goals that addressed what was meaningful and relevant for the patient required an understanding of the patient’s activities, perceived needs, limitations, and strengths. The patient should be involved early in goal-setting. In the perspective paper by Randall and McEwen (2000), they suggested that the patient may simply be asked “*What are your goals for therapy*”. Some intervention papers included more detailed examinations (de Vries et al., 2015; de Vries et al., 2016; Stevens, Köke, van der Weijden, and Beurskens, 2017a) and several studies put emphasis on taking the patients seriously and allowing them time to tell their own stories (de Vries et al., 2015; de Vries et al., 2016; Hale and Piggot, 2005; Mudge, Stretton, and Kayes, 2014). Moreover, some tools or strategies were used to enhance the patient’s ability to identify, formulate, and prioritize his or her own goals (de Vries et al., 2015; de Vries et al., 2016; Gardner et al., 2015; Kersten et al., 2015; Langford et al., 2015; Stevens, Köke, van der Weijden, and Beurskens, 2017a; Stevens et al., 2016, 2017) (Table 1). As shown in the feasibility studies by Stevens et al. (2017) and Stevens, Köke, van der Weijden, and Beurskens (2017a), such tools should not stand alone and need to be integrated into the clinical reasoning. The process of formulating goals could also include a plan for who will do what, under what conditions, how well and during which timeframe. Furthermore, in the feasibility study by Kersten et al. (2015) they added *if-then plans* to the usual goal-setting tools. By identifying both facilitators and barriers, the *if-then plans* aimed to help the patient focus on strategies to manage the rehabilitation, rather than blaming him or her for not being adherent.

### **Facing challenges with person-centered goal-setting**

Facing challenges with formulating goals in collaboration with the patient was also a topic identified in the literature (Josephson, Woodwad-Kron, Delant, and Hiller, 2015;

Mudge, Stretton, and Kayes, 2014; Stevens et al., 2017; Thomson, 2008). In neurorehabilitation, aiming for a person-centered approach to goal-setting could create dilemmas and physiotherapists feeling uncomfortable with the person-centered approach (Mudge, Stretton, and Kayes, 2014). The physiotherapists’ feared that patients would propose unrealistic goals or that the patients and the physiotherapists would have different ideas and desires. Likewise, as described by Josephson, Woodwad-Kron, Delant, and Hiller (2015) in primary care and hospital rehabilitation: “*when patients introduce emotions, therapists appear hesitant to explore these, preferring to return to a biomechanical focus*”. Moreover, challenges for the physiotherapists arose when there was not a mutual understanding of the process. For instance, patients expected that the physiotherapist should set the goals, which contradicts the ideal of active patient participation in goal-setting and collaboration (Stevens et al., 2016).

### **Developing skills by experiences and education**

The data revealed that physiotherapists had to be sensitive to patients’ different desires about their preferred roles (Lloyd, Roberts, and Freeman, 2014; Mudge, Stretton, and Kayes, 2014; Thomson, 2008). For example, patients might preferred being active or passive in their goal-setting and the physiotherapist should accommodate this. Based on interviews with physiotherapists in sub-acute stroke rehabilitation, Lloyd, Roberts, and Freeman (2014) suggested this could be viewed as a continuum: “*some patients seeming to prefer more therapist direction, and others preferring to take the lead in setting goals*”. The physiotherapists’ flexibility could be facilitated through mindful listening and giving the patient enough time. As described in an ethnographic study of physiotherapists at hospitals: *Such expertise involves the blending of self-knowledge and intellectual, emotional, and personal maturity with the therapist’s knowledge base, but predominantly it is recognized by how it is manifested in the interactions between therapists and their patients* (Thomson, 2008). Thus, advanced communication skills and personal engagement were emphasized as necessary for person-centered goal-setting in practice (Mudge, Stretton, and Kayes, 2014; Thomson, 2008). Physiotherapists needed to acknowledge the emotional/relational aspects of their practice to increase awareness of an open communication with the patient.

### **Changing interaction and reflective practice**

Studies across different settings suggested a changed interaction between the patient and physiotherapist when they formulated goals in collaboration. This was referred to as working in a different way compared to “normal practice”. (Langford et al., 2015; Lloyd, Roberts, and Freeman, 2014; Mudge, Stretton, and

Kayes, 2014; Randall and McEwen, 2000; Stevens, Köke, van der Weijden, and Beurskens, 2017a, 2017b). For instance, more time was used getting to know the patient and his or her self-care, work or leisure activities, which improved and refined the diagnostic phase (Deutsch, Maidan, and Dickstein, 2012; de Vries et al., 2015; Randall and McEwen, 2000). Consequently, the physiotherapist could suggest tailored intervention strategies that prepared the patient for a return to meaningful daily life activities. Thus, the collective literature suggested that a person-centered approach to goal-setting could also lead to a more goal-directed and meaningful physiotherapy. As presented in the Coach2Move program by de Vries et al. (2015), after agreeing on goals and contribution, the physiotherapist should coach the patient to become more physically active in their own environment, so that the physical activity becomes meaningful in their daily lives.

### Theoretical discussion and initial framework

From the qualitative analyzes of definitions and related requirements, processes and operationalization of person-centered goal-setting, two higher-ordered and interlaced themes were generated: 1) To seek mutual understanding of what is meaningful to the patient; and 2) To refine physiotherapy interaction skills. These themes are suggested as an initial theory construction of how person-centered goal-setting could be conceptualized and operationalized in physiotherapy. The interrelation between the two themes and the five categories are presented in Figure 2. Below, we will elaborate on the themes in relation

to additional literature addressing person-centeredness and physiotherapy skills.

### To seek mutual understanding of what is meaningful for the patient

This theme concerns a process of taking as starting point the patient's lived context and their views on what matters in daily life. The centrality of meaningful goals can be related to the importance of initiating a partnership through a narrative (Ekman et al., 2011). The patient's narrative will allow the patient to share his or her experiences of the illness and symptoms as well as how they impact their everyday life. To understand what brings meaning to a patient's life, the physiotherapist must acknowledge that the patient is always first and foremost a person. *Who* the person is refers to his or her identity, which is unique and irreplaceable. On the other hand, being a patient refers to a certain role (i.e. *what*) the patient has when encountering health care (Kristensson Uggla, 2014). The patient's narrative is not only verbal, but also embodied. The physiotherapist needs to make use of all senses to observe, touch, and attune bodily to the whole person and their lived context (Øberg, Normann, and Gallagher, 2015). Practically, in assessments and movements to stake out and explore a tentative goal, the physiotherapist uses his or her own body to give instructions, but also to mirror and reflect together on the patient's process (Danielsson, Kihlbom, and Rosberg, 2016). However, this non-verbal narrative needs further attention and exploration in physiotherapy in general. Exploring theories about

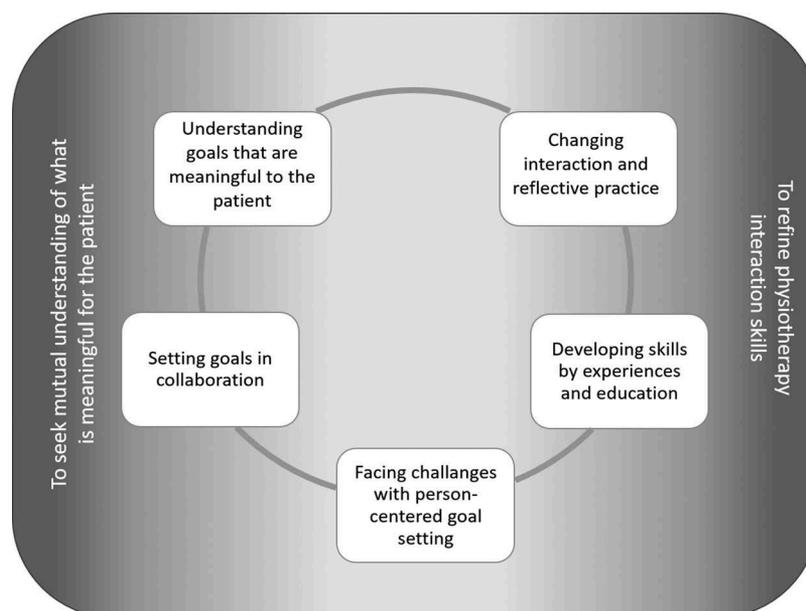


Figure 2. Initial framework for how person-centered goal-setting could be conceptualized and operationalised in physiotherapy.

embodiment can lead to new perspectives about the therapeutic alliance in physiotherapy (Ferreira et al., 2013). Advancing knowledge on the embodied interaction in physiotherapy practice will likely improve communication and, subsequently, facilitate meaningful goal-setting.

There is negotiation between the patient and the physiotherapist in a non-directed collaboration (Lloyd, Roberts, and Freeman, 2014). In person-centered ethic, the patient and the physiotherapist bring their different expert knowledge into the process where they share information and decision-making (Ekman et al., 2011). Different emphases can be given to the patient's or to the physiotherapist's perspective at different times. Thus, a true collaboration necessitates searching for a dynamic negotiation wherein the patient and the physiotherapist can formulate the patient's goals. Nevertheless, a potential discomfort can occur with goal-setting when a person-centered approach is applied. Some patients with complex or multiple health issues may have: unrealistic goals (Leach, Cornwell, Fleming, and Haines, 2010; Mudge, Stretton, and Kayes, 2014); some patients with unexpected or unpredictable injuries or diseases may find it difficult to identify future goals (Holliday, Ballinger, and Playford, 2007); some patients may find it difficult to describe how he or she feels (Melander Wikman and Fältholm, 2006); and some patients may lack the confidence to express their viewpoints (Young, Manmathan, and Ward, 2008). This can be understood in relation to Ricoeur's (1992) concept "homo capax". Humans are capable, which simultaneously means both able and vulnerable. For the patient, this means that he or she at the same time will have agency and vulnerability as well as possessing freedom and being bound by limitations. From a person-centered perspective, there are, however, some key actions to go beyond those limitations, to reduce the discomfort, and ensure that what is meaningful for the patient is addressed. Firstly, the discomfort with goal-setting can be reduced if physiotherapists regard goals as aspirations, hopes and dreams (Mudge, Stretton, and Kayes, 2014). Thereby the patient feels listened to, valued and more empowered (Ekman et al., 2011). Secondly, there can be a need to assist the patient to formulate short-term goals based on the patient's overall goal (Britten et al., 2016). Goals can often be broken down into smaller steps or tasks (Siegert and Taylor, 2004) necessary for working toward the overall goal (Britten et al., 2016; Siegert and Taylor, 2004). Thirdly, physiotherapists must elaborate on an understanding beyond the assessment of the patient's health problem and suggest interventions which align the treatment to the patient's goals

(Nicholls and Gibson, 2010). Giving an example from pain rehabilitation, but also valid for other health problems, the physiotherapist must try to understand the '*phenomenological*' dimension of pain (Nicholls and Gibson, 2010). This implies giving meaning to unique experiences and characteristics in the patient's life, which provides an additional dimension to the patient's health status necessary when formulating goals in collaboration. Physiotherapists who try to listen and take in what the experience of pain means in the patient's life, beyond symptoms and function, will likely be better prepared to co-create meaningful treatment goals with the patient. Such needs and goals would correspond to The International Classification of Functioning, Disability and Health (ICF) levels of activity and participation rather than function and structure (World Health Organization, 2013). Lastly, there are also some methods to facilitate person-centered goal-setting reported in the content analysis (Gardner et al., 2015; Kersten et al., 2015; Stevens, Köke, van der Weijden, and Beurskens, 2017a), which are elaborated on in the discussion. Such methods can help the patient to articulate what he or she wants as well as phrasing the goals, which will reasonably both reduce the eventual physiotherapist discomfort and ensure that what is meaningful for the patient is addressed.

### **To refine physiotherapy interaction skills**

This theme reflects how physiotherapists need to improve their communication with patients to enable person-centered goal-setting. This theme also reflects how the physiotherapists' responsiveness can be enhanced by self-awareness, reflection and education. As the content analysis showed, a person-centered goal-setting approach can be different to the way in which physiotherapists traditionally work (Mudge, Stretton, and Kayes, 2014; Randall and McEwen, 2000). Thus, specific training may be required and a changed clinical mindset might be needed (Britten et al., 2016). For such a change to occur, a first step could be to enhance self-awareness (Pryor and Dean, 2012). A prerequisite for being professional is the consciousness of oneself as a person (Praestegaard and Gard, 2011). What rehabilitation professionals as persons bring into the interaction with the patient will have implications for a person-centered practice (Pryor and Dean, 2012). Specifically, a person develops through meaningful relations with other persons and to be genuinely "seen" by the other in dialog, is fundamental (Buber, 1994). Buber (1994) makes a distinction between an *I-thou relation* and an *I-it relation*. The *I-thou relation*, means seeing the other person as a subject, which requires openness and presence. In contrast to this,

the *I-it relation* means seeing the other person as an objective, which is regarded at a distance. A focus on dynamics and recognition of each other, as in an *I-thou relation*, is the starting point for understanding the other person. Hence, the physiotherapist should invite the patient to a reciprocal relationship where both are “*seeing and being seen, talking and being listened to, and touching and being touched*” (Chowdhury and Bjorbaekmo, 2017).

Moreover, mindful listening (Mudge, Stretton, and Kayes, 2014) and allowing the patient time (de Vries et al., 2015; Mudge, Stretton, and Kayes, 2014; Randall and McEwen, 2000) are crucial in getting to know *who* the person is (Ekman et al., 2011). The narrative is central to get to know *who* the person is as it allows him or her to tell his or her own story and “*sends a message to the patient that his or her experiences, feelings, beliefs, and preferences are important considerations*” (Ekman et al., 2011). Such confirmation can be viewed as encouragement of the patient to share his or her suffering (Praestegaard and Gard, 2011). There is, however, a need for caution to not intrude into the patient’s personal territory without first establishing a respectful and empathic dialog (Praestegaard and Gard, 2011). This places demands on the physiotherapist, not only on mindful listening, but on the ability to be sensitive to the embodied interaction (Chowdhury and Bjorbaekmo, 2017; Øberg, Normann, and Gallagher, 2015). The responsiveness depends on the physiotherapist’s ability to be present and open, and the ability to interpret the mutual attunement (Chowdhury and Bjorbaekmo, 2017). This involves, for example, the ability “to stay in the moment”, to endure discomfort expressed by the patient or felt in the room, and to distinguish the patient’s feelings from the therapist’s own feelings (Danielsson, Hansson Scherman, and Rosberg, 2013). The ability to suggest adequate “dosage” (i.e. amount, duration, intensity) of suitable exercises or strategies relies on this responsiveness. Here, the required skill connects to the physiotherapist’s own embodied awareness, which can be developed and refined with training and experience.

## Discussion

The results of this paper provide an initial framework for how person-centered goal-setting could be conceptualized and operationalized in physiotherapy; however, further research is needed. In line with previous studies, our results suggest that achieving person-centered goal-setting in practice poses challenges. As stated by Gzil et al. (2007): *in practice it is extremely difficult to reconcile person-centeredness and traditional approaches*

*to scientific rigor*. For example, a person-centered approach can be difficult to integrate with strong hypothetic-deductive models of clinical reasoning and goal-setting (Cruz, Moore, and Cross, 2012). Moreover, healthcare professionals may lack the necessary skills to involve the patients or may not be given the resources (e.g. sufficient time to get to know the patient), and patients may not be fully aware of what is expected of them (Rose, Rosewilliam, and Soundy, 2017). Thus, healthcare professionals may need training both in terms of the underlying ethics of person-centeredness (Britten et al., 2016) and of the goal-setting process (Scobbie, Dixon, and Wyke, 2011) to challenge and develop their clinical competence.

We suggest that there is a gap in the physiotherapy literature about how to theoretically understand and put into practice, a dialectical movement in clinical reasoning and goal-setting. This dialectical movement implies alternating between a holistic perspective (i.e. a person with experiences and abilities in interaction with the environment) and a biomedical perspective of symptoms and signs. In other words, how to shift focus between *who* and *what*.

Another suggested path for further research is the implication and relation of this initial theoretical framework for person-centered goal-setting in physiotherapy to other professionals. On the one hand there are similarities with the more generic framework provided by Scobbie, Dixon, and Wyke (2011), for example, that goal-setting is iterative rather than a simple linear process and that the patient’s unique circumstances are fundamental in the goal-setting process. However, certain aspects relevant to physiotherapy seem overlooked in previous models. In this paper we stress the importance of embodiment, in line with other recent physiotherapy studies (Chowdhury and Bjorbaekmo, 2017; Ferreira et al., 2013; Hay, Connelly, and Kinsella, 2016; Nicholls and Gibson, 2010). The embodiment perspective still needs to be further explored in relation to person-centered goal-setting and evaluated in clinical trials.

The present study identified some tools worth further exploring to enable person-centered goal-setting. For instance, Gardner et al. (2015), used a participant workbook where the patient filled in the goals. Stevens, Köke, van der Weijden, and Beurskens (2017a) proposed a Patient Specific Goal-setting method (PSG) to increase patient participation in the goal-setting process. Kersten et al. (2015) recorded both the goals and the *if-then* plans in a purposely developed datasheet. Such documentation contains more than just statements of goals and plans, it also gives legitimacy to the patient’s views, increases transparency in the relationship and may facilitate

continuity of care (Ekman et al., 2011). Moreover, to facilitate and help the physiotherapist to practice person-centered goal-setting and to assist the patient in identifying their own goals, new tools may be helpful. Guidance, such as SMART goals (*Specific, Motivating, Attainable, Rational, and Timely*), for careful and precise expression of goals are widely used in general as well as in rehabilitation (Schut and Stam, 1994). Although, as a reaction to SMART goals, McPherson, Kayes, and Kersten (2015) have proposed a new approach to goal-setting in rehabilitation called MEANING: *Meaning, Engage, Anchor, Negotiate, Intention-implementation gap, New goals, and Goals as behavior change*. This approach can be divided into three stages: identifying meaningful goals; connecting to concrete target goals; and bridging the intention-implementation gap. The MEANING approach also includes *if-then* plans (McPherson, Kayes, and Kersten, 2015) as in the study by Kersten et al. (2015). The *if-then* plans place emphasis on developing practical strategies, which are formulated by addressing the patient's resources as well as limitations (Kersten et al., 2015). From a person-centered perspective, this can be understood as acknowledging both the patients' vulnerability and their agency, but at the same time helps to enhance his or her capability. Thus, the MEANING approach seems preferable to the SMART approach, from a person-centered perspective.

There are several methodological considerations to bear in mind. This study reviewed studies with different methodologies, which may be considered a limitation when synthesizing the data. However, this choice was in line with our focus on including available descriptions of definitions and related requirements, processes and operationalization of person-centered goal-setting in physiotherapy. This allowed us to capture the patient and physiotherapist perspectives in clinical encounters, as well as the underlying principles when studies were designed. Hence, we applied the principles of content analysis (Krippendorff, 2013) to generate a thematic interpretation of these descriptions. Since there were different kinds of studies, the checklists for quality appraisal were chosen to match each study design. The appraisals focused on the study quality, and not on the quality of how well person-centeredness were described. Another limitation was that studies were not included if they were in languages other than English, or if they addressed person-centered goal-setting in physiotherapy but did not state it in title, abstract or keywords. This might have resulted in a failure to retrieve all available articles with valuable information. It should also be borne in mind that this paper only focused on the patient-physiotherapist encounter, which can be viewed a limitation. Future studies are recommended to focus

on the interprofessional and multidisciplinary aspects of person-centered goal-setting. Moreover, the authors' prior understanding of the person-centered care principles proposed at GPCC should be mentioned as a methodological concern. While this prior understanding has likely affected the interpretation of data, the authors' theoretical knowledge was seen important to capture and thematize content from the different studies. For transparency, we therefore described our prior theoretical and clinical backgrounds, enabling the reader to judge their potential impact on the results. The present study's theoretical discussion of results from empirical studies can contribute to the physiotherapy knowledge base (Bithell, 2005) and illuminate the human scientific approach to physiotherapy (Wikstrom-Grotell and Eriksson, 2012). This is also true for rehabilitation in general, where such theoretical perspectives are required. Siegert and Taylor (2004) assert that there is a need for "a body of theory that explains how an intervention works" and not only a focus on what works or not.

## Conclusion

This study analyzed how definitions and related requirements, processes and operationalization of person-centered goal-setting is used and described in physiotherapy research literature. The themes generated from the literature provide an initial theoretical framework for how person-centered goal-setting could be conceptualized and operationalized in physiotherapy. This could be used to facilitate a deeper understanding of what it means to identify and formulate goals in a person-centered manner and what it can lead to, which physiotherapist skills are important in person-centered goal-setting, and how to overcome some barriers to person-centered goal-setting. Consequently, this means giving primacy to person, meaning and context when addressing the patient's health problem and involves a refined approach compared to traditional physiotherapy practice. This requires nuanced and advanced specific physiotherapist skills, such as mindful listening, embodied interaction, and continuous ethical reflection.

## Declaration of interest

The authors report no declarations of interest.

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## Appendices

### Appendix A. Literature search

Date	Database	Search terms			Hits		
2018-02-02	Cinahl	goal setting	physiotherapy	person-center*	0		
		goal setting	physiotherapy	person-center*	0		
		goal setting	physiotherapy	patient-center*	6		
		goal setting	physiotherapy	patient-center*	4		
		goal setting	physiotherapy	client-center*	0		
		goal setting	physiotherapy	client-center*	0		
		goal setting	physical therapy	person-center*	0		
		goal setting	physical therapy	person-center*	0		
		goal setting	physical therapy	patient-center*	6		
		goal setting	physical therapy	patient-center*	2		
		goal setting	physical therapy	client-center*	0		
		goal setting	physical therapy	client-center*	0		
		<b>Total</b>					8
		2018-02-02	Pubmed	goal setting	physiotherapy	person-center*	5
goal setting	physiotherapy			person-center*	3		
goal setting	physiotherapy			patient-center*	16		
goal setting	physiotherapy			patient-center*	11		
goal setting	physiotherapy			client-center*	6		
goal setting	physiotherapy			client-center*	3		
goal setting	physical therapy			person-center*	5		
goal setting	physical therapy			person-center*	3		
goal setting	physical therapy			patient-center*	35		
goal setting	physical therapy			patient-center*	10		
goal setting	physical therapy			client-center*	8		
goal setting	physical therapy			client-center*	4		
<b>Total</b>					74		
2018-02-03	PEDro	goal setting	physiotherapy	person-center	0		
		goal setting	physiotherapy	person-center	0		
		goal setting	physiotherapy	patient-center	1		
		goal setting	physiotherapy	patient-center	0		
		goal setting	physiotherapy	client-center	0		
		goal setting	physiotherapy	client-center	0		
		goal setting	physical therapy	person-center	0		
		goal setting	physical therapy	person-center	0		
		goal setting	physical therapy	patient-center	3		
		goal setting	physical therapy	patient-center	0		
		goal setting	physical therapy	client-center	0		
		goal setting	physical therapy	client-center	0		
<b>Total</b>					3		
2018-02-03	REHABDATA	goal setting	physiotherapy	person-center	0		
		goal setting	physiotherapy	person-center	0		
		goal setting	physiotherapy	patient-center	0		
		goal setting	physiotherapy	patient-center	0		
		goal setting	physiotherapy	client-center	0		
		goal setting	physiotherapy	client-center	0		
		goal setting	physical therapy	person-center	0		
		goal setting	physical therapy	person-center	0		
		goal setting	physical therapy	patient-center	0		
		goal setting	physical therapy	patient-center	0		
		goal setting	physical therapy	client-center	0		
		goal setting	physical therapy	client-center	0		
<b>Total</b>					0		
2018-02-03	PsycINFO	goal setting	physiotherapy	person-center*	0		
		goal setting	physiotherapy	person-center*	1		

(Continued)

(Continued).

Date	Database	Search terms			Hits
		goal setting	physiotherapy	patient-center*	5
		goal setting	physiotherapy	patient-center*	5
		goal setting	physiotherapy	client-center*	3
		goal setting	physiotherapy	client-center*	4
		goal setting	physical therapy	person-center*	4
		goal setting	physical therapy	person-center*	3
		goal setting	physical therapy	patient-center*	16
		goal setting	physical therapy	patient-center*	6
		goal setting	physical therapy	client-center*	16
		goal setting	physical therapy	client-center*	3
				<b>Total</b>	<b>43</b>
2018-02-03	Scopus	goal setting	physiotherapy	person-center*	2
		goal setting	physiotherapy	person-center*	2
		goal setting	physiotherapy	patient-center*	8
		goal setting	physiotherapy	patient-center*	8
		goal setting	physiotherapy	client-center*	4
		goal setting	physiotherapy	client-center*	4
		goal setting	physical therapy	person-center*	1
		goal setting	physical therapy	person-center*	1
		goal setting	physical therapy	patient-center*	6
		goal setting	physical therapy	patient-center*	6
		goal setting	physical therapy	client-center*	1
		goal setting	physical therapy	client-center*	1
				<b>Total</b>	<b>15</b>

## Appendix B Quality Appraisal

Quality Assessment of Controlled Intervention Studies <https://www.nhlbi.nih.gov/health-topics/study-quality-assessment-tools>

	de Vries et al., 2016	Kersten et al., 2015	Langford et al., 2015	Peirone, Gorla, and Anselmino, 2014
1. Was the study described as randomized, a randomized trial, a randomized clinical trial, or an RCT?	Yes	Yes	Yes	Yes
2. Was the method of randomization adequate (i.e., use of randomly generated assignment)?	Yes	Yes	Yes	Yes
3. Was the treatment allocation concealed (so that assignments could not be predicted)?	Yes	Yes	Yes	Yes
4. Were study participants and providers blinded to treatment group assignment?	Yes	No	No	No
5. Were the people assessing the outcomes blinded to the participants' group assignments?	Yes	Yes	Yes	Yes
6. Were the groups similar at baseline on important characteristics that could affect outcomes (e.g., demographics, risk factors, co-morbid conditions)?	Yes	Yes	Yes	Yes
7. Was the overall drop-out rate from the study at endpoint 20% or lower of the number allocated to treatment?	Yes	No	Yes	Yes
8. Was the differential drop-out rate (between treatment groups) at endpoint 15 percentage points or lower?	Yes	Yes	No	Yes
9. Was there high adherence to the intervention protocols for each treatment group?	Yes	Yes	Yes	Yes
10. Were other interventions avoided or similar in the groups (e.g., similar background treatments)?	Not reported	Yes	Yes	Not reported
11. Were outcomes assessed using valid and reliable measures, implemented consistently across all study participants?	Yes	Yes	Yes	Yes
12. Did the authors report that the sample size was sufficiently large to be able to detect a difference in the main outcome between groups with at least 80% power?	Yes	No	No	No
13. Were outcomes reported or subgroups analyzed prespecified (i.e., identified before analyzes were conducted)?	Yes	Yes	Yes	Yes
14. Were all randomized participants analyzed in the group to which they were originally assigned, i.e., did they use an intention-to-treat analysis?	Yes	Yes	No	Yes
Quality rating	Good N = 64 + 66	Fair Pilot-study, N = 10 + 10	Fair Feasibility-study, pilot N = 11 + 15	Fair Pilot-study N = 8 + 8

**Quality Assessment Tool for Before-After (Pre-Post) Studies With No Control Group** <https://www.nhlbi.nih.gov/health-topics/study-quality-assessment-tools>

	de Vries et al., 2015	Gardner et al 2015	Stevens, Köke, van der Weijden, and Beurskens, 2017aa
1. Was the study question or objective clearly stated?	Yes	Yes	Yes
2. Were eligibility/selection criteria for the study population prespecified and clearly described?	Yes	No	Yes
3. Were the participants in the study representative of those who would be eligible for the test/service/intervention in the general or clinical population of interest?	No	No	Yes
4. Were all eligible participants that met the prespecified entry criteria enrolled?	No	Cannot determine	No
5. Was the sample size sufficiently large to provide confidence in the findings?	No	No	Yes
6. Was the test/service/intervention clearly described and delivered consistently across the study population?	Yes	Yes	Yes
7. Were the outcome measures prespecified, clearly defined, valid, reliable, and assessed consistently across all study participants?	Yes	Yes	Yes
8. Were the people assessing the outcomes blinded to the participants' exposures/interventions?	No	Not reported	No
9. Was the loss to follow-up after baseline 20% or less? Were those lost to follow-up accounted for in the analysis?	Yes	No	Yes
10. Did the statistical methods examine changes in outcome measures from before to after the intervention? Were statistical tests done that provided <i>p</i> values for the pre-to-post changes?	Yes	No	Yes
11. Were outcome measures of interest taken multiple times before the intervention and multiple times after the intervention (i.e., did they use an interrupted time-series design)?	No	No	No
12. If the intervention was conducted at a group level (e.g., a whole hospital, a community, etc.) did the statistical analysis take into account the use of individual-level data to determine effects at the group level?	Not applicable	Not applicable	Not applicable
Quality rating	Fair Pilot-study N = 12 pat+ 2 PT	Fair N = 20	Good Process evaluation N = 218 pat+51 PT

**Quality Assessment Tool for Case Series Studies** <https://www.nhlbi.nih.gov/health-topics/study-quality-assessment-tools>

	Deutsch, Maidan, and Dickstein, 2012	Kasven-Gonzales, Souverain, and Miale, 2010
1. Was the study question or objective clearly stated?	Yes	Yes
2. Was the study population clearly and fully described, including a case definition?	Yes	Yes
3. Were the cases consecutive?	Not applicable	Not applicable
4. Were the subjects comparable?	Not applicable	Not applicable
5. Was the intervention clearly described?	Yes	Yes
6. Were the outcome measures clearly defined, valid, reliable, and implemented consistently across all study participants?	Yes	Cannot determine
7. Was the length of follow-up adequate?	Yes	Yes
8. Were the statistical methods well-described?	N.A	Not applicable
9. Were the results well-described?	Yes	Yes
Quality rating	Good	Good

**CASP Critical Appraisal Skills Programme Checklist for Qualitative Research** [https://casp-uk.net/wp-content/uploads/2018/03/CASP-Qualitative-Checklist\\_2018\\_fillable\\_form.pdf](https://casp-uk.net/wp-content/uploads/2018/03/CASP-Qualitative-Checklist_2018_fillable_form.pdf)

	Cameron,	Josephson, Woodwad-Kron, Delant, and Hiller, 2015	Hale and Piggot, 2005	Leach, Cornwell, Fleming, and Haines, 2010	Lloyd et al 2014
1. Was there a clear statement of the aims of the research?	Yes	Yes	Yes	Yes	Yes
2. Is qualitative methodology appropriate?	Yes	Yes	Yes	Yes	Yes
3. Was the research design appropriate to address the aims of the research?	Yes	Yes	Yes	Can't tell	Yes
4. Was the recruitment strategy appropriate to the aims of the research?	Yes	Can't tell	Yes	Yes	Yes
5. Was the data collected in a way that addressed the research issue?	Yes	Can't tell	Yes	No	Yes
6. Has the relationship between researcher and participant been adequately considered?	No	Yes	Yes	No	Yes
7. Have ethical issues been taken into consideration?	Can't tell	Yes	Yes	Yes	Can't tell
8. Was the data analysis sufficiently rigorous?	Yes	Yes	Yes	Yes	Yes
9. Is there a clear statement of findings?	Yes	Yes	Yes	Yes	Yes
10. How valuable is the research?	Valuable	Valuable	Valuable	Moderate	Valuable
	Mudge, Stretton, and Kayes, 2014	Oosting et al., 2018	Stevens et al., 2016	Stevens, Köke, van der Weijden, and Beurskens, 2017bb	Thomson, 2008
1. Was there a clear statement of the aims of the research?	Yes	Yes	Yes	Yes	Yes
2. Is qualitative methodology appropriate?	Yes	Yes	Yes	Yes	Yes
3. Was the research design appropriate to address the aims of the research?	Yes	Yes	Yes	Yes	Yes
4. Was the recruitment strategy appropriate to the aims of the research?	Yes	Can't tell	Yes	Yes	Can't tell
5. Was the data collected in a way that addressed the research issue?	Yes	Yes	Yes	Yes	Yes
6. Has the relationship between researcher and participant been adequately considered?	Can't tell	Yes	Yes	No	Yes
7. Have ethical issues been taken into consideration?	No	Yes	No	No	Yes
8. Was the data analysis sufficiently rigorous?	Yes	Yes	Yes	Yes	Yes
9. Is there a clear statement of findings?	Yes	Yes	Yes	Yes	Yes
10. How valuable is the research?	Valuable	Valuable	Valuable	Valuable	Valuable