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Patients' conceptions of undergoing physiotherapy for persistent low back pain delivered in Finnish primary healthcare by physiotherapists who had participated to brief training in Cognitive Functional Therapy

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Declaration of interest

Peter O'Sullivan and Riikka Holopainen have received fees for speaking at conferences and providing clinical workshops for health care professionals in the management of musculoskeletal disorders. Jaro Karppinen has received fees for lectures from MSD, Pfizer and

Orion. Scientific advisory board: Axsome Therapeutics Inc. Arja Piirainen and Pirjo Vuoskoski have no conflicts of interest to declare.

Abstract

Purpose: To explore the conceptions of patients with persistent low back pain (LBP) of undergoing physiotherapy delivered in Finnish primary healthcare by physiotherapists who had participated to brief training in Cognitive Functional Therapy (CFT).

Methods: As part of a feasibility implementation study exploring CFT in management of LBP in the Finnish primary healthcare system, we interviewed nine patients from four geographical areas in Finland after receiving care. We used a phenomenographic approach to explore the variation in their conceptions.

Results: The analysis revealed four descriptive categories: ‘hung out to dry’, ‘stuck’, ‘making sense and taking control’, and ‘holistic approach to care and living’, that varied based on six themes.

Conclusions: Although the participants accepted this approach to care well, there was significant variation in patients’ conceptions. Restricted access to care within the healthcare system and a lack of social support led some of them to feel they had been left alone to suffer with their pain. On the other hand, based on the results of this study, positive experiences of physiotherapy and good collaboration with the physiotherapist, wider social support outside of physiotherapy, a better understanding of the multidimensional nature of pain and the acquisition of self-management skills were reported as positive aspects of undergoing physiotherapy that may be related to positive treatment outcomes.

Keywords

Phenomenography, Psychologically informed physiotherapy, Cognitive Functional Therapy, conceptions, low back pain, physiotherapy, primary health care

Introduction

Major guidelines emphasize the use of a biopsychosocial approach in the management of persistent LBP [1, 2, 3]. The biopsychosocial model as presented by Engel [4] was originally not a pain model, but was later applied in management of musculoskeletal pain conditions. Biopsychosocial approach can be seen as both a philosophy underpinning clinical care and as an approach to clinical practice. It stresses the importance of understanding how multiple biological, psychological and social factors affect person's pain experience and patient-centeredness is at the heart of this approach [5, 6]. An application of biopsychosocial approach in field of physiotherapy, psychologically informed physiotherapy (PIP), can be seen as a conduit between traditional biomedically-based, physical impairment-focused physical therapy practice and cognitive-behavioral approaches developed originally to treat psychological conditions. It combines cognitive-behavioural approaches with physiotherapy practice, and takes into consideration the biopsychosocial contributions to a person's musculoskeletal pain experience [7]. Cognitive Functional Therapy (CFT) can be considered one example of PIP [8]. CFT is a physiotherapist-led cognitive and behavioural intervention that utilizes a biopsychosocial clinical reasoning framework to explore, identify and manage common barriers to recovery (e.g. negative pain beliefs, emotional distress, fear and avoidance of movement and activity). It aims to individually coaching people with LBP in the self-management of their condition. The key aspects of CFT include helping people make sense of their pain from a biopsychosocial perspective, develop pain control strategies during graduated exposure to engage with previously avoided movements and activities aligned to their functional goals, and adopt healthy lifestyle behaviours [8, 9].

Physiotherapists face challenges when learning and implementing biopsychosocial interventions as this requires upskilling especially in understanding psychological aspects of pain and a large shift in their professional role. Other major barriers reported by

physiotherapists are patients' biomedical beliefs and treatment expectations [10, 11]. Furthermore, current healthcare systems in many countries do not provide the necessary access and resources to support guideline-recommended physical and psychological therapies for people with persistent LBP, in order to deliver effective care [12]. A growing number of studies are exploring physiotherapists' perceptions of learning and implementing biopsychosocial interventions [10], and a number of qualitative studies have investigated patients' experience of living with chronic pain [13] and LBP patients' expectations and experiences on the management of LBP [14, 15, 16]. However, the perceptions of patients with LBP after undergoing biopsychosocially oriented physiotherapy remain an under-researched area as we were able to find only two previous qualitative studies around this topic.

Wilson et al. [17] reported that patients with chronic pain who had benefited from PIP perceived it as strikingly different from traditional, biomedically oriented physiotherapy. They experienced that the physiotherapist worked with them individually, as a whole person and paid attention to their thoughts and emotions and their whole body, not just the painful area. They considered this surprising but important. They also experienced their physiotherapists as fellow human beings who cared for them, not just professionals, in contrast with their previous experiences of remote and impersonal clinical interactions. Although these factors increased their adherence to treatment, they also reported challenges within the process, such as discrepancy between expectations of the management and contents of PIP, strong and not always pleasant emotional experiences elicited by the exercises, and distress that developed from their growing awareness of the impact that pain has had on their lives [17]. Bunzli et al. [18] reported that for patients who underwent a CFT intervention, changing pain beliefs to a more biopsychosocial perspective and achieving independence were important for achieving a successful outcome. A strong therapeutic alliance, development of body awareness and the experience of control over pain were considered important precursors for changing beliefs. To

achieve independence, problem-solving skills, enhanced self-efficacy, decreased fear of pain and improved stress coping were considered imperative. Those who did not respond to treatment continued to feel defined by their pain and maintained a biomedical perspective.

Previous research has also suggested that discussing psychological and social factors during physiotherapy was well received by the majority of people. In one study (Kamper et al. 2017), 60% of patients who had persistent LBP hoped to discuss problems in their lives with their physiotherapist. However, some of them interpreted questions about psychosocial issues to represent doubts about the legitimacy of their pain. This points to the need for a broad biopsychosocial perspective in the management of LBP, and the importance of communication skills in order to ensure that people with LBP don't feel invalidated while asked about psychosocial issues during the interview [14].

As studies on the perspective of patients with persistent LBP who receive biopsychosocially oriented physiotherapy are scarce, it is important to gain more knowledge about whether this kind of approach is acceptable to these patients and how they understand it. We were interested in understanding LBP patients' conceptions of undergoing physiotherapy delivered in the Finnish healthcare system by physiotherapists who have received brief CFT training. Exploring patients' conceptions is important for understanding the barriers to and enablers of implementing this approach in the healthcare system [8].

Furthermore, we wanted to understand the conceptions of all the participants, not only those who reported benefitting from the treatment. We chose a phenomenographic approach to capture the variation in their conceptions [19, 20, 21]. Therefore, the aim of the study was to explore the conceptions of patients with persistent LBP of undergoing physiotherapy delivered in Finnish primary healthcare by physiotherapists who had participated to brief training in CFT.

Materials and methods

Study design

To gain further understanding of biopsychosocially oriented physiotherapy from the perspective of people with persistent LBP, a qualitative study was conducted in parallel with a feasibility study exploring the implementation of a brief CFT training intervention for physiotherapists working in Finnish primary healthcare (public and occupational healthcare). The dataset of this study consists of transcripts of semi-structured interviews with patients with persistent LBP who underwent physiotherapy delivered by physiotherapists who had participated in brief CFT training. The training of the physiotherapists consisted of four to six days of workshops that took place in April 2016 (initial workshop) and January 2017 (booster-session). These workshops aimed at equipping the physiotherapists with understanding of biopsychosocial nature of LBP, enhancing their communication skills and developing an understanding of how to deliver CFT to patients with persistent LBP. No direct mentoring was given or clinical observation made of the physiotherapists working as part of the training. More detailed description of the training intervention of the physiotherapists can be read elsewhere [11].

In the healthcare environment in which the study was nested – Finnish public healthcare –only a limited number of physiotherapist appointments are usually provided. Occupational health services usually cover one to three occupational physiotherapist appointments. In public healthcare, the number of appointments available depends on the healthcare district. In some districts, the physiotherapists decide on the number of appointments each patient needs, whereas in other districts the maximum number of visits is limited to three to five per condition/year. Often, individual physiotherapy appointments are followed by group-based physiotherapy.

Participants

Eighteen physiotherapists who underwent the training provided a video of a consultation between 3 and 16 months after the training was completed. Because no competency checking of the physiotherapists was conducted within this study, we did not know whether the consultations were delivered according to principles of CFT. Therefore, for the purposes of this study we needed to identify participants who had experiences of physiotherapy where psychosocial and lifestyle factors were discussed. The first author watched the videos and identified 12 clinical encounters in which these factors were explored with the patient in at least two areas. These included for example beliefs about the reasons for pain, pain-related fear, anxiety, mood, stress, how pain affected aspects of their lives such as social and work participation, physical activity, social support, treatment expectations, and the patients' values and goals. The 12 patients on these videos were then contacted by the first author and invited to participate in the study. Nine of them agreed to participate, one declined because of mental health issues and two could not be reached. Two of the interviewees were men and seven were women. The mean age of the interviewees was 52 (range: 31–72 years). All the participants were medium/high risk in one or both of the Start Back Tool [22] and short form of Örebro [23] questionnaires, indicating that psychosocial components were included in their pain presentation. All had persistent pain and pain duration was 24–36 weeks for two interviewees whereas the rest reported having pain for more than one year. They lived in the area of four different healthcare districts in Finland (South Karelia, Tampere, Oulu and Päijät-Häme). All participants had previous experiences of physiotherapy. Table 1 presents the demographic data of the interviewees. During the course of this study, the participants had received one or more individual physiotherapy sessions and many had also participated in group physiotherapy. Pseudonyms are used to protect the participants' anonymity.

Patient pseudonym	Age	Gender	Start Back score	Örebro score	Working status	Length of interview (minutes)
Tuula	71	Female	4/2 -> medium risk	57 -> high risk	Retired	47
Anneli	60	Female	6/4 -> high risk	70 -> high risk	Disability pension,	50
Pirjo	51	Female	5/2 -> medium risk	53 -> high risk	On sick leave for 1 year	48
Seppo	57	Male	6/5 -> high risk	54 -> high risk	Unemployed	54
Sanna	31	Female	4/2 -> medium risk	29 -> low risk	Working full time	63
Ritva	53	Female	5/3 -> medium risk	53 -> high risk	Working full time	69
Marianne	56	Female	8/4 -> high risk	74 -> high risk	Unemployed, applying for disability pension	64
Aino	54	Female	7/4 -> high risk	51 -> high risk	Working full time	28
Kalle	39	Male	1 -> low risk	41 -> medium risk	Working full time	36
Mean	52					51 / total 7h 39min

Table 1. Demographic details of the interviewees

Data collection

Interview data were collected using semi-structured recall interviews utilizing the participants' previously videotaped initial physiotherapy sessions, on average 1.5 years after the initial physiotherapy sessions that were videotaped. This delay was due to problems receiving videos from all physiotherapists and delays in other parts of the larger research project. An interview schedule (Appendix 1) was followed but rather than be prescriptive, the schedule was more of a guide for the interview and did not dictate its exact course. The questions were adapted flexibly to the specific context during the interview. The participants were first encouraged to talk about their experiences of the particular physiotherapy encounter and subsequent

appointments if they had had more than one, and afterwards the parts of the videotaped physiotherapy sessions where psychosocial and lifestyle factors were discussed, were watched together with the participants to support recall of the situation. The duration of the interviews was on average 48 minutes (range 28–69 min, total 7 h 39 min). Seven of the interviews were conducted in person in a place chosen by the interviewees and two using a video conference application due to tight schedules of the participants. During one interview, the partner of the interviewee was present, according to her wish. Informed consent was obtained from the participants before their interviews. All the interviews were conducted in Finnish by the first author who was previously unknown to the participants. The interviews were audio-recorded and transcribed verbatim [19, 24]. The quotations used in the manuscript have been translated into English by a professional translator. The resulting data consisted of 134 pages (font = Times New Roman 12, spacing = 1.5). The transcriptions served as the raw data for the analysis and were not sent to the participants for checking [20].

Data analysis

A phenomenographic approach was used to analyse the data. Phenomenography explores the variation in the ways in which interviewees perceive the phenomenon in question [25] and as it is a data-driven approach, the categories of description and themes arise from the data [20].

We followed the principles of phenomenographic analysis presented in the literature [19, 20, 25]. The analysis process started with listening to the audio-recorded interviews multiple times and repeated reading of the transcribed data (RH). We used a Microsoft Word (Microsoft Corp, Redmond, Washington, USA) document for the initial coding of the data and during the analysis process we also drew mind maps of the meaningful units. After comparing and contrasting the meaningful units we identified and grouped them to identify similarities and differences. By identifying themes of variation, we determined the relations and hierarchies between the

categories of description (RH, PV & AP). We constantly evaluated the consistency between the original data and our findings to minimize the influence of our own interpretations.

We simultaneously identified the critical aspects between the categories, progressing from a less complex understanding to a more developed one [21]. The categories of description illustrated the variation of conceptions of undergoing physiotherapy delivered by physiotherapists who had participated in brief training in CFT and were structurally and logically related to each other. They formed a hierarchical whole [20, 25, 26]. The categories as such represented the expanding awareness of this phenomenon and described the conceptions of the nine interviewees on a collective level instead of describing different types of individuals [20, 21, 26].

We obtained ethical approval from the Northern Ostrobothnia Hospital District Ethics Committee. All the participants were informed of the aims of the study before the interviews and provided informed consent. We followed the consolidated criteria for qualitative research (COREQ) guidelines in reporting this study [27]

Results

The phenomenon of undergoing physiotherapy delivered in Finnish healthcare system by physiotherapists who had participated to brief training in CFT, as perceived and conceptualised by patients with persistent LBP, was captured by four hierarchical categories of description.

I) Hung out to dry; II) Being stuck; III) Making sense and taking control; and IV) Holistic approach to care and living.

The categories were hierarchically structured and the lower categories represented more developed conceptions of the phenomenon. The categories varied on the basis of six themes: 1)

Life course continuum; 2) Expectations versus experience; 3) Physiotherapist as a person; 4) Safety net; 5) Pain beliefs, and 6) Self-management (Table 2, Figure 1).

The variation of the themes within each category of description are highlighted by the name of each theme in bold, and the name of each theme of variation is in italics throughout the results section (see Table 2). Pseudonyms of the participants' names are used to identify quotations (see Table 1).

Categories	Hung out to dry	Being stuck	Making sense and taking control	Holistic approach to care and living
Life course continuum	Left empty-handed	Living in the shadow of pain	Supported to take charge	Physiotherapy as a turning point
Expectations versus experience	-	Disappointment in physiotherapy	Astonishment with physiotherapy	Physiotherapy as treatment of body and soul
Physiotherapist as a person	-	Timid physiotherapist	Multidimensional knowledge of the physiotherapist	Wonderful, caring physiotherapist
Safety net	Dependence on others	Lack of social support and understanding	Valuable support net	-
Pain beliefs	Seeing the body as broken and incurable	Seeing pain as a mystery	Importance of being reassured	Seeing a human as something holistic
Self-management	Lack of support/difficulties with self-management	Trying hard without success	Supported to continue	Seeing self-management as crucial

Table 2. Themes of variation and categories of description of undergoing physiotherapy delivered in Finnish primary healthcare by physiotherapists who had participated to brief training in CFT.

Category I 'Hung out to dry'

The first category describes the interviewees' conceptions during the process of physiotherapy ending with feeling 'hung out to dry', lacking independence and ways to control their pain, and having to financially depend on others. Even though they reported benefiting from

physiotherapy, once it ended, they felt they had been left alone and without support. They also had to depend on their partners and rehabilitation/disability benefits, and felt the healthcare system failed to support them with their ongoing financial problems and disability. Once the support from the physiotherapist ended, it was also more difficult to continue with self-management: they reported failing to do their exercises by themselves without regular support. Despite meeting a physiotherapist who had talked to them about psychosocial factors, their pain beliefs remained negative and they saw their bodies as broken and incurable.

The first identified theme of variation was **life course continuum**, which in the first category manifested as being *left empty-handed* by the healthcare system. Some of the interviewees reported being left 'empty-handed' and feeling frustrated after the physiotherapy appointments ended. They had received physiotherapy and some had also participated in group sessions and reported benefiting from these, but everything had ended all at once and they felt they were left alone with their pain, which still considerably affected their daily lives and work ability. They perceived that this negatively affected their mood and wellbeing. They wanted more physiotherapy appointments, and more group meetings that would continue regularly throughout the year, and to have someone to help them with paperwork.

Anneli: *'Well I was left empty handed now that this [physiotherapy] ended and the rehabilitation and of course now that I'm retired the occupational rehabilitation has ended so everything is finished now so I just try to manage... so of course you can go to physiotherapy if you have money but it's so expensive to go to private physiotherapy that with my income of a thousand euros I can't go there many times a month.'*

Marianne: *'Well I ended up with nothing at all so that's also why I felt down in the autumn, this is how it goes...'*

In this category, the themes ‘expectations versus experience’ and ‘physiotherapist as a person’ did not emerge.

In this category, the fourth theme of variation, **safety net** manifested as *dependence on others*. Some interviewees who were sicklisted or unemployed reported that they felt ashamed that they needed to be supported by their partners financially and had to rely on rehabilitation/disability benefits because they could not bring income to the family. Being supported by a partner was stressful and the interviewees felt they were at the mercy of others and that this was not taken into consideration during physiotherapy or by other healthcare professionals, even though it had a great impact on their wellbeing. Some of the rehabilitation benefits only came in short periods and the participants worried about their future because they did not know whether or not the benefit would continue. They also found it stressful to fill in all kinds of application forms and have them rejected. One interviewee reported that it was a huge relief to retire because the insecurity ended.

Marianne: *‘It’s stressful, yes, and kind of... money politics, to be at the mercy of others... it’s quite horrible and then basic unemployment benefit from which the activity supplement was taken away so it’s under 500 euros, that’s my monthly income so that’s maybe the biggest issue, the money... the money thing... that in the middle of the night I start thinking about it so I just walk around even though I’m not in pain.’*

Anneli: *‘They were such short periods these rehabilitation benefits, just a month or two and off you go to the doctor again and send off new papers and wait for the insurance company to reply and towards the end of the waiting period I started to lose sleep when I thought about it in the middle of the night that what if they don’t give it to me, what will I do then... The first day of this year I retired so that helped in a way, at that point of course it’s not nice that I can’t [work]*

but the running back and forth and the uncertainty ended, thinking what about next month so in that sense it was a relief for me mentally.'

The fifth theme of variation, **pain beliefs**, was described in this category as *seeing the body as broken and uncurable*. Even though the patients had discussed pain within the biopsychosocial framework with the physiotherapist during the physiotherapy appointments, many still talked about their pain in mechanical, negative terms and saw their body as broken and uncurable. Many still connected the worsening of their symptoms to degeneration and believed that nerve compression and facet locking were the reasons behind the pain.

Seppo: *'Well the spine, there's some stenosis in my lower spine and higher up some degeneration and even scoliosis so it somehow twists it into the wrong position and because of the stenosis in my lower back then it's my lumbar spine that's always the most painful ...'*

Aino: *'When I need to reach down for something off the ground or carry – it [back] doesn't like that at all it's the strain yes... You notice right after, you can hardly straighten yourself up afterwards.'*

In the theme of **self-management**, the interviewees reported a *lack of support*: they had received home exercises from their physiotherapist, but they had stopped doing them when they had less pain or otherwise had no motivation to continue. Many perceived that they did not receive enough support and would have wanted more physiotherapy appointments for support to self-manage their condition, reporting that without follow-up they did not continue with their self-management programme. They also reported worrying that at home they were not sure whether they were doing the exercises correctly. Some had participated in group exercises but they reported that once the meetings ended they stopped exercising because they found it difficult going to the gym independently, and the end of group meetings meant the end of their social life, resulting in seclusion for some.

Anneli: *'Yes when the stretching instructions aren't on paper you don't necessarily do them correctly like when the instructor is there and shows you how your arm needs to go there so that's what I'd like to have more of, that would be good...'*

Marianne: *'It would be so good to go, I am so bad at going alone and I told Anna that I won't be able to do this alone, like, I've been on sick leave for ten years and away from working life so I've become quite a hermit so it's so hard to actually go, to make yourself go to the gym alone somewhere, I can't, somehow it's not my thing.'*

Category II Being stuck

In the second category, the interviewees described their struggles with rehabilitation. Physiotherapy was a disappointment for them in the beginning because it was not what they had expected based on their previous experiences. As in the first category, a lack of support was also perceived to negatively affect their attempts at a better life. Although in this category, some support was available, it was not considered enough by the participants. Pain remained a mystery to them and even though they were trying hard to self-manage, they were not getting better.

The **life course continuum** theme expanded from the first to the second category from being left empty-handed to *living in the shadow of pain*. The participants reported that even though at the moment they were doing quite well, they did not really know why and the threat of the pain possibly worsening was always lurking around the corner. They reported that their pain had been coming and going and physiotherapy had not answered their questions about this nor given them the skills to affect the situation.

Sanna: *'Well my back issues during the last years have fluctuated, I always have some aches and pains and they vary ... well, I'm always aware it's there and then there are times when I notice that I haven't had back pain and I start thinking when will it come back... I always have*

to have some kind of ailment, I'm always aware it's there, the potential back pain will strike any minute now...'

Anneli: *'No, really, it's so bad, this back... that when it hurts it hurts and there is nothing I can do about it'*

In the theme of **expectations versus experience**, being stuck was seen as *disappointment in physiotherapy*. In this category the interviewees perceived physiotherapy as differing from their previous experiences; it either did not meet their expectations, or their wishes were not taken into account. Some saw it as negative that physiotherapists no longer provided massage or manual therapy in public healthcare, they understood it was only home exercises now. This made them question the usefulness of physiotherapy at first. Some of the interviewees perceived that they did not remember much about what they had talked about at the physiotherapy appointment and about the exercises. Some also felt they were not able to learn what the physiotherapist tried to teach them, and all this meant that they were stuck in their rehabilitation process.

Tuula: *'Yes I've been to physiotherapy before, I've been massaged, physiotherapists don't do massage nowadays, I thought she would give me a massage, but she doesn't do that anymore, I need to go privately...'*

Pirjo: *'Well I went there a couple of times but it was those tapes, those kinesiology tapes but I can't remember whether we did some exercises... I can't remember, maybe we just talked and...'*

The first variation of the **physiotherapist as a person** theme emerged in the second category: *timid physiotherapist*. One interviewee perceived her physiotherapist as timid in the beginning because she did not provide manual therapy as the patient had expected. In addition, the physiotherapist's inability to answer her question about the reason for her pain made her report

that she felt she had not been heard or understood. At this point this made the interviewee question the whole treatment.

Anneli: *'I'm not sure, but in my opinion Satu was young, like a student apparently or had she just graduated so she was a bit timid like, of course with this life experience, one expects concrete actions that she didn't really dare to take but I can't criticize her otherwise, she was very proper and a nice girl all in all but somehow something... I wish I could say...some kind of manipulation I would have sort of expected more but she's not a masseuse, I have to understand that...'*

In the **safety net** theme of this category, the interviewees reported a *lack of social support and understanding* from their employers, co-workers or families. It was not possible to modify their work or work shorter hours to allow them to continue working despite their pain. They understood that this had a negative effect on their rehabilitation. Many also reported that they received no empathy from their partners or that their partners were fed-up of constantly hearing about their pain. Some reported feeling lonely because of this and that they had stopped asking for help and just tried to manage by themselves. There were also reports of not being believed and understood by friends and colleagues because pain is invisible. There was a great deal of stigma.

Pirjo: *'Yes for about six months I got to do shorter workdays but then I needed to start or should have had to start working full time and I couldn't do that, my employer didn't let me do shorter hours anymore, and I had to go on sick leave.'*

Marianne: *'Matti [husband] is not at all empathetic or like that at all...that's also why I feel quite lonely because he's not at all that kind of person... I always remember when I came from the surgery and I came lying in that kind of invalid taxi because it was day surgery and I came here, we still had the city apartment but I wanted to come here to the countryside and when the*

taxi driver helped me and gave me those crutches and the taxi drove away Matti said why are you walking with those crutches... very dismissive.. like very, but when he has a bit of a runny nose the world is upside down.'

The interviewees discussed their **pain beliefs** and reported being uncertain about the reason for their pain even after having physiotherapy and discussing pain with their physiotherapists. They continued *seeing pain as a mystery*. Different professionals had given them different explanations and advice and the interviewees claimed that this made them even more confused and frustrated. Some stated that even though the physiotherapist had tried to explain the role of psychosocial factors in their pain experience, they did not see the connection to their situation and remained sceptical and uncertain. They still considered it appropriate to ask about these issues in physiotherapy because for some others they might be relevant. The uncertainty also created concern about the future.

Kalle: *'Well I guess I don't know whether tension can be called the cause of the pain but I don't know what causes it but it's more a consequence, but no, I still have no idea why my back bothers me so much, I don't know...'*

Sanna: *'What irritates me very much is that I saw a doctor who said I don't have scoliosis at all and then I went to see a physiotherapist who said I have a lot of scoliosis and then I went to a doctor who said I have scoliosis and then to a physiotherapist who says that yes this is just normal, that nobody has a straight back... so I have had such different diagnoses that I don't know whether I have scoliosis or not and whether it matters or not, so every professional I've met has given me different views...'*

The theme of **self-management** manifested in this category as *trying hard without success*. Despite investing a great deal of time in doing the exercises prescribed by the physiotherapists and trying to pay attention to the ways in which they worked, the pain could maybe be alleviated

but it didn't go away; they were stuck in the current situation. Some also reported that the exercises made the pain greater, but they understood that it was necessary to move, otherwise things would get worse.

Seppo: *'I know beforehand that even if I do a lot of exercise the pain isn't going away but it helps if you compare it to what it was in the beginning when I could do nothing and would all the time be sick and sore and in a bad mood and nervous.'*

Pirjo: *'As I said earlier, it takes the whole day for me to take care of myself, so I do a lot but it's not getting better'*

Category III Making sense and taking control

The focus of this category was on factors that appeared during the physiotherapy process that supported participants' progress towards making sense of their pain and taking control to be able to live better. The participants reported receiving valuable help from their physiotherapists and started to get things under control and be in charge of their own rehabilitation. They valued the knowledgeable and professional physiotherapists as well as the group sessions in which they participated. The group was important for both peer support and support self-management. They also understood the importance of having a strong support network outside the physiotherapy context. Discussions with the physiotherapist reassured many that there was nothing seriously wrong with them.

In this category, **life course continuum** meant that the interviewees reported that they were *supported to take charge* of their situation. Physiotherapy was seen as necessary, because it helped them make sense of their situation, enabled them to exercise and the interviewees were able to make choices in their lives based on knowledge. They also reported learning new ways to manage the pain from the physiotherapist, such as relaxation and breathing exercises, which helped them feel better. Some had already earlier had strong self-efficacy and managed their

pain by themselves, but they perceived that physiotherapy strengthened their understanding that pain can be prevented by exercising. The experience of being able to self-manage was considered important.

Ritva: *'Hmmm... well in my opinion it started quickly, as I said I got, kind of support from Meri and we concretely went through how I can relax because relaxation helped me...'*

Kalle: *'Now that I think in the context of what I just preached about needing to do things yourself then it's in line with this that the patient is taught to take care of themselves and it sounds wise and useful and I have done that, in another way by doing sports and exercising in another way but I could imagine that those who don't go skiing in the darkness of the night, those would get the same benefits if they did these exercises independently.'*

The theme of **expectations versus experience** was seen in this category as *astonishment with physiotherapy*. Some interviewees reported having had negative expectations or negative previous experiences of physiotherapy and were sceptical about physiotherapy in the beginning, especially when it turned out to be different from what they had expected. However, they reported that their PIP physiotherapist was able to convince them that things could move forward and this was a very positive surprise. They understood that it was important to meet someone who was specialized in LBP management. That the physiotherapist asked about psychosocial and lifestyle factors came as a surprise to many of the interviewees and it felt a bit strange. They had not thought about the connection between these factors and pain before, or their previous physiotherapists had concentrated on only the painful body part. They perceived that it was a positive surprise to take a wider look at the situation.

Ritva: *'And I have previously received [exercises from previous physiotherapists] for core muscles for them to support and I went to pilates for years and I don't believe that my core muscles are in bad shape... so I was very suspicious when I went there [current physiotherapy]*

but she [the current physiotherapist] convinced me that we will get somewhere with this [new approach]...'

Aino: 'Well at least they should check who is specialized in what so you could meet a physiotherapist who is specialized in back issues and not send you to someone with a different specialty... You should get to go to someone who has special knowledge in this specific field and then you would feel like things are progressing, not that they check you once and are quiet for a while and blablabla, sometimes it feels like that when you've met a physio so we'll just see what they say... And this was such a positive surprise even though I first felt uncomfortable about being videotaped but I soon forgot about the whole camera.'

The patients' conceptions of the **physiotherapist as a person** broadened further in this category, which meant appreciation of the *multidimensional knowledge of the physiotherapists*. They understood that it was important that the physiotherapists had an understanding of different medical diagnoses and that they were able to adapt the exercises according to the patient's situation and ability. Being knowledgeable also meant to the interviewees that to be able to support them in understanding pain and taking control, the physiotherapist needed to understand a great deal about life in general, and psychology, and to have the ability to see that the person in front of them was stressed and there were other things going on in their lives as well as back pain, even though they did not say it out loud. The patients appreciated that the physiotherapists were professionals who understood people.

Ritva: 'Well for sure, she was so professional that she saw that there were other things in my situation than this back and that she could help me with them as they affected my back.'

Marianne: 'At least for someone like me who is in terrible pain and has something wrong with their body the physiotherapist should be reliable, and they know a lot about other things in life and psychology and so on...'

Making sense and taking control, in the **safety net** theme, required a *valuable social support network*. The social support network helped them enormously in coping with pain and many reported receiving support from, for example, friends, if it was lacking from the family. They understood that it was important to have people around who listened to their worries.

Aino: *'When I call my children or grandchildren I forget about everything, what could be better, and you know, I have a good husband who supports me.'*

Anneli: *'Yes... I feel that it's mood and other things, yes they have a lot in common, something helps or hinders, and all the sorrows and worries that you have...I've had such a really good support network that I've been able to cope with these [pains] and he [the husband] is someone I can talk to about anything, he listens...'*

This category expanded the understanding of **pain beliefs** to understanding the *importance of being reassured*. The interviewees understood that reassurance was an important part of the physiotherapy and other medical care they had received, to be able to understand that there was nothing seriously wrong with them. Many had previously been worried that they might have cancer or need an operation and were relieved when they found out they could continue doing their valued activities.

Ritva: *'Well that was a big thing [talking to the physiotherapist]...verbalizing, kind of... when you read it yourself somewhere you don't get verbal confirmation that it's nothing serious...'*

Marianne: *'Anna explained to me, I asked her after the latest MRI, to explain to me in Finnish what it says and she explained and it was a relief that there was an explanation for my pain, I already thought I was going crazy...the pain was terrible and the fear of something else, what if it's a tumour'*

In the theme of **self-management**, interviewees saw it as important that they were *supported to continue*. In a physiotherapy group they saw other people who were in the same situation.

The social aspect was important; meeting other people and sharing advice. Regular meetings with the physiotherapist also helped them keep up with their exercise regimen.

Tuula: *'Yes, and then the exercises get done when I go to the group meeting, well I do them at home too but less, but the group really is good, we do things and everyone goes through the machines and there is some exercising and yes, the group is the thing and all those people there.'*

Seppo: *'They gave individual advice that you can do this and that, and new instructions for the movements and handouts so I can do them at home'*

Category IV Holistic approach to care and living

In the fourth and widest category the interviewees describe their perceptions of participating in physiotherapy as holistic. They reached a new way of thinking and a holistic understanding of pain and multidimensional physiotherapy. This required a physiotherapist who was a nice person and who genuinely tried to help them. Exercise and self-management were seen as mandatory parts of the participants' lives.

The **life course continuum** theme broadened further in this category as the participants saw undergoing *physiotherapy as a turning point* in their lives that had changed their way of thinking and their outlook on their pain and their lives in general. This could mean finding a different attitude towards doing exercise or developing oneself, the ability to say no, and understanding the importance of sleep and recovery. Some understood that they had the right to take care of themselves and that they noticed that they had been trapped in a vicious circle and that there was a way out or that it was possible to accept the current situation and live well despite suffering pain from time to time. Some even became enthusiastic about studying pain and lifestyle factors on their own.

Anneli: *'It has maybe changed my thinking in many ways... that I have always worked like crazy and gone and served others all the time and now I can say no...'*

Aino: *'Well I can look at the back pain in a different way that it is not the main thing in that I can now deal with it differently... I was left with the feeling that I can handle it in a different way, well there are days when...damn it... but there are other things in life than back pain... it's not that...'*

In this category, the participants understood the importance of a **holistic approach to care and living** and they stated that in physiotherapy their situation was examined from a broader perspective than before. The interviewees saw *physiotherapy as treatment of body and soul*. Some even saw the multidimensional perspective on pain as an integral part of physiotherapy. This meant receiving good advice and new ideas for their own ways to manage pain but also emotional support from the physiotherapist and the ability to contact them and ask for advice if needed. They saw that when the physiotherapist asked more wide-ranging questions, it helped create trust between them and the patient. The physiotherapist was important because some patients had no-one else to talk to about their pain or about other things in life not related to pain. They also reported that asking more wide-ranging questions enabled the physiotherapist to get to know them better and through understanding their values, help them more effectively.

Anneli: *'Yes at best it can be the treatment of the whole person, treatment of the body and the soul so I see this only positively ... it's good...'*

Ritva: *'Yes I can say that those appointments were holistic, that I got so much of this kind of emotional support which I see as very important and a kind of encouragement and also very good advice on relaxation.'*

In this category, under the theme of **physiotherapist as a person**, the interviewees reported having a *wonderful, caring physiotherapist* and that they found common ground right away.

They perceived their physiotherapist as easy to approach and that the atmosphere was open – they did not need to watch what they said and they felt they were listened to and taken seriously. It was important to have enough time and to talk with their physiotherapist. They felt that the physiotherapist was genuinely trying to help them. They described their physiotherapists as warm, empathetic and positive, and as going the extra mile for them.

Sanna: *‘For sure because she listened and asked further questions and wasn’t in a rush and it felt like we had time and that she was actually interested in the issue...’*

Aino: *‘I think she was the sort of person that when I was there, she was solely for me and did everything to get things moving forward for me...yes she is an absolutely wonderful person’*

The theme of **safety net** did not appear as a theme variation in this category.

The theme of **pain beliefs** expanded further in this category as the interviewees started seeing being *human as something holistic*. They reported having started to understand pain within a biopsychosocial framework, holistically, and stated that therefore the treatment also needed to be holistic. They had noticed, for example, that being with their loved ones made them forget about the pain and understood how stress, mood, loneliness and lack of sleep affected their pain and wellbeing and on the other hand how pain affected their sleep and mood. Some had thought about these connections before but for most this came as new understanding.

Aino: *‘A human is a holistic thing so the situation should be treated holistically as well, in simple terms...these thoughts came from talking to Sara, I hadn’t thought this far before, that sleep and stuff like that can affect pain management’*

Tuula: *‘Well... what the problem is maybe loneliness because I got divorced and after that my friend died and things happened many years back, maybe that affects my back too...’*

According to the interviewees, in the theme of **self-management** in this category, they started *seeing self-management as crucial* in dealing with their LBP and that the responsibility was theirs. They gave themselves credit for their own efforts in the management of pain and their own wellbeing. They had found exercises that relieved their pain or they understood the benefits of exercise for their general health and wellbeing. They compared themselves with other people who did not do their home exercises and expressed the importance of their efforts to keep up exercising.

Kalle: *'It have to stress that if there is a week when I don't do anything my back aches for sure so I emphasize that it's up to me, of course nobody makes their back hurt, but I know what happens if I do nothing so then I'm a bit stupid if I don't do it, so some sort of exercise and movement is kind of compulsory.'*

Seppo: *'My brother had prolapses in his neck so he went to physiotherapy as well and he got some home exercises and after six months I asked him whether he had done the exercise and he said no, they didn't help and I said that I've done exercises for over ten years and they don't help in that way because this will not heal but they help make daily life easier.'*

Discussion

This study focused on the conceptions of patients with persistent LBP who had undergone physiotherapy delivered in the Finnish primary healthcare, delivered by physiotherapists who had participated to brief CFT training. When they were asked about their views on their physiotherapy encounters, they answered in a broader sense. During the interviews, they did not merely talk about what happened during the physiotherapy appointments, but also about how pain affected their whole life, including their financial situation, their social connections, and ability to work – aspects that have an influence on patients' attempts to manage their pain. The conceptions of undergoing physiotherapy varied greatly between the participants of this

study. Four categories of description were identified from the data: ‘hung out to dry’, ‘stuck’, ‘making sense and taking control’ and ‘holistic approach to care and living’. Several critical aspects were identified in these categories that may be essential factors to consider when attempting to optimize the management for people with LBP in the future (Figure 1). The participants of our study had varying levels of disability and lived within different healthcare districts in Finland. They were treated by physiotherapists who had only received brief CFT training with no direct mentoring or competency checks on their level of skills and care. Together these aspects may have had implications for the variation in the participants’ conceptions and the struggles some of the patients faced may be due to insufficient training of the physiotherapists, problems with the intervention itself or factors related to the healthcare system.

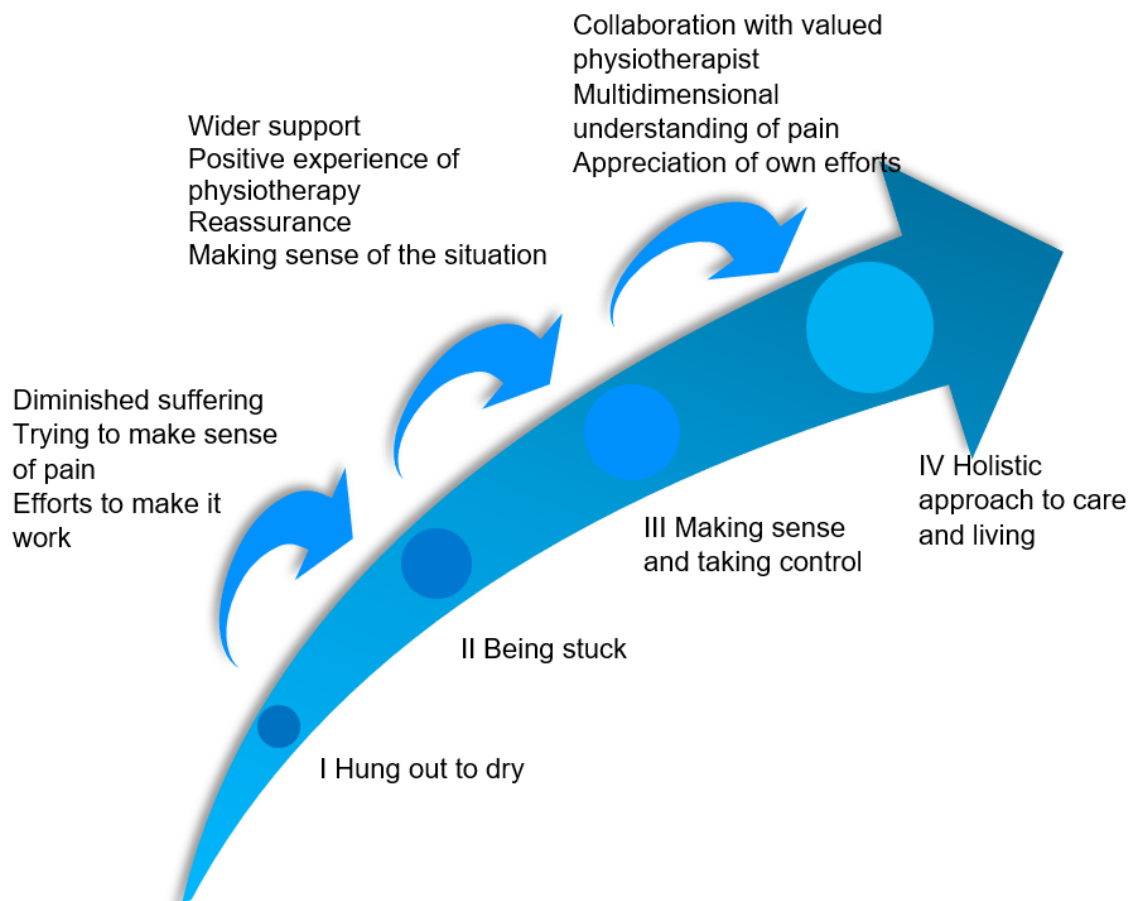
The critical aspects observed between Categories I and II that led to the expressions of ‘being hung out to dry’ to ‘being stuck’ in the process were diminished suffering, trying to make sense of pain and their own efforts to make it work. However, if there were positive changes, the participants did not understand the reasons behind them, and social support was still lacking.

The conceptions of undergoing physiotherapy evolved further between Categories II and III. The critical aspects that changed between these categories that enabled making sense and taking control of one’s own situation were positive social support networks and positive experiences of physiotherapy, allowing the patients to be reassured, take charge and start to make sense of their pain.

Finally, the critical aspects between Categories III and IV that may be seen as further enablers of positive conceptions and perceived outcomes of physiotherapy and enablers of a holistic approach to care and living from patients’ point of view were collaboration with the valued

physiotherapist towards understanding the multidimensional nature of pain and living well again despite pain, as well as appreciating their own self-management efforts.

Figure 1: Critical aspects describing transitions between categories while undergoing physiotherapy delivered in Finnish healthcare system by physiotherapists who had participated to brief training in CFT.



These results resonate with the ideas of systems-based practice and systems thinking in healthcare [28]. A system consists of interrelated parts and the literature has identified levels of systems in healthcare delivery that can also be seen in the results of this study [29]. The barriers and enablers, identified from the reports of the patients after undergoing physiotherapy delivered in the Finnish healthcare system by physiotherapists who had received brief CFT training, varied greatly. Some were related to individual aspects such as patients' pain beliefs and expectations. Other barriers and enablers were related to the care team, such as physiotherapists' qualities, and levels of social support and flexibility at their workplaces.

Aspects related to larger system and environmental level, in this context, those related to healthcare and social support systems, such as discontinuation of care and financial insecurity, were also reported to play a large role in the patients' experiences (Table 3).

Although some of the participants reported having experienced a turning point in their lives by undergoing physiotherapy and seemed to have reached a good outcome, similar to previous studies, many still reported negative pain beliefs relating to their 'damaged spine' or not understanding the reasons for their pain. Many seemed to have failed to understand the biopsychosocial message their physiotherapists had tried to convey to them [30, 31]. This finding is in line with that of Overmeer & Boersma, who reported that those who most needed the biopsychosocial understanding and approach to care had difficulties receiving the message. They found that depression and pain catastrophizing correlated with this difficulty [32]. Bunzli et al. also found that those with poor outcomes after a CFT intervention reported biomedical beliefs and continued feeling defined by their pain [18]. For many of our participants, the biopsychosocial approach to care came as a surprise and was different to what they had expected based on their previous physiotherapy experiences. Similarly participants of a study by Wilson et al. [17] saw PIP as strikingly different from their previous physiotherapy experiences. Like the conceptions presented in the higher categories (III and IV) in our study, Wilson et al. found that the participants saw PIP as individualized and holistic. All of our participants reported that it was acceptable to talk about psychosocial and lifestyle factors in physiotherapy even though some did not see them as relevant to their situation. We had no reports similar to some of those in Kamper et al.'s study, in which a few interviewees perceived the issues in these domains negatively [14].

Negative societal cultural beliefs about LBP seem to cause stigma towards people with pain, resulting in a lack of support from family, friends and the workplace, as seen in the conceptions of the participants of our study [33, 34, 35]. This needs to change so that the support received

by people in pain can be enhanced. More biopsychosocial cultural beliefs could also mean more positive beliefs and expectations of patient care. Social support is an important predictor of LBP outcomes. It is suggested that negative spousal relationships are one of the factors related to higher disability in LBP [36] and that good social support buffers pain-related stress, improves the reappraisal of pain and facilitates coping [37]. The results of our study support this view.

Similar to Wilson et al. (2018), our participants' conceptions highlight the importance of therapeutic alliance. [17]. The conceptions described in the higher categories show that the patients felt that their physiotherapist was genuinely interested in helping them and was caring, and they liked them as a person. However, there were also reports of the physiotherapist being timid and not listening to their wishes. Bunzli et al. reported strong therapeutic alliance, together with experience of control over pain and development of body awareness as the requirements for changing beliefs [18], consistent with previous research that has highlighted that a strong therapeutic relationship is a predictor of improved clinical outcomes [38], and that physiotherapists' interpersonal and communication skills are important factors of good therapeutic alliance [39].

From the participants' descriptions, it seems that although the physiotherapists who underwent the brief CFT training had started asking questions about psychosocial and lifestyle factors, the treatment that some of the patients received deviated from the principles of CFT. This could be expected on the basis of our recent review, which found that physiotherapists learning biopsychosocial approaches often did not deliver physiotherapy according to the treatment manual, but used it flexibly based on their preferences, and mixed and matched it with their previous ways of working [10]. The participating physiotherapists received no direct mentoring or competency assessment, and the healthcare system seems to have restricted the care of patients who would have needed continued support. Previous studies have highlighted the need for adequate support and skills training, especially related to psychosocial factors [10, 40].

According to the participants' conceptions, the constraints within the healthcare system made them feel like they had been left alone and abandoned. This was similarly reported in a qualitative study by Braeuninger-Weimer et al. that explored patients' views of orthopaedic consultations for back pain. The patients reported feeling that they had been left empty-handed with no continuation of care [41]. The participants of the study by Bunzli et al. with poor outcomes also reported lack of pain control and independence [18], which is reflected by the conceptions in the lower categories of description in our study. Many may not have reached independence, as they reported feeling 'hung out to dry'. They wished for more physiotherapy and ongoing support to self-manage. As in our study, previous studies have reported patients wanting future access to physiotherapy in the form of follow-up visits to keep up their motivation to continue self-management and to provide reassurance [42, 43]. Similar to the participants in a study by Cook et al., who explored LBP patients' views on active rehabilitation, some of our participants seemed to have remained dependent on their physiotherapists and reported having no control over their pain [44].

Even though for most patients with LBP the prognosis is good and recovery is fast, some patients still report symptoms after three months and even a year, and 20–30% of LBP patients end up having ongoing pain and disability [45]. To decrease the burden of LBP, we need to listen to the experiences of patients. Based on the results of this study, the possible aspects that could be targeted range from individual to system level factors (Table 3). This includes education to change patients' pain beliefs and working with patients' families and workplaces to increase the social support that they receive. These are things that all healthcare professionals could advance collectively. Physiotherapists need adequate training to equip them with the skills for building strong therapeutic alliances, validating communication and person-centred care to ensure patients feel heard and understood in terms of their worries and goals, and to align care with these goals. Furthermore, both patients and professionals face challenges of

limited treatment sessions, lack of time and limited funding. To decrease the burden of LBP, expensive low value care needs to be defunded, and adequate funding ensured for high value care [46]. A new model of care that treats LBP like diabetes or other chronic conditions, and focuses on supporting self-management but offers close monitoring and support is needed [46]. In the Finnish healthcare system this could mean, for example, better collaboration between physiotherapists and exercise instructors who work outside healthcare setting, for example in regional exercise services, continuing group-based exercise and utilizing online platforms to follow up patients. More flexibility in working life is needed to allow people in pain to continue working. Furthermore, it seems important, based on the conceptions of the participants in this study, that our social system would provide adequate financial support for people unable to work so that those who are already distressed do not need to further stress about their financial situation. One size does not fit all, and some patients need more support than others; often those with high levels of self-efficacy and good social support may need less help from professionals. Screening is needed to target care effectively.

	Possible barriers to recovery	Possible enablers of recovery
Individual	<ul style="list-style-type: none"> - Negative pain beliefs, insecurity about the cause of pain - Negative/unrealistic expectations of physiotherapy - No strategy to manage pain - No success in self-management 	<ul style="list-style-type: none"> - Biopsychosocial understanding of pain - Effective reassurance - Cognitive flexibility – capability to overcome negative expectations - Ability to self-manage – building a routine, building self-efficacy and giving credit for own efforts
Care team	<ul style="list-style-type: none"> - Lack of social support from friends and family - Lack of support from employer (work modification not possible), - - Lack of trust in physiotherapist 	<ul style="list-style-type: none"> - Support from friends and family - Flexibility and understanding at workplace to enable continuation of working despite pain - Physiotherapist who cares and is valued as a person by the patient
Healthcare and social support systems	<ul style="list-style-type: none"> - Discontinuation of care when independence is not achieved - Lack of follow-up and support - Worries about financial situation and being financially dependent on others 	<ul style="list-style-type: none"> - Continuation of care and support (e.g. individual physiotherapy booster sessions or participation in group meeting) according to patients' needs - Financial security

Table 3. Possible barriers to and enablers of recovery based on conceptions reported by participants of this study that may be considered when planning effective care and care pathways for LBP.

Strengths and limitations

The information power of this study can be considered sufficient [47], although the number of participants is at the low end of recommendations for phenomenographic studies and it is possible that a larger sample would have resulted in more variation in the conceptions or new themes and categories. However, the aim of the study was specific, and a specific group of informants was needed – patients with LBP who underwent physiotherapy with a physiotherapist who had participated in the CFT training intervention. The quality and the dialogue between the interviewees and interviewer can be considered good and the first author who conducted the interviews had previous experience and training in the phenomenographic approach. The study was theoretically well informed, although the participants' perceptions of undergoing biopsychosocially oriented physiotherapy in the context of the Finnish healthcare system has not previously been explored. Healthcare systems in different countries vary and therefore the results cannot be directly transferred to other contexts. The authors are clinical and research physiotherapists and a professor of physical and rehabilitation medicine with an interest in the biopsychosocial approach in the management of LBP. Using authentic quotations to illustrate the results of the study increases the validity of the study [48]. The credibility of the study was also strengthened by continuous acknowledgement and reflection on the researchers' preconceptions, professional backgrounds, beliefs and attitudes towards the topic, and how these may have influenced the analysis process [48]. Two of the authors were not familiar with the CFT approach, which improved quality and rigor and enhanced the process of group reflexivity. The results were also discussed in a group of researchers familiar with phenomenographic research methodology, outside the team of authors of this article.

The outcome of the physiotherapy for the patients and the actual content of the physiotherapy after the initial filmed appointment remains unclear. The participating physiotherapists did not receive mentoring and their competency in this approach was not tested. An indicator that the

training had not being sufficient was evident in the filmed physiotherapy situations when 12 of the 18 physiotherapists started asking questions about psychosocial domains during the interview. A possible limitation of this study is also the delay for some of the participants between their physiotherapy appointments and the interview, as all the patients were interviewed after the last physiotherapist had returned their video and the videos had been watched. Previous studies that have used video recordings of physiotherapy appointments have reported that the presence of a camera reduced empathic behaviours, and this may have affected the initial encounters of these patients [49]. There was a gender bias towards women in this study.

Conclusion

To conclude, the patients' conceptions of undergoing physiotherapy for persistent LBP delivered by physiotherapists who had participated to brief CFT training varied considerably. Some ended up feeling disappointed and abandoned by the healthcare system, did not become independent in self-management, felt stigmatized and dependent on others, and had negative pain beliefs despite physiotherapists' attempts to help them understand the multidimensional nature of pain. On the other hand, for many, physiotherapy was a positive surprise and the participants reported seeing the physiotherapy as treatment of body and soul and felt supported by their physiotherapists to find new ways of understanding pain, to make sense of their situation and to learn new skills to take control of their situation. Barriers to and enablers of positive experiences and outcomes of physiotherapy were identified on individual, interpersonal, environmental, and system levels. Critical aspects that may be seen as enablers of positive experiences and outcomes of physiotherapy were appreciation of one's own efforts in LBP management; reassurance; development of biopsychosocial understanding of pain; support from friends, family and workplace; a knowledgeable physiotherapist who was also valued as a person; and a positive experience of physiotherapy. Possible barriers were negative

pain beliefs and expectations of physiotherapy, lack of success in self-management, lack of support and financial security, challenges in therapeutic alliance, and lack of continuation of care.

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