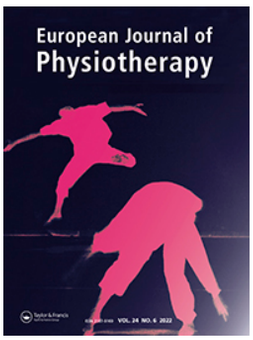

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Chronic pelvic pain sufferers' experiences of Norwegian psychomotor physiotherapy: a qualitative study on an embodied approach to pain

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ABSTRACT

Purpose: Chronic pelvic pain (CPP) is a multifaceted condition, and many women live with CPP without receiving any explanation for their complex symptoms. A multimodal approach including physiotherapy is the recommended treatment. To increase the limited knowledge of what is beneficial in physiotherapy, this article aims to explore women's experiences of Norwegian psychomotor physiotherapy (NPMP) as treatment for CPP.

Method: This qualitative study is based on in-depth interviews with eight women undergoing CPP. The concept of embodiment underpins the entire research project, and the analysis of the participants' experiences builds on a phenomenological approach.

Results and conclusion: Three final themes embrace the participants' experiences of change after NPMP treatment: *experiencing their body in new ways, letting go of tension,* and *understanding their symptoms.* Through treatment, the participants moved from keeping bodily sensations at a distance towards increased bodily self-awareness. They realised that their state of tension was linked to their emotional life and stress was revealed as a trigger of bodily reactions they related to their symptoms. Positive bodily sensations were essential for the participants to let signals from their body guide their actions in a change process.

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Introduction

Chronic pelvic pain (CPP) is defined as a multifaceted condition with persistent pain perceived in the pelvis [1]. Research shows to a complexity of symptoms with functional problems connected to the various organ systems in the pelvis as well as negative cognitive, behavioural, sexual and emotional states [1–4]. In addition, psychosocial factors and distress from other parts of the body are associated with CPP [1–4]. Even though several gynaecological and psychosocial factors are strongly associated with CPP, the complexity makes it difficult to point to causal risk factors based on these observations alone [4]. The estimated prevalence of CPP is between 6% and 26% in women worldwide [2,3,5]. As an assessment rarely reveals any pathology causing the pain, many women live with CPP without receiving any explanation for their condition [3,6]. Going through a range of examinations and treatments without improvement has been shown to result in additional distress [7,8]. Assessment and treatment are provided by all the medical specialities concerned with the pelvic area, such as gynaecology, urology, gastroenterology and neurology. Research shows that treatment in medical specialities frequently involves surgery without improvement of the pain [2]. Since musculoskeletal dysfunction is common in CPP there is a rationale for physiotherapy [9,10]. However, there is limited knowledge of what is beneficial to emphasise in physiotherapy and in what ways physiotherapy may help women with CPP.

Review studies show huge variation in physiotherapy interventions, making it difficult to compare outcomes [10,11]. Most studies describe so-called 'pelvic floor physiotherapy' [10,12,13], including local treatment of the painful body part with the goal of alleviating dysfunction in the pelvic floor muscles, as well as educating patients about the anatomy and function of these muscles, and best behaviour to cope with CPP. Home maintenance programmes involving exercises from different treatment modalities is often described as part of an intervention. Some interventions are aimed at more of the body than the pelvic floor, including breathing and relaxation exercises, with the aim of enhancing the patient's self-management and self-empowerment [10,14]. Cognitive-behavioural interventions are suggested as a part of physiotherapy, to reduce the fear of pain, avoidance behaviour and the catastrophizing and pain-related anxiety reported to be present in women with CPP [14,15]. Inclusion of cognitive-behavioural interventions is considered more effective than approaches directed at improving

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physical impairment alone [15,16]. Guidelines and review studies claim that single interventions rarely work in isolation and recommend multimodal management programmes as the best treatment [1,11,17]. Physiotherapy is considered to be a valuable part of such a multidisciplinary approach [9,18].

Research on patient experiences of physiotherapy for CPP is sparse. The few studies we found [19–23] reveal how the participants appreciated learning more about their condition and gaining new coping strategies during treatment. The papers report that following the interventions the participants sensed their bodies in new ways, giving them a new understanding of themselves and helping them to move from feeling stigmatised and socially isolated to feeling more normal. They no longer felt stuck, feeling that change was possible and expressing hope for the future. Four of these five studies were based on group interventions [20–22] and/or multidisciplinary treatment [19,20,22] Only one of the studies investigated women's experiences of individual physiotherapy as a single intervention for CPP [23].

To account for the subjective dimensions of health and illness, scholars have called for an approach focussing on embodiment in physiotherapy practice in general [24,25]. The concept of embodiment understands the subject as an embodied and socially and culturally embedded being-in-the-world [26,27]. It has been found that women with CPP perceive their pain and additional distress to be related to their difficult life events [28]. An embodiment approach enables an understanding of how life experiences affect our body and our health. In Norway, some CPP patients are treated with the physiotherapy speciality Norwegian psychomotor physiotherapy (NPMP). NPMP bases treatment on an understanding that the mind-body entity is deeply involved in our relationship to ourselves, to others and to the world. NPMP originated in Norway in the late 40 s based on collaboration between physical therapist Aadel Bülow-Hansen and psychiatrist Trygve Braatøy [29,30]. Their approach focussed on how past experiences continue to influence the present and how this was expressed through patients' autonomic reactions, breathing patterns, posture imbalance and muscular tension, causing symptoms that often relate to emotional conflicts. Today, qualified NPMP practitioners have a master's degree.

In NPMP the interdependency between posture, movements, emotions, memories, reactions and habits is key to identifying the reasons for dysfunction and symptoms. During treatment the whole body is considered as a functional unit in relation to the patient's social and historical context. NPMP is normally used for patients with widespread and long-lasting musculoskeletal pain, psychosomatic disorders or psychological problems. This makes NPMP relevant as treatment for CPP. Bergland et al. [31] did an RCT study on complex health conditions including long-lasting pain and psychological symptoms. Their study showed a positive effect on health-related quality of life, pain, coping, self-esteem, and social support after NPMP treatment. These findings agree with those of other effect studies on NPMP for patients with long-lasting pain [31]. Qualitative studies of patient experiences of NPMP suggest increased contact with and attention to the body as one main finding [32–36]. These studies, on patients with psychosomatic or musculoskeletal disorders, have explored patients' self-narratives and experiences prior to and during treatment [32–34]. Some of the studies focus specifically on patient experiences of parts of the intervention like massage and breathing [34,35] and body awareness before and after NPMP [36].

The aim of this study was to investigate women with CPP experiences of NPMP as an embodied approach. An increased understanding of how NPMP is experienced by women with CPP may enhance our understanding of CPP and inform physiotherapy for patients with CPP.

Method

Methodology and ethical considerations

The data for this qualitative study were obtained from semi-structured interviews with eight Norwegian women with CPP treated with NPMP. The study draws on the philosophical tradition of phenomenology; inspired by Høffding and Martiny [37], and uses phenomenological philosophy as a framework for the research method. The interviews and analysis are considered a two-tier process they call the 'phenomenological interview'. In the first tier the interview is conducted as an ever-developing conversation between the interviewer and the interviewee to generate knowledge of a given experience. The second tier is the analysis process. The Regional Ethical Committee approved the study in January 2019 (REK-Nord 2018/2533), and the study received approval from the Norwegian Centre for Research Data regarding personal data protection. Written informed consent was obtained from all participants upon inclusion in the study.

Recruitment procedure

A request was addressed to the professional group of NPMP therapists in Norway – at their annual conference – to invite patients to participate in our study. Five qualified NPMP therapists responded and recruited eight patients prior to starting treatment. Seven patients were recruited based on descriptions of CPP in the doctor's referral. One patient was recruited after the first meeting with the therapist as her CPP condition came up in the first contact with the patient.

Inclusion and exclusion criteria. The inclusion criteria were adult, female patients with CPP symptoms. The exclusion criteria were severe addiction, grave psychiatric diagnosis (e.g. psychosis) or disease demanding other treatment (e.g. cancer).

Treatment practicalities. Two of the therapists worked in hospitals and the remaining three in NPMP clinics in primary health care. They treated the participants at their regular workplace for about six months. Weekly treatment was the goal and each NPMP treatment lasted about one hour.

Participants

The following information about the participants was obtained during the interviews or given by the physiotherapist recruiting them. The participants were all from urban areas in northern, central and southern Norway. The average age was 30 (range: 19–56), only two participants had children, three were married or cohabiting, three had partners and two were single. All were heterosexual except one who refused to be called a woman but preferred the category A-gender. Two were students, three were working and three were on long-term sick leave. One was diagnosed with epilepsy and another with psychogenic non-epileptic seizures (PNES) and weakened immune system. Only two had received a diagnosis relevant to the pain in the pelvic area, in one case endometriosis, and irritable bowel syndrome in the other. Despite the lack of diagnoses, the participants had complex and overlapping symptoms from the pelvic area with pain corresponding to diagnoses such as vulvodynia, vaginismus, endometriosis, irritable bowel syndrome, dyspareunia, haemorrhoids and interstitial cystitis. Some participants were seeing a psychologist parallel to the NPMP treatment or had seen a psychologist in the past.

NPMP examination and treatment

The following general presentation of NPMP is based on descriptions by Ekerholt et al. [30,35] and the first author's experience as a NPMP therapist. In NPMP, examination and treatment overlap. The goal is to become familiar with the patient's difficulties as well as her resources by a whole-body examination which forms the basis for communication about the body and bodily conditions. Based on the therapists' observations, tactile information and feedback from the patient, the treatment develops continuously and is individually adapted. The patient is examined in various body positions and throughout the intervention the patient is encouraged to give feedback and to actively express boundaries or needs. Adding to the patient's thoughts and associations, breathing movements and other autonomic reactions, gives essential information about the patient's state, which again guides the focus in treatment.

Data collection

After the NPMP treatment period, individual interviews with the participants were conducted and recorded by the first author from September 2019 to March 2020. The first author is a PhD student with formation in qualitative research from her master study. The second and third authors are professors in medical anthropology and physiotherapy, respectively. The participants got to know the interviewer as she met them pre- and post-treatment in the same room as the interviews were conducted (for half of them this was also the room in which they were treated). We assume that this reassured them in the interview situation. All except one of the interviews were performed in a treatment room in an outpatient clinic in a hospital, while one of the participants was interviewed on the digital platform Teams in her home, due to COVID-19. The interviews lasted about one hour and were based on a semi-structured interview guide prepared by findings in previous qualitative studies on women's experiences of PT for CPP [19–23]. Open-ended questions encouraged the participants to talk freely about their experiences from treatment and any changes following the treatment period, what they would highlight as most significant in relation to CPP, what they missed and their relationship with the physiotherapist. The first authors background as an NPMP therapist with extensive clinical experience in treating patients with CPP, structured the interviews in specific ways as she evaluated what kinds of answers to follow up. In line with the phenomenological approach the interviewer tried to grasp the essence of the participants' experiences by repeatedly asking them to give examples or provide more detail [38]. A complex interaction between the interviewer and the participant consisting of words, body language, facial expressions and emotional expressions co-produced the content of the interviews. The goal was to take an empathic [26][1] position to create a common understanding of the participants' experiences [37]. As NPMP is an interactive practice where the patient and the therapist together develop the treatment based on the patient's experiences, this method seems particularly suitable to capture the participants' experiences of treatment.

Analysis

The analysis of the interviews is the second tier of the research method. Our analysis was inspired by the phenomenological method described by Giorgi [39] and by Høffding and Martiny [37]. First, half of the interviews were transcribed verbatim by the first author and the remaining half by a professional transcriber. The transcripts were repeatedly checked against the audio files and the text to be interpreted consisted of a detailed transcript of verbal and non-verbal communication. Communication based on body language, tone of voice, emotional states and changes in energy was described by notes taken during and after the interviews, as well as notes added by the first author when elements were not captured in the transcribed text. All three authors listened to and read the transcripts to familiarise themselves with the data and gain a sense of the whole. The entire data were then coded by the first author using the NVivo software to structure the codes. The MindManager software helped to visualise and restructure the data. Data relevant to the research question: 'How do women with CPP experience NPMP treatment?' form the basis of this paper. The first author structured the participants' descriptions of their experiences with NPMP and the changes they related to treatment into two preliminary themes, 'being in touch with the body' and 'treatment as a process' which became the primary focus of the analysis. To examine in more detail what the participants put into these experiences, the first author rephrased the various descriptions of these experiences into a condensed formulation. This process helped to point out a pattern of mutual experiences which formed the final three themes: *experiencing their body in new ways, letting go of*

tension, and *understanding their symptoms*. The themes were elucidated by relating them to the phenomenological concept of embodiment, social science theory and theoretical and practical knowledge of physiotherapy (particularly NPMP). Regular discussions between the authors were an essential part of the analysis, which continued throughout the writing process.

Results

A process of getting to know themselves better

The participants' descriptions of relief after NPMP treatment varied according to their individual symptoms and their life situation. They told about how different adverse experiences like sexual abuse, difficult childhood, painful investigations in the hospital, divorce and overwhelming worries affected their bodies. After treatment most of them felt calmer, had more energy and new hope for the future, as opposed to previously feeling on alert and in chaos. Beyond changes in problems from the pelvic area, the participants talked extensively about changes in other parts of the body and in their general well-being. Overall, the participants described NPMP treatment as a process of change where they got to know themselves better. We present the results as steps in this process under the following headings: *experiencing their body in new ways, letting go of tension,* and *understanding their symptoms*.

Experiencing their body in new ways

The participants described how treatment made them aware of their body in new ways. They especially talked about a new awareness of their muscular tensions, both in the pelvic floor and in most parts of the body:

> Marie: (…) when I'm not thinking about it, I think I tense up some parts of my body all the time. I kind of sit and tighten the muscles in my thighs and calves without being completely aware of it (…) I've thought about it, but it's like I've got no reason to do it, but it's probably a bit of a habit too, because I've always done it.

Most of the participants started to recognise their tension as a bodily response triggered by their environment, although Marie could not explain why she was tensing up. In addition to bladder pain, she was suffering from unpredictable PNES seizures. The other participants gave various examples of how NPMP made them conscious of where and why they tensed up. They often mentioned that treatment focussed on bodily reactions in most of the body rather than just on the condition of the pelvic area. Felicia had suffered from severe abdominal pain since childhood. Treatment made her aware of parts of her body she had never paid attention to:

> The therapists made me realize where my tongue is. (…) So now I notice it when I'm pushing my tongue up (…). Biting my teeth is also something I haven't thought about, especially when I'm doing other things. If we do exercises with my legs or arms, I notice that I press my tongue up into the top of my mouth and bite my teeth together. And I've noticed that I bend my toes, as if I'm kind of holding on to the ground. So now I try to keep my feet flatter, or like stand properly on my feet, you know.

Felicia referred to a typical element in NPMP of trying out new ways of moving, making her discover a pattern of tensing up 'all over' when doing simple exercises. To become conscious of bodily reactions during treatment made the participants recognise these reactions in their everyday life. They gave examples of increased body awareness in daily activities, such as when cooking, walking, being with friends and cycling to work. In addition to pain in the pelvis Ann felt anxious and depressed and she pointed to an increased sensation of and focus on her body as crucial to the possibility of change:

> When I went home [after treatment], I could feel my hips more. And then I could feel that I was actually tensing my abdomen almost all the time. So then I started to realize it more, and maybe it made me breathe a lot more as well. I tried to relax because I wanted it to stop hurting. And then it got a lot better.

One way to increase bodily awareness frequently used in NPMP is to focus on contrasts between the right and left side when only one side is being dealt with. Ann often felt that her body was 'completely lopsided' after loosening up in one foot. The participants gave many examples of transformed sensations before and after stimulation as an effective way to be aware of nuances in their body and the possibility for change in muscular tension. In NPMP it is assumed that tension decreases the sensation of the tensed body area. Marie linked the increased contact with her leg to a decrease of tension due to the therapist's hands:

> When I'm in treatment and she's trying to loosen up my legs, I can feel that one leg feels bigger after she's been doing that. I feel more that it's there rather than in the leg she hasn't done yet. Sometimes I kind of feel like my legs aren't there, almost. But when she's loosened them up a bit, at least I can feel that they're more there. Does that make sense?

In NPMP, 'hands-on' refers to relational work, since being touched is an intimate interaction that can be provocative. Reflecting on possible reactions such as tension and autonomic responses can make the patient aware of her bodily responses as a sign of her emotions. The participants mainly enjoyed the therapists' 'hands-on' because it made them relax, although some found the therapists' touch problematic because it provoked reactions they had to confront. Chris found the treatment approach challenging, including being touched:

> I thought it was very strange at first (laughs). I wasn't used to doing anything with my body that way, and with another person. It was really very unusual for someone to ask me how I felt in my body (laughs). I'd never thought about that. Having to lie on the bench and be touched by someone. She also asked what would be okay [to do], what I felt I needed. And that was hard for me to answer (laughs) because I don't know.

Chris had traumatic experiences from the past and kept going back to previously having had a lack of contact with her body; it took a while for her to understand that sensations of one's body are possible. In treatment she started to recognise the sensation of emotions and described what she felt:

> That's also something I didn't feel before. I didn't know it was possible, I had so little contact. Feeling sad and afraid or worried.

> I can also feel love. Worries are in my chest, sadness is further down in my stomach.

In NPMP, tension is considered to be just as much an emotional as a physical condition. The participants talked extensively about the connection between muscular tension and emotions, like tensing up when they felt stressed, anxious, worried and depressed. Pain and exhaustion prevented Felicia from completing her education, being able to work and to get a partner. She realised that she tense up in social settings:

> My face often hurts because I smile so much (laughs), it's like I'm putting on a mask. It's like this [speaks with a squeaky voice], my throat tightens because I have to be so very nice and polite. I get real pain in my jaw and behind my ears and in my neck. And what's more, I hold my breath as well, I don't breathe really deep down, and I'm sure that affects it too, you know.

By reflecting on her own behaviour, Felicia understood her bodily reactions of tensing her face and neck as an expression of her insecurity, indicating that sometimes tension was an appropriate reaction that served as protection. Susan described how the new sensation of her body had changed her way of living:

> Yes, I do actually listen to it a bit, listen more to my body (…). Now I've kind of sunk myself down and felt in my body, now you've got to stop. Be a bit more present. I can feel if my body's really going to do what I meant to do. What kind of signals will my body give me about this, and here it's probably more a question not of the bodily, physical pain [hesitates] because I've had less pain now while I've been going for treatment. So then it's more the feelings I have in my stomach.

Susan started to consult feelings in her body to let her emotions and bodily signals increasingly guide her actions. Negative life experiences left her feeling betrayed. When she made some radical changes in her way of living, the tension in her pelvis eased.

To sum up this theme: the participants mentioned various elements in treatment that increased their body awareness. Their new consciousness of the connection between their muscular tension and their emotions made them more attentive to themselves and enabled them to place their bodily responses into meaningful contexts.

Letting go of tension

In NPMP, tension is understood as a response to factors both inside and outside the patient's body. In order to release tension, the patient must feel sufficiently secure to be able to relax. A main principle of NPMP is that the therapist is careful not to exceed the patient's limits and this is ensured by paying attention to bodily signals. To realise why they tense up has been an important element in the participants' ability to let go of tension. During treatment Tania realised that she had been tense since childhood because of her difficult life and overwhelming worries for her disabled child. She also learned that her body let her know what to do to take care of herself, like going for a walk to loosen up. She learned that when she curled up or covered herself with a blanket, it felt 'less scary' and 'lighter in her neck and chest' which made it easier to relax. The participants found out that they felt safer when they huddled up in a protective way both in social settings and when alone. They discovered this through a new awareness of how their posture reflected their emotional life. Increased contact with their bodily reactions made them aware of their vulnerability and how their ability to let go of tension depended on a calm environment. Felicia told how being aware of tension in particular body parts or situations gave her something specific to work on:

> It used to be just sort of 'relax', but now I can focus more on separate things, like the way I sit and how I feel.

The treatment showed the participants the importance of the information they gained from their bodies. They described treatment as generally pleasant and comforting, allowing them to let go of their 'guard' of tension. Susan gave an example of being confronted with her own reaction and described a typical element in NPMP of being moved passively by the therapist:

> We've done a lot of work on control, you know, because she [the therapist] soon realized that it wasn't just a matter of taking my foot and starting to move it. There was nothing in my body that would move. I resisted everything. Wherever she touched me, I thought, 'Where's she going', whereas now I can actually let her touch me a bit. Now I can let her touch my feet and touch my body and my arms without resisting, without kind of thinking so much about what's going to happen, but I can just let it happen.

Experiencing her own resistance to letting the therapist take control over parts of her body made Susan aware of a need to let go of control in her daily life. In NPMP changes are expected to take time; the ability to let go of control and relax may involve great changes in the patient's life. Melanie and Felicia expressed a wish for treatment to be more directly aimed at the painful body parts. They further stated that a quick fix of their tension would not be possible as they would tense up again when faced with everyday demands. Melanie had previously found that treating the pelvic floor muscles released tension, which made her understand the connection between tension and pain. However, the relief did not last as she tensed up again:

> I got better for a short time after that osteopathy treatment. But then it was the rest of my body or life that made me tighten up again (…), and of course that's why things are going slowly, it's a more profound change than just stretching my muscles.

Melanie realised that NPMP treatment is about a process of change and not about getting something wrong in her body corrected. She explained how she perceived the idea of 'letting go of tension' in NPMP:

> Here the idea is more to let things go instead of stretching the muscles. It should be more like, well, coaxing out a movement, and letting it come by itself, instead of pulling and pushing. It sounds sensible, so I haven't really missed that, but on the other hand, I wish things would go faster. So sometimes I think that if she could just kind of (laughs a little) press a bit here and there, but well, like I said, she [the therapist] doesn't have quite the same ideas.

Even though Melanie longed for the therapist to 'take away the pain' she emphasised the importance of being able to act on the tension herself as it gave her a certain control over her pain:

> I used to feel things just happened to me by chance. Things felt completely out of my control. Now I think I can influence things more as I have the possibility to try to relax my body. It's much more under my control.

NPMP mostly uses exercises in treatment to help patients to get in touch with the sensations of their body. Exercises helped our participants to become aware of habitual patterns and to gain a sense of control of their body:

> Marie: She [the therapist] has taught me to tighten all the muscles in my legs for a few seconds and then let go. And I usually do it on my own if I can't quite feel my legs, so then I think it helps at least.

Marie used traditional 'hold-release' exercises to increase control over her muscular tensions, but primarily to give her a better feeling of her own body when it disappeared. The participants gave examples of elements from treatment they used in their everyday life whenever they felt overwhelmed by anxiety and difficult emotions. They used exercises when they felt vulnerable and particularly described how exercises which increased contact between their feet and the ground, or helped their breathing, calmed them down. It was often mentioned in the interviews that NPMP treatment provided comfort and that positive feelings made it easier to tolerate the sensations of their body:

> Ann: When you let go of those bad feelings, all the things you go around feeling all the time, when you let go and I leave there [treatment], I start thinking about how nice things are, and I get a much brighter feeling. At first I noticed it for about a day and then it got less. But now my body's maybe got more used to it. She [the therapist] has given me some tips and exercises, so I can use it a bit every day as well. And it helps me a lot.

Most participants experienced less stress and anxiety connected to lower muscular tension and they emphasised the value of being able to achieve these sensations on their own. Some made changes in their way of life which made it easier to calm down.

To sum up this theme: in treatment the participants found that their state of tension reflected their emotional life. This knowledge made them accept that change cannot be forced. Their participation in the development of treatment reinforced a feeling of security and control, and they found they could let go of tension when they felt comfortable in a safe environment. As a result, they felt somewhat in charge of their muscular tension.

Understanding their symptoms

Treatment made the participants aware of how their life challenges entailed bodily responses, which helped them to understand the reason for their symptoms. Most of them realised that their multiple symptoms were stress-related and therefore interrelated. Ann highlighted several bodily signs of reduced stress:

> I've stopped grinding my teeth at night. So now I can actually sleep without a mouth guard, and I have less pain in my jaw (…) Now my body feels pretty good and soft and now things actually feel pretty much ok. I'm very calm now. But the main thing is I'm not so constipated.

In NPMP, focussing on body parts outside the painful area is considered most effective in terms of getting patients to let go of their tensions. The participants explained how reduced tension in their jaws, tongue, neck, shoulders and hips, as well as letting go of breathing, not only alleviated discomfort in these areas, but made it easier to release tension in the pelvic floor. Loosening up tension in her foot made Ann relax further up in her body:

> Every time I massage with a ball under my feet and swing back and forth like this, I get feelings in my chest and things loosen up in my pelvis and everywhere.

Ann believed that the unpredictable painful stings in her vulva had gone because of her increased calmness. The participants' experience of a direct connection between their tension and their symptoms became evident when they were able to let go of tension. Their previous pain during sex and toilet visits faded away once they relaxed. They explained that their haemorrhoids had gone and they no longer had difficulty in emptying their bladder and bowel as they were able to relax during toilet visits. However, their pain increased when they were unable to relax during e.g. a gynaecology examination or when inserting a tampon. Despite experiencing some relief in their tension and in symptoms such as exhaustion, depression, anxiety and migraine, Eva and Felicia stated that NPMP could not help their endometriosis and severe irritable bowel syndrome (with extensive complications after multiple surgery). They talked about these conditions with frustration and without hope of recovery as they had been unable to manage them despite years of examinations and treatment attempts. Eva referred to her endometriosis as incomprehensible and unmanageable, yet she appreciated the understanding of how tension triggers pain:

> In the treatment, I learned more about what the pain could be, because pain doesn't have to be endometriosis. Most likely I've been very tense like this all the time. So when things happen, or I start thinking about unpleasant things, I get more tense, and when I realized that, I was suddenly not afraid any more, and that kind of relieves the pain. I'm sure it's just as painful, but the thing is I'm not so scared any more. Before that it was off to the emergency room and the hospital and being admitted, but I haven't been in hospital a single time since I started treatment.

In addition to difficult growing up conditions, Eva was drugged and raped in her early adolescence. Experiencing the link between difficult emotions and pain helped Eva to calm down, which in turn decreased her pain and calmed her fear of serious pathology. To help patients reflect on the significance of bodily signals, NPMP typically makes them aware of autonomic responses. This focus helped Melanie to realise that although she had not had period pains for over three years the experience still affected her:

> Now I've had a break from it for three and a half years. But still when we talked about it, I was obviously a bit agitated, you know, because she [the therapist] said, 'You seem very hot and you've clearly been affected'. I would have expected my body to be starting to forget, but obviously not.

Being made aware of and reflecting on her bodily response when talking about the severely painful menstruations she had suffered since menarche made her realise that her body continued to react to past experiences. Adding to her experience of previous pain still causing responses in her body, a 'theory of pain' [40] [2] introduced by the therapist

made Melanie realise that she tensed up through fear of potential pain. Others revealed that learning about the function of the pelvic region and how this part relates to the whole body was important knowledge to understand their symptoms. Chris felt uncomfortable coming to treatment until the therapist gave her a book about bodily reactions to trauma [41][3] which helped her to understand the treatment approach and her own bodily responses to both previous and present strains.

To sum up this theme: when the participants were able to relax, they felt more comfortable in their body and the pain decreased or disappeared. To experience a direct link between their ability to let go of tension and symptom relief calmed the participants' fear of the symptoms and made them appreciate the information from their bodies as meaningful. Further, it made them understand the connections between their symptoms and their life experiences.

Discussion

The present study aimed to explore women's experiences of NPMP for CPP. We found that treatment focussed little on the painful pelvis area; instead NPMP had a wider approach which changed our participants' perception of themselves. With increased contact with their whole body and understandings of connections within their body, most participants realised that their patterns of tension were responses to life's many challenges. Treatment enabled the participants to move from a negative perception of their body to a new and positive awareness of their bodily mode of being. As they let information from their body guide their actions, they gained increased control over their tension.

The high degree of psychological distress found in women with CPP is in general understood as secondary to their pelvic pain and is recommended to be treated as something in addition to the patient's physical impairment [15,16]. NPMP understands psychological and physical ailments to be interdependent, and the therapy is aimed at this relationship. In contrast to promote changes in the pelvic area by learning the patient to adjust maladaptive movement and posture patterns, according to an ideal body, the focus in NPMP is to increase the patient's sensations of her own body to enable her to experience for herself what changes will be good for her. This is based on an understanding that the possibility for a patient to change varies individually, depending on the person's problems, resources and life circumstances. The participants in this study found that the pain and dysfunction from their pelvic area and other parts of their body, as well as anxiety, depression and exhaustion, had the same cause and were eased through treatment. As a single intervention for CPP, NPMP seems to be as helpful as multidisciplinary and multimodal interventions making the participants gain new insight of their condition and themselves. This might be because of the embodied treatment approach considering the body to be the source of all experience and an incorporation of the same experiences [42].

Previous studies on CPP indicate that increased knowledge of the pain condition is important for patients in terms of feeling more acknowledged, and in accepting the condition [19–23]. The finding in this study is in line with previous studies on NPMP showing that bodily experience is the central component in understanding symptoms, and that meaning-making is a precious part of achieving a feeling of control and coherence [32,35,36]. The participants referred to their new experiences of their bodies as being aware of their body from within. This is in line with the core issue in the phenomenological concept of embodiment addressing the twofold experience of the body itself [42]; we can experience our body either as a physical thing, visible and touchable (by ourselves and others) or as ourselves, a sensing subject [43,44]. The participants' new experiences of their bodily responses reflect a perception of the body as a sensing subject understanding and inhabiting the world. The participants highlighted how their body – through detailed feedback in treatment and in daily life – offered precise and relevant information, making them understand the connection between their body's responses to stressful life events and their symptoms. For some of the participants, a theoretical explanation was a helpful support to the importance of physically feeling the connection between emotions and pain.

Awareness of bodily reactions was important for the participants in this study not only to understand their symptoms, but to get to know themselves better. Even though the focus in treatment was the present body, the participants referred to how treatment went beyond the present moment and their symptoms, by focussing on reactions and connections within their body, seen in light of their individual life circumstances, their past experiences, and their expectations for the future. NPMP treatment taught them to recognise signals from their body like tension, emotions and autonomic responses. They became aware of how they tensed up when they felt insecure, and how they were able to let go of tension when they felt secure. The exercises they learned and started to use in their daily lives were about increasing contact with themselves, making them calm down and listen to their own needs, which reduced stress and thus eased symptoms. Some participants mentioned the ongoing reactions of their bodies to continued everyday challenges they could not eliminate. However, they managed these situations better as they were better able to take care of themselves.

The findings in this study support the clinical implications of awareness of emotions and needs, highlighted in previous studies on NPMP and other treatment traditions that enhance body awareness [24,33,36]. Body awareness is understood to form a basis for self-confidence, trust in oneself and the ability to take care of oneself, which are shown to be effective in treating chronic pain in general [33,35,36] and CPP in particular [21,45]. We found that the ability to connect to sensations in the body was a crucial turning point for the participants. In addition to having gained a certain control over their body and the pain, the participants talked about new positive sensations in the body. Both previous studies and this study find that being aware of the body

from within may be connected to well-being [24,35]. However, the previous studies do not discuss the important shift from negative to positive experiences of the body. This is a central finding in our study. The participants' previous lack of contact or negative feelings towards their bodies is in line with how chronic pain in the literature is understood to alienate one's relation to onès body [46,47]. From a phenomenological perspective, long-lasting pain implies restrictions in the body that change the sufferer's perception of the world, as she can no longer act in it without bodily restrictions, as described by the participants in this study. Their distressed bodies were previously the centre of their attention in a negative way, which in phenomenological analysis of bodily experiences is described as the dys-appearing body [46,47]. The process of integrating their body as themselves started in NPMP treatment by exploring new and comfortable sensations in the body. The participants told how they previously felt on alert and in chaos, and described how being in touch with sensations from within the body made them happy and changed their perception of the world from negative to positive. They talked about the discovery of their habitual patterns of being with enthusiasm and expressed curiosity in investigating different ways of doing things. In phenomenological analysis, the well-functioning body is considered to normally disappear from the subject's attention, as her focus will be on the action she is attending to (not on the body doing the acting) [44,46]. NPMP made the participants in our study become aware of their body not only during treatment but while performing daily actions like walking, cycling, cooking and being with friends. Thus, in contrast to the experience of the well-functioning body as disappearing, they still related to their bodies and used the experience of the body in a positive way. This suggests that they moved from a condition of bodily dys-appearance (perceiving the body as 'bad') towards a positive bodily self-awareness where they could let their bodily signals navigate their actions. In contrast to analysis of bodily modes of being where it is assumed that we only attend to the body when it is bad or ill, Zeiler [44] suggests that the body can appear to us with comfort and harmony. She argues that we can be reflectively aware of our body as positive without it disrupting our way of being or acting. A prerequisite for the participants in this study to feel their body was that they felt safe. Hence, they could relax and begin to feel their body from within.

Conclusion

This study indicates the importance of including psychosocial associations in the treatment of women with CPP and we suggest that this is of high clinical relevance in their recovery process. When bodily sensations became accessible and meaningful for the participants, they started to act according to their feelings and needs. This point to an emotion-regulation process including both mental and bodily activity and explains how the participants through NPMP achieved changes in the pelvic area even though the approach had little focus on this painful body part during treatment. NPMP enabled this process by letting both bodily and verbal feedback from the patient guide the focus in treatment.

Rigour and trustworthiness

In this paper we chose to be transparent about the theoretical framework underpinning the research project. The phenomenological concept of embodiment informs both the treatment approach NPMP, the authors' understanding of the participants experiences and the analytical focus in the discussion. Transparency is additionally sought by a presentation of the authors' background and the processes by which data have been collected, analysed and presented. An effort has been made to be critically self-reflective about own preconceptions and relational dynamics during the whole research process. Further, we have sought to critically evaluate the participants' feedback against the context of their statements.

Study strengths and limitations

This study is performed with a small sample of Norwegian women. The sample represents women from different parts of the country, and with a diversity in social status and in symptoms from the pelvis area. This small sample has made a thorough in-dept analysis of the interviews possible and the theoretical generalisation may make the findings recognisable for women in similar situations. Nevertheless, our findings are specific to these women and cannot be claimed to apply to all women with CPP. An interesting future project will be to do a study based on a specific criteria-based sampling of a larger number of participants, e.g. with a greater spread in duration of symptoms, experience with treatment, and social background. Both the first author's background, and the theory chosen, open for a certain understanding of this study, and close for other insights, as is always the case when applying a theoretical lens. The findings in our study might be used as inspiration for a survey to investigate the relevance of this type of findings for physiotherapy for CPP. Further, an alternative approach for a future project could be an observation study from clinical practice, emphasising what happens in treatment, in relations of care, rather than the patient's reflections on experiences from treatment.

Clinical implications

An important element in helping the participants to positive changes in their CPP condition, was that their bodily experiences during treatment was emphasised. Rather than educating the patient about the painful area and their symptoms based on theories, this approach bases the recovery process on the patient's immediate understanding of their own bodily expressions. Through collaboration and reflection, the therapist and the patient can get to the bottom of the patients complex suffering by paying attention to autonomic reactions, breathing, tension and relaxation. By being sensitive to the patient the physiotherapist can pick up signs of anxiety as well as comfort and individualise therapy based

on these bodily signs. As the patient's subjective bodily experiences are the essential guideline in the treatment process, her boundaries are respected, and she retains control over herself. This central principle may well be transferable to other clinical practices.

Notes

1. According to a phenomenological framework empathy concerns our general ability to access the experiences of others by their expressions, expressive behaviour and meaningful actions by Zahavi.
2. The participant referred to a theory presented by Moseley.
3. The participant referred to the book by Van der Kolk.

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