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Posture, movement patterns, and body awareness in women with chronic pelvic pain

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Abstract

Objective: Chronic pelvic pain (CPP) is a common cause of infirmity but is still poorly understood. We studied the clinical characteristics, including body awareness, of 60 women with this diagnosis compared to those of healthy controls in an effort to understand its pathophysiology and to develop a more efficient treatment protocol. **Methods:** After prior gynecologic and psychometric evaluation, the women were examined with the Standardized Mensendieck Test to evaluate posture and movement patterns. Pain history and pain score were obtained, and patterns of muscular density, elasticity, and tenderness were determined by palpation. The body awareness of patients was assessed through clinical evaluation. **Results:** Seventy percent of the patients had a history of trauma or infection of the genitourinary region. The average pain score (±S.D.) on a scale from 0 to 10 was 6.01±1.60. Nearly all patients had a dissociative pattern, with a lack of contact and control of large body regions. All scores for posture and movement patterns were significantly worse in patients than in healthy women. **Conclusion:** A specific pattern of pain, posture, movement, muscle pathology, and reduced awareness of one's own body was found in women with CPP. These findings may increase our understanding of, and may point toward new treatment strategies for, this disease.

Keywords: Chronic pelvic pain; Standardized Mensendieck Test (SMT); Body awareness; Somatoform pain disorder; Visual analogue score of pain

Introduction

Chronic pelvic pain (CPP) is a syndrome that is defined by a long duration of pain in the pelvis. It may originate from several organ systems or diseases and may have multiple contributing factors that usually do not occur in isolation. The exact prevalence of CPP in the female population is not known, but it has been suggested as 2–3%. A higher prevalence is found in health care settings than in the general population [1]. Consultations recorded in UK general practice show that the prevalence of CPP is similar to those of migraine, back pain, and asthma [2,3]. Up to 40% of women who consult gynecologists [1,4,5] complain of chronic pain in the lower abdomen, with fertile women more often reporting this type of pain than menopausal women.

It has been estimated that women with CPP use approximately three times more medications of any type than do healthy women. The number of gynecologic operations performed, including hysterectomy, is four times higher in this group than in other women. The resulting costs for health service are considerable, amounting to US$880 million per year in the United States alone [1,6].

Despite the magnitude of the clinical problem, our understanding of this disorder is inadequate, and there are

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insufficient evidence-based treatment protocols [7]. Consequently, patients with chronic pain syndromes often experience frustration, and a similar frustration is conveyed by health professionals. However, some physical findings may suggest that the development of effective treatments might be possible.

The muscles of the pelvic floor are, in some cases, short, tender. and dysfunctional in women with CPP, suggesting that myofascial dysfunction and trigger points may be involved in the pain mechanisms of low abdominal pelvic pain syndrome [7–9]. Other physical findings reported are swelling and tissue edema in the hypogastric, inguinal, and pelvic regions in women with CPP [10,11]. In patients with chronic musculoskeletal pain, movement aberrations, especially the ability to give in to gravity and the ability to relax, have been described [12,13]. Some authors describe altered body awareness in these patients [14–16]. Thus, one can describe a pattern typical of CPP women. It should be noted that the word *pattern* here is used to denote a characteristic cluster of clinical signs, similar to the use of the word *clinical syndrome* (e.g., the motor pattern of a Parkinson patient: stooped posture, bradykinetic movement, and festinating gait). Women exposed to longstanding sexual abuse often report severe pain as part of the posttraumatic stress syndrome, along with signs of somatoform dissociation. Nijenhuis [17] defines the latter as "partial or complete loss of the normal integration of somatoform components of experience, reactions, and functions" (p. 68). All this suggests that similar findings may be present in patients with CPP and thus point at possible targets for intervention. However, this has not been studied to any extent.

The aim of the present study is to address these shortcomings in our knowledge by studying the clinical characteristics of posture, movement, gait, sitting posture, and respiration in women with CPP. Additional focus will be on the examination of muscular tension, elasticity, and tenderness of the abdominal, pelvic, and inguinal regions. The following questions will be addressed: (a) How do patients experience their pain and how do they describe the development of pain state and body experiences? (b) Is there any movement pattern that can be detected as typical in CPP patients compared to that in healthy women? (c) Is there any apparent pattern of muscular tension, elasticity, and tenderness that is typical of patients with CPP?

Method

Assessment of patients

We included 60 women who were referred to the outpatient Department of Gynecology of The National Hospital (Oslo, Norway), a tertiary care university hospital. The mean age was 31 years, and the mean duration of pain was 6 years. We also included 15 healthy female matched controls with a mean age of 29 years. Assessment included a full medical record, clinical examination, gynecological examination, and palpation of pelvic muscles. History included a thorough record of pain development. They were also given a schematic drawing of the human body and then asked to indicate on the schema on which part of the body their pain was localized. If comorbidity disorder was suspected, the patient was duly referred to other specialists. The patients were also evaluated by a psychologist to exclude psychiatric comorbidity (see Haugstad et al. [18] for details of the exclusion criteria). Subsequently, the patients were examined by a Mensendieck physical therapist with a full standard clinical examination. Pain record was obtained by a series of standard questions included in the clinical interview, with regard to the following: when the pain started and life events simultaneous to the first experience of pain, character of pain, development of pain character and intensity, and how pain could be eased or provoked. The patient was asked to describe the present situation with regards to pain, pain-related behaviors, and mental state. Physical examination included Lasègue's test to exclude lumbar nerve root affection, and pelvic examination to exclude pelvic instability. Body awareness and body control were assessed by noting (a) the patient's own statement regarding one's own body (e.g., "I don't touch that area," "My body is only pain and no pleasure," etc.) and (b) the patient's ability to isolate and differentiate the use of individual muscles, tension of the muscles, and movement of isolated joints and body parts. The examination further included palpation of areas indicated as painful (always starting from the periphery and working towards the most painful areas) along with close monitoring of the patient's pain reaction and whether emotional or vegetative responses were involved. Clinical data were recorded in a research journal and subsequently tabulated. The patients were also examined by the Standardized Mensendieck Test (SMT) [19]. The examination was videorecorded.

The SMT

The manualized test has been described earlier [19] in a pilot study and was found to be a reliable assessment tool in the hands of experienced Mensendieck physical therapists. Mensendieck was careful in tracking movements down to the simplest forms of daily life activities, such as standing, bending over, sitting down, rising from a seat, walking, ascending stairs, raising and lowering arms, and so on [20]. We thus developed a standardized test to analyze posture, movement, gait, sitting posture, and respiration—altogether five domains, each with three to seven subtests (see Table 1). In this standardized test, we instructed the patients and healthy controls to lift their arms, stand on one leg, swing both arms in parallel while bending slightly in the knees, and likewise swing the arms in contrary motion as they were being videotaped [19]. Respiration was observed in the supine position. An important part of this observation was assessing respiratory response to pelvic lift and arm lift—a