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Psychological factors in genital pain: The role of fear-avoidance, pain catastrophizing and anxiety sensitivity among women living in Sweden

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HIGHLIGHTS

- Genital pain is associated with anxiety, fear avoidance and pain catastrophizing.
- Vaginal tension is closely associated with genital pain.
- Fear avoidance beliefs are associated with sexual satisfaction.
- Sexual satisfaction is associated with a specific pain-related fear.

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ABSTRACT

Objectives: One in five women under the age of 30 report recurrent genital pain and pain during sexual intercourse. Female genital pain negatively affects sexual and general health, as well as dyadic function and quality of life. Although the current field of research and clinical expertise in general agree upon a biopsychosocial conceptualization, there is still a lack of theoretical models describing the psychosocial mechanisms involved in the development of genital pain. Originally developed to outline the transition from acute to chronic back pain, the fear avoidance (FA) model has lately been proposed as a possible tool in illustrating the mechanisms involved in genital pain. However, only few studies have empirically tested the components of the FA model empirically. The aim of the present study is to examine fear avoidance beliefs, pain catastrophizing, and symptoms of depression and anxiety among women reporting genital pain, and to relate these concepts to sexual satisfaction/function and the characteristics of pain.
Methods: The study was a population-based study using a postal questionnaire administered to 4052 women (age 18–35). Of these 944 (response rate: 23%) took part in the study.
Results: Genital pain of six months duration was reported by 16.1% of the women. Women with pain reported elevated levels of symptoms of anxiety, fear avoidance beliefs, pain catastrophizing and anxiety sensitivity. Symptoms of anxiety also predicted pain in the explanatory model together with vaginal tension and fungal infection. Vaginal tension has previously been described as a fear-response to painful intercourse and the results thereby seem to give further support to viewing genital pain from a fear avoidance perspective. Furthermore, fear avoidance beliefs seem to be of similar importance as lack of desire for the experience of sexual satisfaction and could also predict pain during specific activities among women with pain. The results also indicate that sexual satisfaction is related to a specific pain-related fear, rather than a heightened level of general anxiety.
Conclusions: The study had a low response rate, but still indicates that genital pain is common and is associated with several aspects of fear and avoidance. In sum, the results support the FA model by giving strong support for fear reactions (vaginal tension) and fear avoidance beliefs, and moderate support for negative affect. In the model negative affect drives pain catastrophizing.
Implications: It seems that the experience of genital pain among women in the general population is common and could be associated with increased levels of anxiety and fear-avoidance beliefs. However, the associations should not be understood in isolation from physiological mechanisms but seem to indicate

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interactions between, e.g. fungal infections, negative appraisals of pain and symptoms, lack of sexual function and satisfaction and increased pain experience. It is possible that psychological mechanisms work in the transition from acute physiological pain to chronic psychologically maintained pain in terms of secondary reactions to, e.g. repeated fungal infections by adding emotional distress, fear of pain and avoidance behaviours.

1. Introduction

Female genital pain is a common and debilitating experience that affects sexuality, general health, dyadic adjustment and quality of life among its sufferers [1]. Genital pain resulting in painful intercourse affects between 10 and 21% of premenopausal adult women [e.g. 2–6], and one in five women under the age of 30 report recurrent pain associated with sexual intercourse [7,8].

Multiple physiological mechanisms may underlie the experience of female genital pain (irritation of nerves, abnormal responses to irritation or inflammation, allergic reactions, muscle spasms, infections, hormonal changes, etc.). According to the classification made by The International Society for the Study of Vulvovaginal Disease, (ISSVD), female genital pain may be categorized as 'pain related to a specific disorder' or as 'vulvodynia' (when the physiological underlying mechanisms are unknown). Vulvodynia can be specified as generalized or localized, provoked, unprovoked or mixed. The pain might be provoked by sexual or nonsexual stimulation or by both [9]. According to the ISSVD terminology, describing genital pain as simply sexual is therefore misleading and the condition is better referred to as a genital or vulvovaginal pain condition. From a psychological perspective, the focus has been on pain that interferes with sexual activity which has been viewed in terms of a sexual dysfunction not primarily focusing on the symptom of pain. The diagnostic definitions have changed over time, and today, pain-related fear is given a central role in the Diagnostic and Statistical Manual of Mental Disorders, DSM-V [10]. During the last decade there has been an increased interest in the pain component of female genital pain, emphasizing the similarities with other pain syndromes in terms of experiential, psychophysiological and neurological characteristics [11–17]. This has spurred the arguments that genital pain and painful intercourse is best viewed from a biopsychosocial perspective associated with a multifactorial aetiology [18]. Sexual dysfunctions are gradually more regarded as multifactorial conditions from a biopsychosocial perspective both by clinicians and scientists [19]. However, there is still a lack of theoretical models describing the psychosocial mechanisms involved in the development of genital pain. There is also an urgent need to better understand the central components necessary to successfully treat chronic genital pain. Fortunately, advances have been made in the field of musculoskeletal pain and models established there might be generalized to genital pain.

To describe the psychological processes involved in the transition from acute to chronic pain in musculoskeletal disorders Vlaeyen and Linton [20] developed the fear-avoidance (FA) model, shown in Fig. 1. The central idea in the model is that catastrophic thoughts, fear, muscle tension, and hypervigilance set the stage for avoiding pain-related situations. Avoidance in turn results in disability, disuse and depression. The model allows good predictions regarding the development of persistent pain as well as the prediction of poor treatment results for patients with musculoskeletal pain [21,22]. The FA model has lately been advanced as a model for the understanding of female genital pain [23–25].

Central elements of the FA model also seem to be relevant also to the understanding of female genital pain. Pain catastrophizing has been reported among women with genital pain [13,17], showing similar levels as in other pain conditions [26] and associated with higher pain ratings and more negative experiences of intercourse [27,28]. In addition, women with genital pain report higher levels of fear of pain [29], and pain-related fear is known to predict increased level of pain sensitivity in this group [27]. In a recent review, on psychological factors in genital pain [30] results show sufficient concordance with the FA model to merits its use. Therefore, the experience of painful intercourse could be described within the framework of classical conditioning. Because intercourse is experienced as painful, the sexual situation will likely be conditioned to fear of pain which may disturb both the physiological and psychological sexual response and thereby increases the risk for further sexual dysfunctions [25].

Although recent advances have been presented within the field of female genital pain, previous research is mainly limited to strictly chosen clinical samples often referred to specialty clinics. In addition, a majority of studies examining genital pain and associated factors still suffers from an unbalanced view of the problem as either psychological or physical. The current study is one of few conducted as a questionnaire study among women from the general population and including psychological, physical and sexual aspects of intercourse pain.

The aim of the present study is to examine fear avoidance beliefs, pain catastrophizing, and symptoms of depression and anxiety among women reporting genital pain, and to relate these concepts to sexual satisfaction/function and the characteristics of pain. There is a dearth of studies that have empirically examined components of the FA model in sexual pain. Therefore, the need for cross-sectional data seems essential.

2. Method

2.1. Design

The study is a cross-sectional postal survey using a representative census sample.

2.2. Participants and setting

The sample consisted of 4252 randomly chosen women (18–35 years) from two midsized Swedish municipalities. After the exclusion of 200 participants who could not be reached (wrong addresses/had moved), the final sample consisted of 944 women (response rate 23%). In the current sample 152 women (16.1% of the respondents) suffered from chronic genital pain (6 months).

The subjects were divided into three groups depending on their age (18–23, 24–29, 30–35). The size of the age groups was weighted with respect to the number of individuals within that specific age-range and the relative size of the two cities.

2.3. Measures

The questionnaire included standardized self-report inventories and a number of questions created especially for this study. Areas covered were among others; demography, general health, gynaecological health, genital pain and sexual function.

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