Development and Initial Validation of the Vaginal Penetration Cognition Questionnaire (VPCQ) in a Sample of Women with Vaginismus and Dyspareunia

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ABSTRACT

Introduction. Although the relevance of cognitions has been implicated in the etiology, explanatory models, and treatment of female sexual pain disorders, an instrument that assesses vaginal penetration cognitions is nonexistent.
Aim. The aim of this study was to develop and to investigate the psychometric properties of the Vaginal Penetration Cognition Questionnaire (VPCQ). The VPCQ was explicitly designed to assess cognitions regarding vaginal penetration in women with vaginismus and dyspareunia.
Methods. A sample of 247 Dutch women with a female sexual dysfunction (FSD; 122 women with lifelong vaginismus and 125 women with dyspareunia) and 117 women without sexual complaints completed the questionnaire. Factor analyses were only conducted in the sample of women with FSD. Validation measures were conducted in both women with and without FSD.
Main Outcome Measure. All women completed the VPCQ and several additional questions regarding biographic and complaint characteristics.
Results. Conduction of factor analyses yielded five subscales regarding cognitions about vaginal penetration: "control cognitions," "catastrophic and pain cognitions," "self-image cognitions," "positive cognitions," and "genital incompatibility cognitions." Reliability of these five VPCQ subscales ranged from 0.70 to 0.83, and the test–retest correlations were satisfactory. The five VPCQ subscales were reasonably stable across demographic variables and demonstrated good discriminant validity. All five subscales were able to detect significant differences between women with and without FSD. Additionally, the four subscales of the VPCQ concerning negative cognitions demonstrated the ability to differentiate between the two samples of women with FSD. Women with lifelong vaginismus reported lower levels of perceived penetration control and higher levels of catastrophic and pain cognitions, negative self-image cognitions, and genital incompatibility cognitions, when compared with women with dyspareunia.
Conclusions. The present study indicates that the VPCQ is a valid and reliable brief self-report measure for assessing cognitions regarding vaginal penetration in women with vaginismus or dyspareunia. **Klaassen M, and Ter Kuile MM. Development and initial validation of the Vaginal Penetration Cognition Questionnaire (VPCQ) in a sample of women with vaginismus and dyspareunia. J Sex Med 2009;6:1617–1627.**

Key Words. Self-report Measure; Vaginismus; Dyspareunia; Cognitions; Validations; Reliability

Introduction

Cognitions have been implicated in the etiology, explanatory models, and treatment of vaginismus and dyspareunia. Vaginismus and dyspareunia are sexual pain disorders that can interfere with all aspects of sexual functioning [1]. Vaginismus is commonly described as a persistent and distressing difficulty in vaginal insertion of a penis, finger, tampon, or other object. Dyspareunia is commonly described as a recurrent and persistent genital pain associated with sexual intercourse, which causes personal distress [2,3]. Despite the wide-ranging list of factors (e.g., somatic/biological factors, psychological as interpersonal issues) that has been proposed to explain

the etiology of dyspareunia and vaginismus, the mechanisms underlying both complaints are still largely unknown [3].

The currently prominent cognitive–behavioral approach to the sexual pain disorders hypothesizes that maladaptive cognitions, such as catastrophic beliefs, underlie the fear response to certain (sexual) penetration stimuli. In vaginismus, it is assumed that fear of penetration is maintained through the reinforcing effect of avoidance behavior on erroneous cognitions [4], as avoidance and escape of phobic objects and activities preclude opportunities to disconfirm anxiety-inducing beliefs (e.g., "Penetration is impossible, it will not fit, it will elicit unbearable pain"). With respect to dyspareunia, it is assumed that catastrophic pain cognitions (e.g., "it will always cause pain, this pain will be intolerable") are activated by the prospect of painful intercourse, resulting in vaginal dryness and/or increased pelvic floor muscle tone. This reaction subsequently causes friction between the penis and the vulvar skin, which may result in (enhanced) pain [5]. In conjunction with these models, cognitive–behavioral interventions often include some form of fear reduction exercises (exposure, cognitive restructuring) and pain management techniques (e.g., [6,7]).

Despite the seemingly important role of cognitions in current psychological models and treatment modalities of women with vaginismus and dyspareunia, an instrument that assesses vaginal penetration cognitions with well-established psychometric properties for clinical practice and research purposes is lacking.

The purpose of the present study was to develop a Vaginal Penetration Cognition Questionnaire (VPCQ), thereby increasing understanding of vaginismus- and dyspareunia-related cognitions. The aims of this study were to investigate the psychometric properties of the VPCQ within a Dutch population regarding (i) factor structure, internal consistency, and stability; (ii) the association between the VPCQ subscale scores and demographic data; and (iii) discriminative value of the VPCQ subscales.

Method

Selection of the Participants

The study sample consisted of women with a female sexual dysfunction (FSD; FSD group) and women without a sexual complaint. Women with FSD were included in the study if the main complaint and diagnosis was "vaginismus" or "dyspareunia" based on their sexual history taken by an experienced sexologist. All women in the FSD group solicited for therapy at the outpatient sexology clinics of Leiden University Medical Center (LUMC) and Maastricht University Medical Center (MUMC) in the Netherlands. About two-thirds of the FSD group was recruited retrospectively. A sample of 599 former patients with vaginismus or dyspareunia, who visited the outpatient clinic during the period of 2000–2005, was invited by mail to participate in the study. Participants were informed about the study and were given a reply coupon and return envelope. If a participant gave permission, she was invited to complete the VPCQ (see Appendix) and some additional biographic and complaint questions. Of the 309 women who responded to our invitation, 58 (19%) women refused to participate, 58 women (19%) did not return the questionnaires, and 193 women (62%) completed the questionnaires. The other third of the FSD group was recruited prospectively. Women who solicited for therapy in the period of 2005–2007 were informed and were asked to participate in the study. In this prospective sample, 132 women diagnosed with vaginismus or dyspareunia completed the questionnaires at the outpatient clinic, after their first visit.

In total, 325 women, who were diagnosed with vaginismus or dyspareunia in the period of 2000–2007, completed the questionnaire (90% LUMC, 10% MUMC). After completion of the questionnaires, women with a sexual complaint were assigned to subgroup "vaginismus" or "dyspareunia." Participants were included in subgroup "vaginismus" only when they had never been able to have intercourse because of a vaginistic reaction (lifelong vaginismus). Participants were included in subgroup "dyspareunia" (acquired and lifelong dyspareunia) when they experienced pain during (attempts at) vaginal penetration but did not meet the inclusion criteria for the subgroup "vaginismus". Twenty-eight women (formerly) diagnosed with FSD were excluded from this study because they failed the inclusion criteria (no complaints anymore). Another 50 women with FSD were excluded for not having a partner or for being older than 50 years. A total sample of 247 women with FSD (122 vaginismus and 125 dyspareunia) was used for analyses.

The control group consisted of 117 women with no sexual complaints, who responded to an advertisement in a local newspaper or poster at Leiden University. During the first telephone contact, women were screened on inclusion and