Sexual Function in Patients with Deep Infiltrating Endometriosis

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ABSTRACT

Introduction. Endometriosis is a benign condition that causes pain and infertility. Sexual dysfunction, particularly deep dyspareunia, is common in patients with endometriosis and interferes with quality of life and conjugal satisfaction.

Aim. The study aims to assess sexual function in women with deep infiltrating endometriosis.

Method. Fifty-seven women diagnosed with deep infiltrating endometriosis were recruited from Hospital Universitário Pedro Ernesto (HUPE) between July and December 2011. The control group comprised 38 healthy women recruited at the HUPE family planning clinic.

Main Outcome Measures. The main outcomes are full-scale and individual domain scores on the Female Sexual Function Index (FSFI), a validated questionnaire for functional assessment of sexual function in women.

Results. Patients with endometriosis had more pain in intercourse than controls, which correlates with lower scores in the FSFI pain domain. However, there were no statistically significant between-group differences in overall (full-scale) FSFI scores.

Conclusion. Women with endometriosis exhibit significant dysfunction in the pain domain of the FSFI questionnaire, but this finding was not sufficient to affect the overall sexual function. **Evangelista A, Dantas T, Zendron C, Soares T, Vaz G, and Oliveira MAP. Sexual function in patients with deep infiltrating endometriosis. J Sex Med 2014;11:140–145.**

Key Words. Endometriosis; Sexual Satisfaction; Pelvic Pain; Dyspareunia; FSFI

Introduction

Endometriosis is a benign condition defined by the presence of functioning endometrial tissue outside the uterine cavity [1]. Its prevalence rate ranges from 5% to 20% among women with pelvic pain and from 20% to 40% among infertile women; the overall prevalence among women of reproductive age is 3–10% [2].

The most common complaints of women with endometriosis are pelvic pain and infertility. Pain may take the form of dysmenorrhea, dyspareunia, chronic pelvic pain, menstrual dyschezia (painful bowel movements during menstruation), or cycle-dependent dysuria.

Dyspareunia, especially deep dyspareunia, is present in 60% to 80% of patients who undergo surgery for endometriosis and 50% to 90% of those receiving conservative treatment for the condition [3]. The stimulation of pain fibers due to fibrotic traction and pressure from endometriotic nodules filled with fibrotic tissue may play a role in the pathogenesis of dyspareunia [4].

There is evidence showing that endometriosis patients (all stages) had some degree of sexual dysfunction, including dyspareunia and other complaints like lack of lubrification, arousal, and desire [4,5]. However, there are few studies evaluating sexual dysfunction in women with deep infiltrative endometriosis (DIE).

Some authors believe that, in light of the subjective nature of female sexual response, the most adequate instruments for assessment sexual dysfunction are self-report questionnaires, which can assess several domains of sexuality with high reliability and validity [6]. The Female Sexual

Function Index (FSFI) has particularly good internal consistency and is one of the instruments most widely used worldwide [7].

The goal of our study was to assess, using a transcultural validated questionnaire (FSFI) [7], if patients with DIE presents more sexual dysfunction than women without endometriosis.

Methods

This was an observational, cross-sectional, prospective study. Women with DIE (case group) were recruited from the outpatient endometriosis clinic of Hospital Universitário Pedro Ernesto (HUPE), and women without endometriosis (control group), from the HUPE family planning clinic. The study project was approved by the HUPE Research Ethics Committee (2604-CEP/HUPE), and all patients provided written informed consent for participation.

The inclusion criteria were female sex, age 18 to 45 years, current sexual activity (onset of sexual activity at least 1 year prior to study enrollment), and diagnosis of DIE, based on the following criteria: pelvic pain and/or infertility associated with at least two of the following: detection of a hardened nodule in the vesicouterine or rectouterine pouch on vaginal and/or rectal examination; transvaginal ultrasound or magnetic resonance imaging findings consistent with infiltrating endometriosis in the pelvis; and surgical visualization or histopathological confirmation of endometriosis [8].

The control group was composed of women between the ages of 18 and 45 years, sexually active, with onset of vaginal intercourse at least 1 year prior to study enrollment, no severe dysmenorrhea (visual analog scale [VAS] score <8), no clinical or surgical evidence of endometriosis, and has a normal gynecological examination.

Patients whose cognitive abilities were insufficient for comprehension and interpretation of the questionnaire were excluded from the sample, as were those with debilitating chronic illnesses (diabetes mellitus, hypertension, lupus, thyroid disease, etc.) and those who had not engaged in penetrative vaginal intercourse during the month preceding study enrollment.

Before answering the FSFI questionnaire, all patients were asked to inform some demographic and clinical data, like age, body mass index (BMI), educational attainment, parity, and VAS to evaluate dyspareunia, dysmenorrhea, and dyschezia.

The FSFI is a self-report questionnaire that measures female sexual function on six domains: desire, arousal, vaginal lubrication, orgasm, satisfaction, and pain. It consists of 19 items that assess sexual function during the 4 weeks preceding questionnaire administration. Each item has a distinct answer pattern. Items are scored on an ascending scale of 0 to 5 indicating the presence of each of the parameters of interest, with the exception of the pain domain items, which are scored on an inverted (descending) scale. To assess reliability, the FSFI was reapplied 15 days after the first one.

At the end of the questionnaire, the sum of each domain score is then multiplied by a factor that takes into account the influence of each domain to yield the full-scale (overall) score. Therefore, to obtain the full-scale score, the investigator must add the item scores, multiply these scores by the correction factor, and add the resulting values in each domain [9].

Statistical Analysis

All statistical analyses were performed in the open-source R 2.7.1 software package (R Foundation for Statistical Computing, Vienna, Austria). Student's *t*-test was used for analysis of between group differences in interval or ratio variables for independent samples. Cohen's *d* was used to evaluate the magnitude of the difference in statistically significant interval or ratio variables [10]. All numerical variables were expressed as means and standard deviations. The chi-square test was used for between-group comparison of categorical variables. *P* values <0.05 were considered significant. Multiple linear regression was used to adjust potential confounding variables in relation to the total FSFI score and to the statistically significant domain scores between groups. Statistically significant demographic variables ($P < 0.05$) in univariate analysis were entered step by step in the model according to its level of significance.

The minimum sample size was calculated as 32 participants per group, using the "pwr" library of R 2.7.1 (*t*-test for two samples, alpha level 0.05, statistical power 0.80). On the basis of a similar previous study [11], the parameters used for sample size calculation were a five-point between-group difference in full-scale FSFI scores and a standard error of 7 points (Cohen's $d = 0.7$, medium to large effect size) [10].

Results

The study sample comprised 107 women: 66 cases (group 1) and 41 controls (group 2). Nine women were excluded from group 1 and three from group