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Do women with endometriosis have to worry about sex?

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ABSTRACT

Objective(s): Sexual function is negatively influenced by endometriosis and women with endometriosis show less sexual and partnership satisfaction compared to patients with other gynaecological disorders. This study aims to compare sexual function between patients with deep infiltrating endometriosis (DIE) and healthy women using Sexual Health Outcomes in Women Questionnaire (SHOW-Q).
Study design: Case-control study including 182 patients with histological diagnosis of DIE and 182 healthy women, who referred to our tertiary care university hospital from 2010 to 2012. SHOW-Q was used to collect data concerning satisfaction, orgasm, desire and pelvic problem interference with sex. The unpaired *t*-test was performed to compare the means of a continuous variable between groups when the data were normally distributed; otherwise the Mann–Whitney test was used to check *t*-test results. Pearson's χ^2 test and Z-test for proportions – independent groups were performed to investigate the difference among grouping variables.
Results: As described in a previous study, the prevalence of sexual dysfunction in women with endometriosis is around 61% and in women with other gynaecological disorders is 35%. Assuming 5% significance and 95% power, 106 women would be required for the study. Every area of sexual function investigated through the SHOW-Q questionnaire (satisfaction, desire, orgasm and pelvic problem interference) was significantly impaired compared to healthy women. Among patients with DIE, 58% (105/182) reported that pelvic pain severely affected sexual function, while only 1% (2/182) of healthy women ($p < 0.0001$). Moreover, sexual desire was absent or less than one or two times per month in 45% (82/182) of women with DIE compared to 14% (26/182) of healthy women ($p < 0.0001$).
Conclusion(s): DIE severely affects sexual function. Endometriosis is a global disease, which affects patients physically, psychologically and sexually. The potential sexual consequences of this disease need to be considered.

Introduction

Endometriosis is a chronic and progressive condition which affects 5–10% of women in reproductive age [1]. It is characterized by ectopic presence of endometrial glands and stroma outside the uterus, causing a persistent inflammatory status [2]. Deep infiltrating endometriosis (DIE) is defined as a form of endometriosis which penetrates more than 5 mm under the peritoneal surface [3]. Many studies evidenced that endometriosis, particularly DIE, is associated with a significant reduction of quality of life [4–7]. Symptoms frequently reported by patients are dysmenorrhea, dyspareunia, chronic pelvic pain, dysuria and dyschezia [8–11]. Deep dyspareunia (deep pelvic pain associated with sexual intercourse) has been demonstrated to affect sexual function [4,12–14]. It reduces levels of sexual desire and frequency of sexual intercourse [15]. Recently it was evidenced that 32% of patients with endometriosis complained sexual dysfunction which is strictly correlated with pain intensity during/after intercourse, lower number of sexual intercourses per month, greater feelings of guilt towards the partner and fewer feeling of feminity. The experience of pain creates a cognitive scheme of negative expectations that disturbs sexuality [16].

Sexual function as well as other physical and psychological factors which are negatively influenced by endometriosis are not largely recognized and analyzed in literature [7,17,18]. The evaluation of sexual function between women with endometriosis and patients with other gynaecological disorders showed that women with endometriosis have less sexual and partnership satisfaction [12–14,18,19]. However, to our knowledge there are

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few studies in literature comparing sexual function among women with DIE and healthy women. The aim of this study is to compare sexual function between patients with DIE and healthy women using SHOW-Q questionnaire.

Materials and methods

Design and patients

For this case-control study, full ethical approval was obtained from the local ethics committee to the study protocol (155/2008U/Oss).

From January 2010 to February 2012, in the Minimally Invasive Gynaecological Surgery Unit, S. Orsola-Malpighi Hospital, University of Bologna, 200 consecutive patients with DIE scheduled for laparoscopic surgery were involved in the study. All patients with endometriosis underwent preoperative clinical and ultrasound evaluation which is the most accurate diagnostic tool in cases of ovarian and extraovarian endometriosis [20]. Other diagnostic tests, such as magnetic resonance imaging (MRI) and computed tomography (CT), were performed when indicated to evaluate presence, localization and extension of endometriotic lesions.

After surgery, histological analysis was done to confirm the pre-operative diagnosis of DIE, which is defined by the presence of a lesion that penetrates >5 mm under peritoneal surface [3]. Patients without histological confirmed diagnosis of DIE were excluded from the study. Intra-operative findings of endometriosis were also classified according to ENZIAN staging [21]. Women without endometriosis were recruited from the S. Orsola-Malpighi Hospital family planning clinic. Among control group, women had no clinical or surgical evidence of endometriosis and a normal gynaecological examination. All women included in the study were sexually active (onset of sexual activity at least 1 year prior study enrolment), aged 18–40 and with knowledge of Italian language. Exclusion criteria for both groups were: previous or presence of gynecological cancer, intestinal inflammatory disease, history of pelvic radiotherapy or systemic chemotherapy, history of gynecological infection in the last 3 months, psychiatric history (diagnose of disorders classified by the revised Diagnostic and Statistical Manual of Mental Disorders, DSM-IV-TR) [22], use of psychotropic medications, life stressors, use of drugs affecting cognition and vigilance.

All patients gave informed written consent in order to participate to the study and to the possible use of their anonymous data for research purposes. Recruited subjects were then invited to complete the anonymous sexual function questionnaire, SHOW-Q (Sexual Health Outcomes in Women Questionnaire) during the pre-operative evaluation for cases and after gynaecological examination in our family planning clinic for controls. Privately, in a silent room, they answered the questionnaire with the purpose to evaluate their sexual activity with satisfaction, orgasm, desire and pelvic problem interference with sex [23].

Patients were assessed concerning demographic and clinical characteristics (age, body mass index, hormonal contraception, smoking status, previous surgery, parity and visual analog scale (VAS) to evaluate symptoms related to endometriosis pathology).

Assessment of sexual function

The SHOW-Q questionnaire is formed by 12 items organized conceptually to include 2–3 items per domain: satisfaction with sex, orgasm frequency, sexual desire and pelvic problem interference with sex (Table 1) [23]. Factor analysis demonstrated a 12-item scale with high internal consistency reliability (Cronbach's $\alpha = 0.86$) and 4 reliable subscales ($\alpha = 0.73$–0.84). SHOW-Q is suitable for women of diverse socio-demographic and clinical background, including women in same-sex relationships and women who are sexually active without a partner, as well as sexually inactive women. In addition, this questionnaire investigates different aspects of sexual life and pelvic problems interference with sex. Finally, we choose it for its briefness, reliable subscales and evidence of validity.

In replying to these questions, participants were asked to consider the previous 4 weeks. Using an appropriate reverse scoring, all sexual function item responses were converted in a scale of 0–100 points. Higher scores indicated higher sexual functioning, except for pelvic problem interference in which a higher score indicated more interference.

The SHOW-Q total score was stratified into three classes according to 25th and 75th centile for its values in the study population (low, medium and high SHOW-Q score). We extended this stratification to the other subscales of the SHOW-Q (satisfaction, orgasm, desire and pelvic problem interference).

Sample size

As described in a previous study [12], the prevalence of sexual dysfunction in women with endometriosis is around 61% and in

Table 1
Sexual Health Outcomes in Women Questionnaire (SHOW-Q) items[a].

Item	
	Satisfaction scale
1	How satisfied were you with the frequency of your sexual activity (with or without a partner)?
2	How satisfied in general have you been with your ability to have and enjoy sex (with or without a partner)?
	Orgasm scale
3	When you had sexual activity, how much of the time did you experience orgasm?
4	When you had sexual activity, how much of the time did you feel satisfied after sexual activity?
5	When you experienced orgasm, how strong or intense was the orgasm on average?
6	How much of a problem was difficulty in having an orgasm?
	Desire scale
7	How much of a problem was lack of sexual interest?
8	How often did you desire sex (with or without a partner)?
9	How much of a problem was inability to relax and enjoy sex?
	Pelvic problem interference scale
10	To what extent has your bleeding interfered with your normal or regular sexual activity (with or without a partner)?
11	To what extent has your pelvic pain or discomfort interfered with your normal or regular sexual activity (with or without a partner)?
12	To what extent have your pelvic problems overall interfered with your normal or regular sexual activity (with or without a partner)?

[a] Learman et al. [22].