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Original article

The impact of genital self-image on sexual function in women with pelvic floor disorders

Jonathan E. Handelzalts[a,*], Tal Yaakobi[a], Sigal Levy[a], Yoav Peled[b,c], Arnon Wiznitzer[b,c], Haim Krissi[b,c]

[a] School of Behavioral Sciences, The Academic College of Tel Aviv-Yaffo, Israel
[b] The Helen Schneider Hospital for Women, Rabin Medical Center, Petach Tikva, Israel
[c] Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel

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ABSTRACT

Objective: There is conflicting evidence regarding the impact of urinary incontinence and pelvic organ prolapse on overall sexual function. However, psychological variables thought to be associated with sexual function, have not been fully explored. We assessed the sexual functioning of women with pelvic floor disorders while measuring for psychological factors such as distress and genital self-image.

Study design: In a cross-sectional study, 155 women in an urogynecology outpatient clinic of a tertiary health center completed a demographic questionnaire, the Brief Symptom Index-18 (BSI-18), Pelvic Floor Distress Inventory-20 (PFDI-20), Genital Self-Image Scale-20 (GSIS-20) and the Female Sexual Function Index (FSFI).

Results: Linear regression showed that when controlling for age and depression, GSIS significantly predicted FSFI total score (Beta = 0.38, $p < 0.001$) and the Desire subscale (Beta = 0.55, $p < 0.001$). Due to the low response rate in the GSIS and FSFI questionnaires, a preliminary analysis was conducted to characterize the responders. On univariate logistic regression, response to the GSIS was negatively correlated with age (OR = 0.94, p = 0.02) and being in a relationship (OR = 2.3, p = 0.016), yet the effect of being in a relationship was diminished in a multivariate model that included age.

Conclusion: The main variable associated with overall sexual function in women with pelvic floor disorders was low genital self-image. This variable is more important than self-reported symptoms, type of specific disorder or other demographic variables. Older women tended not to complete the scales concerning more intimate matters. We suggest that urogynecologists should inquire about genital self-image as well as sexual function in this population.

Introduction

As the world's older population continues to grow, pelvic floor disorders, mainly urinary incontinence and pelvic organ prolapse are becoming major health problems [1]. Different pelvic floor disorders have similar consequences for women, such as decreased body image and quality of life [2], significant psychological distress, expressed by depression [3], anxiety [4] and poor sexual function [5,6].

Several studies have found an association between pelvic floor disorders and overall poorer sexual function [7,8] with up to 60% of sexually active women attending urogynecology clinics reporting sexual dysfunction [5]. However, there are conflicting results regarding the different effects of urinary incontinence and pelvic organ prolapse over overall sexual function [6,9].

As to the different effects of different pelvic floor disorders over components of sexual dysfunction, research has suggested that prolapse is more likely than urinary incontinence to result in sexual inactivity [9,10], especially when bulging of genital organs is presented [8]. Other studies report that urinary incontinence is related to infrequent orgasm [11], low libido, vaginal dryness and dyspareunia [12]. These associations were not found for pelvic organ prolapse [8]. On the other hand, infrequent orgasm, decreased arousal, and increased dyspareunia are present in women with all types of pelvic floor disorders [6]. These inconsistencies could be the result of differences in demographic or other psychological factors such as genital self-image.

Although some studies have addressed the issue of sexual function and pelvic floor disorders in terms of body image [13,14]

* Corresponding author at: School of Behavioral Sciences, The Academic College of Tel–Aviv Yaffo, 2 Rabenu Yeruham st, P.O.B 8401, 68114, Israel.
E-mail address: Jonathanh@013.net (J.E. Handelzalts).

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and genital body image [15], only one qualitative study focused on incontinence in addition to prolapse [13]. None of the above-mentioned studies addressed other psychological variables such as distress (e.g., depression, anxiety, somatization) that may accompany problems in sexual function of women with pelvic floor disorders [16].

As subjective evaluation of physical symptoms may have low association with actual physical symptoms [17], treatment of pelvic floor disorders may be prompted by patients' perceptions of their symptoms and their desire for an improved quality of life [18]. Therefore we focused on subjective reporting of pelvic floor symptoms rather than on clinically measured symptoms.

The aim of this study was to explore the association of subjective reported pelvic floor symptoms, genital self-image and psychological distress (anxiety, depression and somatization) with overall sexual function in women with pelvic floor disorders (pelvic organ prolapse and urinary inconsistency). Thus, we hypothesized that high subjective reported pelvic floor symptoms, low genital self-image and high psychological distress would be associated with lower overall sexual function. Moreover, as there is some debate regarding the possible difference between pelvic prolapse and urinary incontinence in terms of overall sexual function, we sought to study this possible difference.

Materials and methods

This cross-sectional study was part of a larger project [19] conducted in an urogynecology outpatient clinic of a major tertiary medical center between August 2014 and June 2015. On randomly selected clinic days, a research assistant approached the women attending the clinic. Those who were interested were given a detailed explanation of the protocol, signed the consent form, and completed the questionnaires described below, in the order specified. Of the 207 women who were approached, 155 women gave their informed consent and participated. 52 women declined to participate because of lack of time or concerns for their anonymity. All participating women were referred by their primary physician for initial assessment of pelvic floor disorders and were all diagnosed by the urogynecologists in the unit and before treatment for lower urinary tract symptoms and/or pelvic organs prolapse. The diagnosis of lower urinary tract symptoms and pelvic organs prolapse were according to the international continence society recommendations [20]. Women were eligible to participate if they could complete a questionnaire in Hebrew, didn't report any fecal incontinence symptoms, were not pregnant and were aged 18 years or over. The study was approved by the local institutional review board (0667-13-RMC).

Questionnaires

- A standardized demographics questionnaire regarding their age, marital status, number of children and the duration of symptoms.
- Brief Symptom Inventory-18 (BSI-18) [21]. This 18-item inventory assesses psychological distress (somatization, depression, and anxiety) and uses the Global Severity Index (GSI), which is obtained by combining the number and intensity of reported symptoms for a composite measure of psychological distress. Each subscale is scored on a 5-point Likert-type scale, ranging from 0 to 24. These scores are added to give a total score range of 0–72, with the higher scores indicating major psychological distress. The Cronbach α of the original version of the BSI-18 was 0.89 [21] (0.74–0.84 for subscales), compared to 0.91 in our study
- Pelvic Floor Distress Inventory-20 (PFDI-20) [22]. The PFDI-20 is a valid and reliable scale for measuring pelvic floor symptoms in women. It comprises 20 questions, and uses 3 scales (urinary, pelvic organ prolapse, colorectal-anal). Scores range from 0 to 300 with higher scores indicating more distress. Overall Cronbach α in the original version was 0.88 [22] and in the current study, 0.82.
- Genital Self-Image Scale-20 (GSIS-20) [23]. This scale measures genital body image. Total scores range from 0 to 40, with higher scores indicating better genital self-image dissatisfaction. The GSIS-20 exhibits good to excellent internal consistency reliability ($\alpha = 0.79$ to 0.89 in different sample groups) [23]. In the current study, Cronbach α was 0.85.
- Female Sexual Function Index (FSFI) [24]. This 19-item Likert-type scale questionnaire assesses six domains of sexual function: desire, arousal, lubrication, orgasm, satisfaction, and pain. Scores range from 2 to 36, with a higher total score indicating better sexual function. The FSFI yields a high degree of internal consistency (Cronbach's α values of 0.82 and higher) [24]. Our Cronbach's α for total score was 0.98 and ranged from 0.90 to 0.96 for individual domains. As concerns were raised as to its reliability in measuring sexual function regardless of recent sexual activity (for a detailed discussion, see [25]), and as some of the women in our sample had not been involved in sexual activity near the time of the study, we chose to analyze the FSFI desire subscale in addition to the full scale. This subscale can be applied to women who have not been sexually active in the past four weeks [25]. By comparing the results of the full scale and the desire subscale, we could address the possible confounding variable of being in a relationship or not being sexually active recently [25].

Statistical analysis

Pearson correlation coefficients or independent samples *t*-test were used to test the relationship between demographic and study variables. Hierarchical linear regression was used to predict FSFI scores, and binary logistic regression was used to predict response to the GSIS questionnaire. Significance level was set at 5%. Statistical power analysis for the main research hypothesis shows that a medium effect size can be detected with a probability of 88%.

Results

Of the 155 women studied, type of disorder was either any type of urinary incontinence (urge or stress; n = 72, 46.5%) or prolapse (n = 83, 53.5%) as diagnosed by the Urogynecologists in the clinic. Thirty nine of the latter also had incontinence problems as a secondary complaint but as prolapse is usually considered as the main complaint and generally takes priority in a treatment plan, they were classifed to the proplapse group. Eighty-seven women (56.1%) were in a relationship compared to 68 (43.9%) who were not.

Response rate

The response rate dropped drastically when the participants reached the GSIS questionnaire (69%). An additional drop was recorded when the final FSFI questionnaire was reached (54%). The number of responders to each questionnaire can be seen in Fig. 1.

Further analysis of the response to the GSIS and FSFI questionnaires showed that all of the participants who responded to the FSFI questionnaire also responded to the GSIS questionnaire. For this reason, we looked into the response to the GSIS, which was relevant to all participants.

The results of the logistic regression model predicting response are presented in Table 1. The multivariate model included only