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The Relationship Between Pelvic Organ Prolapse, Genital Body Image, and Sexual Health

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Aims: Pelvic organ prolapse involves physical changes to the genitals, potentially distressing to women. We hypothesized poorer genital body image in prolapsed women versus controls and that genital body image would correlate with sexual health. **Methods:** Seventy-four sexually active women, 13 with prolapse, 24 with surgically corrected prolapse, 37 without prolapse, completed the Genital Self Image Scale (GSIS-20), Body Esteem Scale (BES), and Female Sexual Function Index (FSFI). **Results:** In prolapsed women median GSIS-20 scores were 28/40, women with surgically corrected prolapse 32/40 and never prolapsed 34/40 ($\chi^2 = 9.6$, $P < 0.01$). Post hoc analysis showed significant differences between prolapsed and never prolapsed groups ($P < 0.05$). After adjusting for BES, GSIS-20 correlated with overall FSFI ($r = 0.384$, $P < 0.01$), and its subscales of desire ($r = 0.34$, $P < 0.05$) and satisfaction ($r = 0.41$, $P < 0.01$). **Conclusions:** Women with prolapse are at risk for poorer genital body image and reduced sexual health. *Neurourol. Urodynam. 31:1145–1148, 2012.* © 2012 Wiley Periodicals, Inc.

Key words: cystocele; pelvic floor; prolapse; quality of life; rectocele; self-esteem; uterine

INTRODUCTION

Body image dissatisfaction is prevalent in Western culture, with women in particular often experiencing dissatisfaction with their bodies.[1] This dissatisfaction has the capacity to affect all parts of life including their sexual health. Women across the lifespan who are dissatisfied with their bodies have sex less often, experience less sexual pleasure and have diminished desire and satisfaction.[1,2] Preliminary evidence indicates that this body image dissatisfaction may extend to those parts of women's anatomy that is usually hidden; their genitals.[3] Although there is evidence that pelvic floor disorders such as pelvic organ prolapse adversely affect women's sexual health[4] little is known about how the physical changes associated with these disorders may affect women's body image and consequently their sexual health.

Pelvic organ prolapse is common, resulting in 200,000 surgeries being performed per year in the US alone [5]. Both the condition and surgical intervention can cause physical changes that could be distressing to women, particularly during intimacy. The genital hiatus (vaginal opening) may gape and the vagina may be shortened. Preliminary studies have indicated that pelvic organ prolapse could be associated with body image dissatisfaction.[6,7] A recent study showed there is a correlation between *overall* body image and sexual function in women with prolapse,[8] however, very little is known about how *genital* body image, as a concept distinct from *overall* body image, is experienced by women.

The purpose of this study was to better understand how body changes specific to prolapse influence genital body image and how genital body image affects sexual health. The following hypotheses were tested: (i) women with pelvic organ prolapse will have poor genital body image when compared to those without diagnosis of prolapse, and (ii) while controlling for overall body image, genital body image will correlate with sexual function.

MATERIALS AND METHODS

We utilized a case–control design to compare women with a history of prolapse (some of whom had surgical correction of the prolapse and some who had not) and those women without diagnosis of prolapse. A descriptive, cross sectional survey method was utilized whereby questionnaires were sent to potential participants via mail. Prior to data collection, Institutional Review Board approval was obtained from the University of Michigan IRB-Med. The study was approved by the IRB as an implied consent process by which return of the questionnaire packet was implication of consent.

Participants

Our sample was drawn from a population of women ($N = 130$) who participated in a previous study of prolapse

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mechanisms between 2000 and 2004.[9] In the parent study, women with prolapse were recruited from the urogynecology clinic and controls (no prolapse) were recruited by advertisement in the local communities. In the parent study, all participants underwent a pelvic organ prolapse quantification (POP-Q[10]) examination. Pelvic organ prolapse was defined as anterior vaginal wall, posterior vaginal wall, or uterus descending to at least 1 cm below the hymenal ring, as measured on clinical examination during straining down (POPQ Stage II or greater). No prolapse was defined as no descent lower than 1 cm above the hymenal ring. Women were excluded from the parent study if anterior vaginal wall, posterior vaginal wall, or uterus descended to the hymen, which was considered a "grey zone." Women were also excluded from the parent study if they had genital anomalies or diseases that could increase risk of infection from the clinical examinations. In the parent study, 53% of the women met the criteria for prolapse and 47% were age matched case controls with normal pelvic organ support. Full details of the parent study have been reported elsewhere.[9] Because of the time elapsed (4–8 years) since the parent study data collection, the women with pelvic organ prolapse were asked if they had undergone surgery for their prolapse, creating a three groups design; women with uncorrected prolapse, women with surgically corrected prolapse, and women with no prolapse (Fig. 1).

For the study reported here, prior participants who agreed to be contacted for future studies (N = 130) were sent an introductory letter. Response from the initial introductory recruitment letter included three letters returned undeliverable and seven women who opted to not participate. Hence, 120 letters with survey instruments were sent in the mailing that occurred 2 weeks after the introductory letter. Survey response rate was 78% with 96 survey instruments returned. Of these, 74 women indicated they were currently sexually active (allowing for analysis of relationship between genital body image and sexual health), therefore these women (37 with prolapse and 37 without prolapse) were used as the final sample for the data analysis in this study. By self report, 24 of the women with prolapse had undergone surgery for their condition after having participated in the parent study and 13 had not. In order to characterize the study population the following demographic information was obtained: age, ethnicity, level of education, and whether or not the women were currently in a sexual relationship (yes/no).

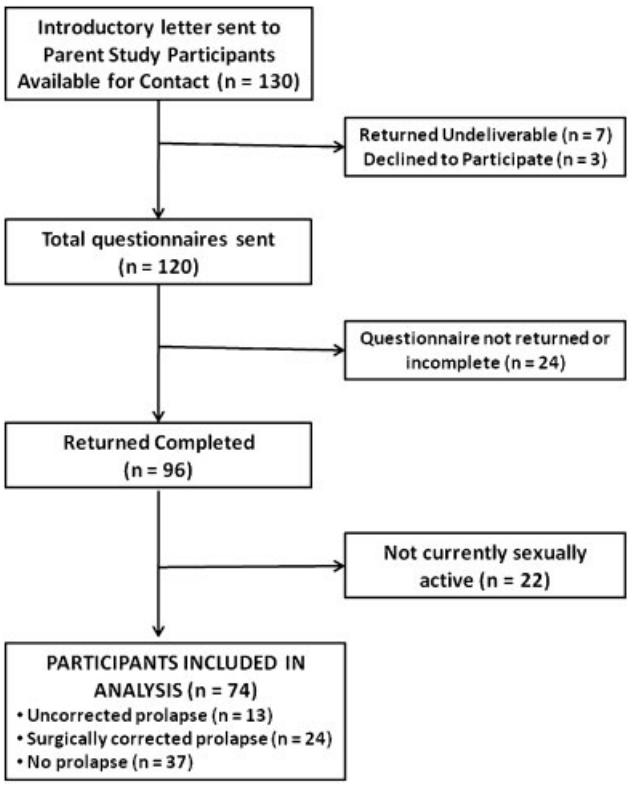

Fig. 1. Flow diagram of participants.

Survey materials

To test the hypotheses, the following three specific survey instruments were used: the Genital Self Image Scale (GSIS-20), the Female Sexual Function Index (FSFI), and the Body Esteem Scale (BES). The GSIS was previously published as a questionnaire that was used to explore genital body image in women seeking treatment for sexual dysfunction.[3] The scale was recently refined from 29 questions to 20 questions and subjected to tests of validity and reliability in both the participants included in this research as well as other samples of women.[11] Renamed the GSIS-20, the internal reliability for the GSIS-20 for the sample of women in this manuscript was Cronbach's alpha coefficient of 0.89. Potential scores for the GSIS-20 range from 0 to 40 with higher scores indicating a more positive genital body image. Ten of the items are measured on a four point (0–3) Likert-type scale and ten items are measured as either "applies to me" or "does not apply to me" (0–1). Positively worded items were reverse coded. Four subscales make up the total GSIS: Genital Comfort (range, 0–6), Confidence (range, 0–11), Function (range, 0–11), and Appeal (range, 0–12).

Sexual health was assessed using the FSFI.[12] The FSFI has established validity and reliability in a variety of populations and is comprised of six domains: desire, subjective arousal, lubrication, orgasm, satisfaction, and pain.[13–16] This measure was used rather than a measure designed for women with pelvic floor disorders such as the Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire[17] because this study included a comparison group of women without prolapse. Because *overall* body image has been shown to influence women's sexual health,[18] the Body-Esteem Scale (BES[19]) was administered in order to control for the effects of *overall* body image when exploring the relationship between *genital* body image and components of sexual health. The BES consists of three subscales: Appearance, Weight, and Attributes (evaluations attributed to others about one's body and appearance) and has been shown to be valid and reliable in a variety of populations.[19]

Analysis

Prior to each analysis, standard tests for normality of data, and suitability of statistical tests were undertaken. As this was pilot work using new survey instruments, there was not sufficient pre-existing data to perform an a priori power analysis.

Participants were divided into three groups, those who had clinically documented prolapse, those with clinically documented prolapse and indicated they subsequently had surgery for their prolapse, and those who had normal pelvic support on clinical examination and indicated they had never been diagnosed with prolapse. For the between groups comparison,

TABLE I. Demographic Characteristics of Participants

	Participants with prolapse (n = 13)		Participants with surgically corrected prolapse (n = 24)		Participants not diagnosed with prolapse (n = 37)	
Characteristic	**n**	**%**	**n**	**%**	**n**	**%**
Ethnicity						
Black	1	8	3	13	5	13
Hispanic	1	8	1	4	1	3
White	11	84	20	83	31	84
			Mean (SD)			
Age			60.2 (12.3) yrs		60.4 (9.4) yrs	58.1 (9.6) yrs
Years of education			13.6		14.2	14.2

histograms revealed that the data were not normally distributed. Therefore, because the groups were small, the non-parametric Kruskal–Wallis test was used rather than a one-way ANOVA. Post hoc between groups analysis was performed using the non-parametric Mann–Whitney *U*-test using a Bonferroni adjustment to the alpha values (level of significance $<0.05/3 = 0.017$). Partial correlation was used to explore the relationship between *genital* body image (GSIS-20 scores) and sexual health (FSFI scores). This allowed us to control for the confounding effect of *overall* body image (scores on the BES). Level of significance was set at <0.05 (two-tailed).

RESULTS

Mean age for the participants did not differ significantly by group, nor did years of education or ethnicity, with the majority of women in all groups self identifying as White (Table I).

There was a statistically significant difference between groups in genital body image (GSIS-20, $\chi^2 = 9.6$, $P = 0.008$). Women with prolapse (n = 13) had significantly lower genital body image scores (Md = 28) compared with those who had never been diagnosed with prolapse (n = 37, Md = 34, $z = 2.49$, $P = 0.031$, Table II). Median score on the GSIS-20 for women who had surgical correction of their prolapse (n = 21, Md = 32) was not significantly different than either the women with prolapse ($z = 1.17$, $P = 0.246$) or the women without prolapse ($z = 1.08$, $P = 0.281$).

After adjusting for *overall* body image (BES) there was a positive correlation between *genital* body image (GSIS-20 scores) and sexual health (total FSFI score, $r = 0.384$, $P < 0.01$) as well as the FSFI domains of sexual desire ($r = 0.336$, $P < 0.05$) and sexual satisfaction ($r = 0.411$. $p < 0.01$). The GSIS-20 Appeal subscale (genitals would be appealing to a sexual partner) exhibited significant correlations with every FSFI sexual function domain (Table III).

DISCUSSION

Results from this study indicate that in this sample, women with prolapse exhibit significantly worse genital body image than women who have never been diagnosed with prolapse. Genital body image and sexual health were moderately correlated, indicating that in these populations genital body image and women's sexual health are related, particularly in the domains of sexual desire and satisfaction. Whether or not women felt their genitals were appealing to their partner was correlated with all aspects of sexual health measured in this analysis. In this pilot study, the addition of the BES to control for the confounding effects of overall body image on sexual health strengthens the findings. Interestingly, although the difference did not reach statistical significance, women in this small sample who had surgical correction of their prolapse had higher GSIS-20 scores when compared to women with uncorrected prolapse but lower scores than women who had never been diagnosed with prolapse.

Pelvic floor disorders such as prolapse affect quality of life including sexual health: decreasing sexual desire, decreasing lubrication, as well as increasing potential for pain with intercourse and fear of urinary or fecal incontinence.[4] Only recently has attention been given to body image changes associated with pelvic organ prolapse. In a case–control study, women with advanced prolapse were more likely to feel self-conscious, feel less feminine, and feel less sexually attractive than the controls.[6] Lowenstein et al.[8] explored the relationship between overall body image and sexual function in women with prolapse and found that sexual function was negatively influenced by overall body image dissatisfaction and bother from prolapse, but not the severity of prolapse. Their study, however, included a measure overall body image and not a measure specific to women's genitals. A qualitative study of body image and sexual health in women with prolapse found that those who were sexually active were particularly bothered by the physical changes associated with prolapse.[7] The

TABLE II. Between Groups Differences in Genital Self Image Scale (GSIS-20)

	Participants with prolapse (n = 13)	Participants with surgically corrected prolapse (n = 24)	Participants not diagnosed with prolapse (n = 37)	Chi-square (*P*-value[a])
GSIS-20 Median Score	Md = 28 (range 19–37)	Md = 32 (range 10–40)	Md = 36 (range 19–37)	$\chi^2 = 9.6$, (0.008)

Higher scores indicate more positive genital body image, range of possible scores 0–40.

[a]Post hoc Mann–Whitney *U*-test revealed a significant difference in GSIS-20 between currently prolapsed and never prolapsed women, $z = 2.49$, $P = 0.031$. The surgically corrected prolapse group did not differ significantly with either currently prolapsed or never prolapsed groups.

TABLE III. Correlations Between Genital Self Image Scale (GSIS-20) and Female Sexual Function Index (FSFI), After adjusting for Body Esteem Scale (BES) Scores (N = 74)

Scale	Total FSFI	FSFI Desire	FSFI Lubrication	FSFI Arousal	FSFI Orgasm	FSFI Satisfaction	FSFI Pain
GSIS-20	0.384**	0.336**	0.157	0.218	0.226	0.411**	0.234
Appeal	0.557**	0.417**	0.417**	0.426*	0.396**	0.527**	0.432**
Confidence	0.062	0.105	0.102	0.012	0.015	0.121	0.043
Function	0.168	0.144	0.005	0.064	0.172	.267*	0.002
Comfort	0.199	0.192	0.127	0.007	0.024	0.173	0.053

*$P < 0.05$ (two-tailed).
**$P < 0.01$ (two-tailed).

findings of the study reported here further the body of knowledge by utilizing a comparison group that did not differ in age and by only including women who were currently sexually active. In addition, we used a measure of body image specific to women's genitals (the GSIS-20) that has been shown to be valid and reliable in this population.[11]

Limitations

Limitations in this investigation include lack of diversity in the sample population; the majority of participants were White and educated. Information about women underrepresented in this investigation is warranted.

Another limitation involves the amount of time elapsed between the clinical examinations and the time of this data collection (4–8 years). Some women had undergone surgery for their prolapse in the interim, which warranted a three-group design and decreased sample size in the prolapse group. Additionally, women in the control group may not have maintained their pelvic support in the interim although they were asked in the survey if they had ever been diagnosed with pelvic organ prolapse and all indicated "no." The small group sizes may have rendered the study underpowered to find a statistically significant difference between those women who had surgical correction of their prolapse and women with prolapse or those with no prolapse diagnosis. However, the demonstrated differences between groups in the predicted direction, although not reaching statistical significance, add credibility to this analysis.

CONCLUSIONS

In this study, women with Stage II or greater pelvic organ prolapse demonstrated poorer genital body image when compared to women without prolapse. Genital body image was significantly correlated with sexual health, in particular sexual desire and sexual satisfaction. These findings provide preliminary evidence that sexual dysfunction experienced by some women may be in part due to body image dissatisfaction associated with prolapse, creating a foundation for future investigation of the relationships between prolapse and genital body image and how these relationships may influence sexual health.

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