Original Article

Evaluation of the Relationship between the Severity of Pelvic Organ Prolapse and Female Sexual Function

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Abstract

Background: Genital prolapse is one of the main health problems in women that affects various aspects of women's lives. This study aimed to investigate the relationship between pelvic prolapse and female sexual function.

Materials and Methods: This cross-sectional study was performed on a random sample of married women (96 patients) referred to two university hospitals of Shahid Beheshti University of Medical Sciences. To determine the score of sexual activity, a female sexual function questionnaire was used, which included 19 questions and five linked options. The severity of pelvic organ prolapses (POPs) and the type of prolapse were determined by clinical examination by a female resident based on the POP Quantification (POP-Q) classification system. The results were analyzed with descriptive statistical tests, Pearson's correlation, and one-way analysis of variance with Statistical Package for the Social Sciences (SPSS) version 24 software.

Results: About 54.2% (N = 52) of the studied women were over 40 years old, 59.3% (N = 57) had two births, and the type of delivery was normal for more than 83.4% (N = 80) of them. Cystocele and rectocele with a frequency of 66.6% (N = 64) were the most common types of prolapse observed in the studied women. 44.8% (N = 43) of the studied women had stage 2 prolapse. The results of the one-way analysis of variance showed a statistically significant relationship between the average score of sexual activity and the stage of prolapse ($P < 0.001$).

Conclusions: Increased severity of prolapse leads to decreased sexual activity in women.

Keywords: Pelvic organ prolapse, sexual dysfunction, sexual satisfaction

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Introduction

Appropriate sexual performance of people is one of the signs of their mental and physical health, and recognizing people's sexual desires is one of the most important aspects of public health.[1] Any sexual disorder or dissatisfaction can lead to a disorder in the sexual performance of people. Sexual dysfunction is defined as a disorder in sexual response or pain during sexual activity.[2] Sexual dysfunction is a common problem that occurs more frequently in women. This disorder occurs significantly more in women with gynecological problems such as pelvic organ prolapse (POP).[3] Pelvic prolapses are considered a very serious problem in women's health because they can affect different aspects of women's physical and mental health. Pelvic prolapse disorders can also affect the quality of life of women, their husbands, and their marital relationship.[4] POP is divided into three categories, including anterior, posterior, and apical compartment prolapses, based on the site of involvement

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in the vaginal canal.[5] POP symptoms are different and not specific to a certain compartment. Anterior compartment symptoms include frequent urination, urgency, incontinence and intermittent flow of urine, difficulty in urination, feeling of incomplete emptying of urine from the bladder, and insufficient flow,[6] while the symptoms of the posterior compartment include defecation problems, the feeling of incomplete bowel emptying, constipation, and the need to touch to empty.[7,8] The only symptom accepted for POP in all three compartments is a vaginal protrusion.[8] The prevalence of POP varies from 6 to 97% in different parts of the world and affects 50% of women who have had a history of giving birth, and 20% of cases are asymptomatic.[9-12] This disease is also important from a socioeconomic point of view because about 11% of cases would require surgery.[12]

The results of previous studies show that POP effectively reduces the sexual performance and, subsequently, the quality of life of women. Women's sexual performance depends on their perception of their body, and the results of studies show that the feeling of prolapse in women has a negative effect on their sexual performance. In general, women with advanced prolapse feel less feminine and less sexually and physically attractive.[13-15] The results of a study by Ghanbari *et al*.[16] demonstrated that stage 1 anterior prolapse is associated with sexual dissatisfaction in affected women.

More than one-third of sexually active women with advanced prolapse have reported that their sexual performance was affected by symptoms of prolapse, and experiencing more symptoms is observed to be associated with poorer sexual performance. Embarrassment and discomfort, as well as symptoms such as urinary incontinence, are factors that may lead to decreased sexual performance in women with POP. These women also have complaints such as insufficient orgasm, decreased sexual desire, and increased indigestion, which can also lead to a decrease in women's sexual activity.[17]

It is not possible to prevent and control the risk factors of pelvic prolapse, and the effect of surgical methods on sexual function is unknown. The results of a study by Teymouri *et al*.[18] showed that colporrhaphy in women with cystocele and rectocele leads to improved sexual satisfaction. Also, a study by Goudarzi *et al*.[19] showed that colporrhaphy surgery does not affect sexual performance but reduces sexual satisfaction.

Considering the high prevalence of POP in Iran and the conflicting results of studies conducted on the effects of colporrhaphy surgery (in the treatment of pelvic prolapse) on sexual performance and sexual satisfaction, this study was conducted with the aim of investigating the relationship between the severity of pelvic prolapse and the sexual function of Iranian women.

Materials and Methods

This cross-sectional descriptive study was performed in 2021, after receiving the letter of introduction and the code of ethics from Shahid Beheshti University of Medical Sciences and obtaining permission from the educational and therapeutic hospitals (Ayatollah Taleghani and Imam Hossein) of Shahid Beheshti University of Medical Sciences in Tehran, Iran. The study population included married women referring to the gynecology clinic of educational and therapeutic hospitals of Shahid Beheshti University of Medical Sciences. Sampling was performed using the available sampling method. Also, according to a similar study (Goudarzi *et al*.)[19] and using the ratio comparison formula ($\alpha = 0.05$, $\beta = 20\%$, $d = 0.1$, p1 0.27=, p0 = 0.43), the sample size was determined to be 96 people.

Inclusion criteria were married women of reproductive age, not suffering from chronic diseases, having sexual activity, and willing to participate in the study. Exclusion criteria included age around menopause and after menopause (due to eliminating the effects of vaginal dryness or hormonal decrease in menopause), pregnancy, multiple partners, and patients receiving psychiatric drugs (during the last six months).

The data collection tools included demographic and clinical profile forms, a female sexual function questionnaire, and clinical examinations. The demographic and clinical profile form included age, number of deliveries, type of delivery, and patient complaints.

The sexual performance of the cases was evaluated using the Women's Sexual Function Index (FSFI) questionnaire, which includes 19 questions with five linked options. The score of each person in this index is calculated in six dimensions of sexual desire, arousal, lubrication, orgasm, satisfaction, and pain by adding the scores of the questions related to that section and multiplying the sum of the scores by the coefficient of each section.[20,21] The validity and reliability of this questionnaire in Iran have been proven in previous studies.[22,23]

The clinical examination was performed based on the POP Quantification (POP-Q) system, which includes the measurement of nine specific points. Six of these points are measured along the length of the vagina and in relation to the hymen, which is expressed as positive or negative numbers (in centimeters) if they are proximal or distal to the hymen, and the degree of prolapse is determined based on these points. The three other measurements in examining the quality of POP include genital hiatus, perineal body, and total length of the vagina. The total length of the vagina is measured in centimeters based on the deepest part of the vagina, while the top of the vagina has reached its maximum natural position. All these measurements, except for the total length of the vagina, are performed in the state of maximum force. The classification of the degree of prolapse according to the POP-Q system is as follows: stage 0: There is no prolapse; stage 1: The lowest point of prolapse is one centimeter from the level of the hymen; stage 2: The lowest point of prolapse is between one centimeter above and one centimeter below the level of the hymen; stage 3: The lowest point of prolapse is more than one centimeter below the surface of the hymen; and stage 4: It is equivalent to complete protrusion from the vagina.[24]

Then, the researcher assistant attended to the research environment and provided a sufficient explanation of the research objectives. Then, after obtaining informed consent from the study subjects, the research questionnaires were provided to them, and they received the necessary instructions on how to complete the questionnaires. Also, the individuals were assured that their information would remain confidential. Following that, the eligible individuals were asked to, after emptying the bladder and the rectum, be placed in a lithotomy position, and according to the POP-Q system, the types of prolapse were examined in three categories, that is, anterior, apical, and posterior of the vagina. The severity of prolapse was determined using the data obtained during the examination.

Data analysis was performed using Statistical Package for the Social Sciences (SPSS) version 24 software and using descriptive (indices of central tendency and dispersion (mean and standard deviation) and frequency distribution) and inferential (Pearson's correlation and one-way analysis of variance) statistical tests. A significance level of $P < 0.05$ was considered.

Results

About 54.2% (N = 52) of the studied women were over 40 years of age, 59.3% (N = 57) had two deliveries, and the type of delivery was normal for more than 83.4% (N = 80). Cystorectocele prolapse with a frequency of 66.6% (N = 64) was the most common type of prolapse observed in the studied women. 44.8% (N = 43) of the studied women had stage 2 prolapse. Other demographic and clinical characteristics are listed in Table 1.

The mean score of sexual activity in the studied women was 55.6 ± 19.3. The results of the *t*-test did not show a statistically significant relationship between the mean score of sexual activity and the age of the studied individuals ($P < 0.05$). Also, the results of the one-way analysis of variance did not show a statistically significant relationship between the mean score of sexual activity and the number and type of deliveries ($P < 0.05$). However, the results of the one-way analysis of variance showed a statistically significant relationship between the mean score of sexual activity and the severity of prolapse [Table 2].

The results showed that there was a relative negative correlation (correlation coefficient = -0.68, *P* value < 0.001) between the severity of prolapse and the sexual performance score [Figure 1].

The results of this study showed that an increase in the severity of prolapse after removing the effect of confounding variables still leads to a decrease in the sexual performance score of the patients. The sexual function score of patients with stage 2 prolapse was 6.6, and in cases with stage 3 prolapse, this score was 20.4; also, the sexual function scores of the patients with stage 4 were lower than the reference group (stage 1 prolapse), and the observed differences were statistically significant ($P < 0.001$).

Table 1: Demographic and clinical characteristics of the studied women ($n = 96$)

Variable	Subgroup	Number	Percentage (%)
Age	Less than or equal to 40 years	44	45.8
	More than 40 years	52	54.2
	Total	96	100.0
Number of deliveries	1 time	23	23.9
	2 times	57	59.4
	3 times	16	16.7
Type of delivery	Total	96	100.0
	Natural	80	83.4
	Cesarean section	5	5.2
	Both	11	11.4
	Total	96	100.0
Patient complaint	No specific complaints	16	16.7
	Sexual complaint	9	9.4
	Nonsexual complaint	50	52.0
	Both	21	21.9
Prolapse type	Cystocele	15	15.6
	Rectocele	7	7.3
	Cystorectocele	64	66.7
	All items	10	10.4
	Total	96	100.0
Prolapse severity	Stage 1	32	3.33
	Stage 2	43	44.8
	Stage 3	12	12.5
	Stage 4	9	9.4
	Total	96	100.0
Sexual dissatisfaction	None of the people	59	61.4
	Patient	23	24.0
	Husband	0	0
	Both people	14	14.6
	Total	96	100.0

Discussion

The present study was conducted with the aim of investigating the relationship between the severity of POP and the sexual performance of Iranian women.

The average score for sexual activity of women participating in the present study was 55.6. The average of this score for the women participating in a study by Lowenstein *et al*. was 35, which is significantly lower than the present study.[15] Also, a study by Panman *et al*.[25] showed that younger people have a higher sexual performance score. The results of these studies are not consistent with the results of the present study, which may be due to the difference in the average age of the women studied. The women participating in the present study were relatively younger than in other studies. Age is one of the factors affecting the level of sexual activity of women.

The results of this study showed that increasing the severity of POP (severity of the disease) effectively leads to a decrease in the sexual performance score of patients. In line with the findings of the present study, the results of the studies by

Table 2: Mean score of sexual performance in the studied patients based on the investigated variables

Variable	Subgroup	Mean (standard deviation)	95% confidence interval	*P*
Age	Less than or equal to 40 years	57.4 (17.2)	52.3، 62.6	* 0.401
	More than 40 years	54.1 (21.0)	48.3، 59.9	
Number of deliveries	1 time	50.7 (19.9)	42.5، 59.0	**0.371
	2 times	56.8 (19.5)	51.7، 62.0	
	3 times	58.3 (17.4)	49.6، 67.0	
Type of delivery	Natural	56.1 (19.3)	51.8، 60.4	**0. 849
	Cesarean section	53.1 (17.3)	42.8، 77.2	
	Both	53.0 (27.3)	28.7، 77.2	
Patient complaint	No specific complaints	66.3 (9.9)	61.3، 71.2	**0.001
	Sexual complaint	40.0 (21.9)	25.4، 54.5	
	Nonsexual complaint	62.8 (11.7)	59.5، 66.1	
	Both	37.2 (22.0)	27.6، 46.8	
Prolapse type	Cystocele	64.8 (12.0)	58.6، 70.9	**0.134
	Rectocele	56.2 (16.4)	43.9، 68.6	
	Cystorectocele	52.6 (20.5)	47.5، 57.7	
	All items	60.7 (18.8)	48.8، 72.5	
Prolapse intensity	Stage 1	66.6 (8.9)	63.4، 69.7	**0.0001
	Stage 2	59.0 (9.9)	56.0، 62.0	
	Stage 3	39.7 (20.9)	27.7، 51.7	
	Stage 4	21.6 (27.9)	3.1، 40.1	
Sexual dissatisfaction	None of the people	62.5 (12.7)	59.2، 65.8	**0.0001
	Patient	45.0 (25.4)	34.4، 55.5	
	Both people	44.0 (18.8)	34.0، 54.0	
Total	------	55.6 (19.3)	51.7، 59.5	

*t-test, **one-way analysis of variance

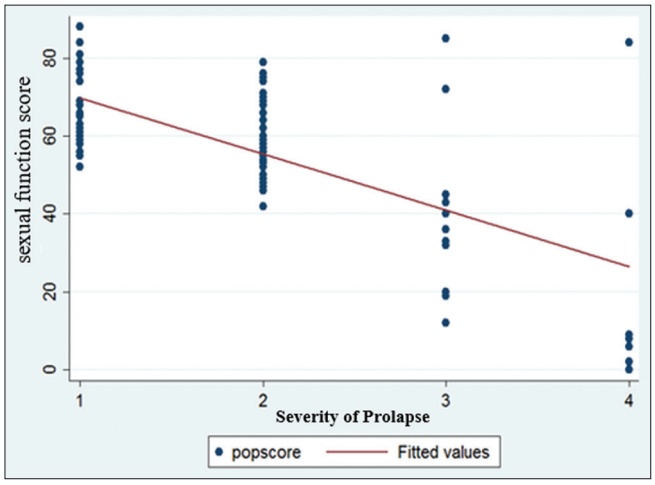

Figure 1: Correlation between the severity of prolapse and the sexual function score

Panman *et al*.,[25] Handa *et al*.,[17] and Tok *et al*.[26] showed that the presence of pelvic prolapses and a history of pelvic surgery led to a decrease in women's sexual activity. Also, the results of a study by Barber *et al*. showed that women suffering from POP avoid sexual intercourse.[27] This could be because POP causes obstructive symptoms (for both the patient and the sexual partner) during intercourse; hence, they are more reluctant to engage in sexual activity. Pelvic disorders are multifaceted problems that have anatomical and functional aspects. Although the presence of anatomical disorders does not necessarily mean that there is a problem in women's sexual performance, it may still affect their sexual performance because these anatomical disorders are sometimes associated with pelvic pain or urinary and fecal incontinence during sex. However, pelvic prolapse leads to a decrease in women's sexual performance. Incontinence of urine and feces during sex or swelling of the sexual organ is the main concern of women with pelvic prolapses, which has a significant impact on various aspects of their sexual performance and effectively leads to a decrease in women's sexual performance and their satisfaction with the sexual activity itself.[26,27] In addition, the presence of prolapse may affect a woman's self-image, and as a result, she may not want to be intimate with her partner. For partners, avoidance may also be related to fear of worsening prolapse and their partner's symptoms.[28]

The present study is one of the first attempts to investigate the relationship between the severity of pelvic prolapse and the sexual performance of Iranian women, and in this study, a reliable tool was used to measure the sexual performance of patients with prolapse. Among the limitations of the present study, we can point out the small sample size and the failure to consider possible psychological factors affecting prolapse and sexual performance. It is suggested to conduct studies with greater sample size and multicenter sampling and by considering psychological factors and body image on prolapse and sexual function.

Conclusion

In this study, it was shown that increasing the severity of prolapse leads to a decrease in women's sexual activity, and these women are at a greater risk of decreased sexual activity and satisfaction with their sexual activity. It is suggested that larger studies be conducted in this field and the effect of other possible factors such as psychological factors and body image be investigated on pelvic prolapses and sexual performance.

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Conflicts of interest

There are no conflicts of interest.

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