

Is the Female Sexual Function Affected by the Vaginal Wall Prolapse?

Mostafa AH. Abd Elaziz

Department of Obstetrics and Gynecology, Faculty of Medicine, Suez Canal University, Egypt

Abstract

Background: Female sexual dysfunction is a condition that describes patients with low libido, problems with sexual arousal, inability to achieve orgasm, and dyspareunia. Although not consistent, studies have found that sexual complaints are common in women with pelvic floor disorders. **Aim:** The aim of this study was to evaluate the impact of vaginal wall prolapse on the female sexual function (FSF). **Material and Methods:** The study was conducted at Suez Canal University Hospital, Ismailia at outpatient clinic from October 2012 to April 2013. Sixty patients with vaginal wall prolapse were selected randomly. Data on female sexual function and satisfaction were obtained by female sexual function index questionnaire from 60 patients with vaginal prolapse and 60 controls women. The six domains of the female sexual function questionnaire (desire, arousal, lubrication, orgasm, satisfaction, and pain) were compared between both groups. A score of 26.55 was defined as the optimal cut score between normal and pathological values. **Results:** The means of the six domains of the Female Sexual Function Index (FSFI) were significantly different between both groups ($p < 0.0001$). There was a significant difference in the mean of the total score between patient and control group (20.92, and 28.03 respectively) taking in consideration that all women in the patient group had vaginal wall prolapse. **Conclusion:** Vaginal wall prolapse has a major poor effect on the female sexual function.

Keywords: Female sexual function, sexual satisfaction, female sexual function questionnaire

Introduction

Female sexuality depends on the woman's physical, emotional, and psychological states and involves the complex and dynamic interaction between these variables. Female sexual function is the ability to achieve sexual domains as arousal, lubrication, orgasm and satisfaction resulting in a better well-being with good quality of life⁽¹⁾. Female sexual dysfunction is a condition that describes patients with low libido, problems with sexual arousal, inability to

achieve orgasm, and dyspareunia. Although not consistent, studies have found that sexual complaints are common in women with pelvic floor disorders⁽²⁾. Pelvic organ prolapse occurs when abnormal descent or herniation of the pelvic organs occurs from their normal attachment sites or their normal position in the pelvis. The pelvic structures that may be involved include the uterus (uterine prolapse) or vaginal apex (apical vaginal prolapse), anterior vagina (cystocele), or posterior vagina (rectocele)⁽³⁾. Pelvic organ prolapse (POP)

including vaginal wall prolapse (VWP) is common, affecting up to one-third of adult women⁽²⁾. These disorders have been shown to have a significant impact on the quality of life, which includes the ability to function sexually^(4,5). With the emergence of validated, disease-specific sexual function questionnaires, a new understanding of the relationship between Pelvic floor disorders (PFD) and sexual function is emerging. Controversy still exists regarding the overall impact of PFD on sexual function^(6, 7). There was a decreased sexual function in women with POP, compared with unaffected women, and in women with POP and Urinary incontinence (UI), compared with women with UI only^(8,9). Other investigators have reported relatively high sexual function in women with PFD and have identified increasing age as only a significant factor predictive of worsening sexual function^(10,11). Another study comparing women who had POP with unaffected controls also found that age and lack of a partner were the most common indicators of sexual inactivity^(12,13). The aim of this study was to evaluate the impact of vaginal wall prolapse (VWP) on the female sexual function using FSFI.

Materials and Methods

With approval from the ethics committee of the Faculty of Medicine, Suez Canal University this prospective comparative study was conducted at the Gynecology outpatient clinic of the Suez Canal University Hospital, Ismailia from October 2012 to April 2013. Sixty patients were randomly selected from those women who present or are referred to the hospital for management of the VWP, they were the study group. Another 60 women without evidence of any type of VWP were also randomly selected and were considered as the control group for comparison. The in-

clusion criteria were age is between (18-50) years old, sexually active and reliable patient. The studied women were diagnosed to any degree of VWP according to the ICS classification (POP-Q) system⁽²⁹⁾. Only anterior vaginal wall prolapse (cystocele) and posterior vaginal wall prolapse (rectocele) were included in the study, normal male partners regarding sexual activity, and have no chronic illness, the women in the control group were normal and have normal husbands. Exclusion criteria included other types of prolapse, evidence of any type of UI, evidence of psychiatric disorders, sexually inactive, unreliable patient, abnormal male partner. After counseling and written consent, all patients were submitted to a complete medical history, including name, age, job, marital status, parity, and mode of the delivery. Full physical examination and confirmation or exclusion of VWP was obtained. Data on female sexual function, and satisfaction were obtained from female sexual function index questionnaire from 120 (60 patients and 60 controls) women. The FSFI questionnaire is based on 19 questions dealing with six domains of FSFI (desire, arousal, lubrication, orgasm, satisfaction, and pain).

For this study, the Arabic translation was used. The translation was based on the original FSFI questionnaire and was validated. Responses to each question related to the previous 4 weeks were reported and scored either from 0 (no sexual activity) or 1 (suggestive of dysfunction) to 5 (suggestive of normal sexual activity). Each domain scores are obtained by adding the scores of the individual questions that comprise the domain and multiplying the sum by the domain factor provided in the FSFI for each domain. The full scale score was obtained by adding the six domain scores (minimum score possible was two and the maximum was 36). Regarding the cutoff level, a total

FSFI score of less than 26.55 was considered as sexual dysfunction⁽³⁰⁾.

Statistical Analysis

Data were statistically described in terms of mean and standard deviation, frequencies (number of cases) and percentages when appropriate. Comparison between both groups was done using Chi-Square test in the cross tabulation of the socio-demographic data between both groups and one-way Anova test to compare six domains of the FSFI between both groups. P values less than 0.05 were considered statistically significant. All statistical calculations were done using computer program SPSS (*Statistical Package for the Social Science; SPSS Inc., Chicago, IL, USA*) release 16 for Microsoft Windows.

Results

One Hundred and twenty women were recruited for this study in two equal groups, patient, and control. 47.5% of all included women were less than 30 years and all of them were more than 18 at less than 50 years old. All of them were sexually active and have normal husband. Only 7.5% of them were nullipara nulligravida (NPNG), so that the effect of the parity should be considered. 62.5% of them delivered vaginally and 47.5% had circumcision, both of them have its own effect on the sexual function (Table 1). Table (2) shows cross tabulation to compare the sociodemographic variables between both groups. Age, circumcision, duration of marriage, parity, and hormonal replacement therapy (HRT) showed no significant difference between both groups. Job, educational level and mode of delivery showed significant difference between both groups. Regarding the mode of delivery, which has considered role on the female sexual function,

as we could see on table (2), most of the women in the control group (80%) delivered vaginally, while only (45%) in the studied group did. It means that the expected effect on the studied group is nothing. So that as much as possible we could fix all other variables between both groups to validate the results. All the women in the patient group were abnormal regarding the FSIS scorers; while 80% of the control group had normal score.

Table 1: Descriptive analysis of demographic variables

Variables	Frequency %	
Age		
Less than 30	57	47.5
More than 30	63	52.5
Job		
Working	45	37.5
Housewife	75	62.5
Education		
Non	15	12.5
Low	42	35
Moderate	60	50
High	3	2.5
Circumcision		
Yes	57	47.5
No	63	52.5
Marriage Duration		
1-5 years	42	35
More than 5 yrs	78	65
Parity		
NP NG	9	7.5
P1	59	49.2
Multipara	52	43.3
Delivery		
VD	75	62.5
CS	45	37.5
HRT		
Yes	6	5
No	114	95

HRT = Hormone Replacement Therapy,
VD=Vaginal delivery, CS=Cesarean section

As table (3) showed, all the FSFI domains between both groups showed significant difference statistically between both groups. The means of the six domains of the FSFI were significantly difference be-

tween both groups; for the desire domain (4.83 for control and 3.03 for patients), for the arousal domain (5.175 for control and 2.985 for patients), for the lubrication domain (4.965 for control and 2.865 for patients), for the orgasm domain (4.9 for

control and 3.64 for patients), for the satisfaction domain (3.24 [control] and 486 [patients]), for the pain domain (28.03 [control] and 20.92 [patients]). All the FSFI domains gave highly significant ($P < 0.001$).

Table 2: Demographic variables between both groups

Variables		Groups			P*
		Study N (%)	Control N (%)	Total N (%)	
Age (yrs)	>30 yrs	27 (45)	30 (50)	57 (47.5)	0.357
	<30 yrs	33 (55)	30 (50)	63 (52.5)	
Job	Working	12 (20)	33 (55)	45 (37.5)	<0.001
	Housewife	48 (80)	27 (45)	75 (62.5)	
Education	Non	3 (5)	12 (20)	15 (12.5)	<0.001
	Low	15 (5)	27 (45)	42 (35)	
	Moderate	39 (65)	21 (35)	60 (50)	
	High	3 (5)	0 (0)	3 (2.5)	
Circumcision	Yes	27 (45)	30 (50)	57 (47.5)	0.357
	No	33 (55)	30 (50)	63 (52.5)	
Duration of Marriage	1-5 yrs	21 (35)	21 (35)	42 (35)	0.576
	< 5 yrs	39 (65)	39 (65)	78 (65)	
Parity	NP NG	2 (3.3)	7 (11.7)	9 (7.5)	0.27
	P1	42 (70)	17 (28.3)	59 (49.2)	
	Multipara	16 (26.7)	36 (60)	52 (43.3)	
Mode of Delivery	VD	27 (45)	48 (80)	75 (62.5)	<0.001
	CS	33 (55)	12 (20)	45 (37.5)	
Hrt	Yes	3 (5)	3 (5)	6 (5)	0.666
	No	57 (95)	57 (95)	114 (95)	

HRT= Hormone Replacement Therapy, *= Chi-Square test

Discussion

Our study showed that VWP, as an independent factor, has poor impact on the female sexual function in all domains of the FSFI. As shown in the tables we could fix almost all of the confounding variables. In our experience, such effect of VWP on the female sexual function may be related to organic and psychological factors. Psychological factors, including poor body image, the other partner avoidance, fearing to be hypo sexual function in addition to the

fearing of associated dyspareunia. Organic factors can be further divided into anatomical, physiological, neural, and vascular factors. Regarding the age, which is the most important confounding factor, affecting the results of other similar study, 47.5% of all our studied women were <30 years and all of them were >18 and <50 years old. All of them are sexually active and have normal husband. The age as an important factor showed an insignificant difference between both groups. Another important point to be mentioned in our study is that

all women studied in both groups were married. It means that their sexual life is a cornerstone in their lives regarding our culture and community. Other factors which could affect the sexual function of the female include; circumcision, duration of marriage, parity and HRT. Our study showed an insignificant difference between both groups. Ibrahim et al found that female genital circumcision is quite prevalent in Egypt and recent estimates quote figures ranging from 74.5%⁽¹⁵⁾ to 95.8%⁽¹⁶⁾. This predominantly cultural prac-

tice undoubtedly plays a part in FSD. In Egypt, Magdy et al found that the practice dates back to the times of the Pharaohs and is performed by people from different religious backgrounds⁽¹⁷⁾. Other studies showed the negative impact of confounders such as age and menopause on sexual function has been established⁽¹⁸⁻²⁰⁾. Hormone use has also been shown to improve sexual function⁽²¹⁾. In addition, personality and mental health factors have been implicated in sexual desire disorders⁽²²⁾.

Table 3: Comparison between the both groups regarding the FSIS domains

FSFI score	Groups	N	Mean	SD	SE	95% CI		P [#]
Desire	study group	60	3.03	0.77	0.10	2.8294	3.2306	<0.001
	control	60	4.83	0.94	0.12	4.5855	5.0745	
Arousal	study group	60	2.98	0.49	0.06	2.8578	3.1122	<0.001
	control	60	5.17	0.36	0.04	5.0797	5.2703	
Lubrication	study group	60	2.86	0.39	0.05	2.7617	2.9683	<0.001
	control	60	4.96	0.24	0.03	4.9021	5.0279	
Orgasm	study group	60	3.54	0.40	0.05	3.4344	3.6456	<0.001
	control	60	4.90	0.47	0.06	4.7773	5.0227	
Satisfaction	study group	60	3.64	0.53	0.06	3.5006	3.7794	<0.001
	control	60	4.92	0.18	0.02	4.8722	4.9678	
Pain	study group	60	4.86	0.48	0.06	4.7355	4.9845	<0.001
	control	60	3.24	0.52	0.06	3.1045	3.3755	
Total score	study group	60	20.92	1.22	0.15	20.6037	21.2363	<0.001
	control	60	28.03	1.56	0.20	27.6248	28.4352	

#= ANOVA test, SD=standard deviation, SE=standard error, CI=confidence interval, significance at p < 0.05.

Even parity has been suggested to negatively impact sexual function⁽²³⁾. A recent study by Addis, et al, evaluated the impact of demographic factors on sexual frequency and satisfaction in a cohort of 2109 women. Their findings demonstrated that age, race, income, relationship status, alcohol use, and body mass index were all important contributors to overall activity and that satisfaction was confounded by education, health status, and mental

health. These studies confirm the variety of factors that affect sexual function, some of which may be more important than individual PFDs⁽²⁴⁾. One of the most important and essential risk factors in both the development of the VWP and the appearance of the SFD is the mode of delivery. In this study, it showed significant difference between both groups. As we could see on table (2), most of the women in the control group (80%) delivered vaginally, while only

(45%) in the studied group did. It means that the expected effect on the studied group is nothing. So that, the studied group, in this study, was less affected by the poor effect of the mode of delivery on the sexual function and it gave more validation to the results. Globally, our study showed that women with VWP who are sexually active have a poor sexual function in all domains of the FSFI with significant difference including the sexual satisfaction ($P < 0.001$). It was in agreement with other studies. In a community-based study of 4106 women, 86% of women with a partner were sexually active. Women with pelvic floor disorders were less likely to be sexually active, and had lower mean satisfaction scores, than unaffected women⁽¹⁾. In addition, in a cross-sectional study of 301 women seeking outpatient gynecologic and urogynecologic care, pelvic floor symptoms were significantly associated with reduced sexual arousal, infrequent orgasm, and dyspareunia. In this study, sexual dysfunction was worse in women with symptomatic prolapse than in those with asymptomatic prolapse. Women with advanced POP have also been shown to have a decreased body image, which may have an effect on sexual function⁽²⁾. Ozel, et al.⁽¹⁰⁾ attempted to isolate the independent effects of POP on sexual function in a cohort of 116 women with UI. Sixty-nine women had UI and POP (prolapse greater than 1 cm beyond the hymen), and 47 women had without POP. The women with POP reported less libido and arousal, and were less likely to be orgasmic. In a recent cross-sectional observational study, Athanasiou, and co-workers⁽²⁵⁾, evaluated the effect of POP on FSF in 101 women compared with 70 women without POP, and found that FSF was worse in POP group than in the control group, but did not seem to worsen with an increasing grade of POP. Based on

a linear regression model, they concluded that the presence of prolapse only partly explained impaired sexual functioning in women with POP. On the other hand, Novi et al. compared sexual function of women with POP with that of women without POP using the PISQ. They reported that the mean PISQ score in sexually-active women with POP were significantly lower compared to controls, with significant difference in satisfaction with sexual relationships, the actual frequency of intercourse and ability to achieve orgasm with masturbation, but no difference in the desired frequency of intercourse, initiation of sexual activity, rate of anorgasmia or subjective assessment of partner satisfaction⁽²⁶⁾. It was noted also that our result were opposite the results of others. In a study by Weber et al⁽²⁷⁾ women with POP had a similar sexual function compared with unaffected women; advancing age was the only predictor of decreased sexual activity in this group. Another study comparing women who had POP and/or UI with unaffected controls also found that age and lack of a partner were the most common indicators of sexual inactivity⁽²⁸⁾.

Limitations of the study

Our study has a few limitations. One is the outpatient based, cross-sectional nature of the study that did not exclude other confounding factors influencing female sexual function, such as male sexuality. Furthermore, perceived stress assessed by the perceived stress scale was not evaluated in our study. It would have explored the role of stress as a potential risk factor in the development of FSD.

Conclusions

From the results of our study, it is apparent that VWP has a major poor effect on the female sexuality. Further wider-scale popu-

lation-based surveys are required for more detailed addressing of FSD in patients with POP among Egyptian women. We could recommend for further studies to evaluate the effect of the repair or surgical correction of the VWP on the female sexual function.

Disclosure

The authors report no conflicts of interest.

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