Prevalence and Risk Factors of Female Sexual Dysfunction at Aswan Governorate, A Cross-Sectional Epidemiological Study

Original Article

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ABSTRACT

Introduction: Problems with arousal, desire, orgasm, or sexual pain that led to significant discomfort or interpersonal problems are referred to as female sexual dysfunction (FSD). The incidence is about 30 to 60% that has been identified by epidemiological research.

Aim and objectives: To detect the prevalence of female sexual dysfunction in Aswan governorate and associated risk factors.

Patients and Methods: This study was a cross-sectional epidemiological study that was conducted on patients with female sexual dysfunction at Obstetrics & Gynecology department, Aswan university hospital, Egypt from June 2022 till August 2023.

Results: The overall FSD score was among (50.3%) of the studied group. lubrication dysfunction was the most prevalent (73.3%) among the studied group followed by satisfaction dysfunction (64.4%) and pain (61.3%) then desire, arousal, and orgasm dysfunctions (59.4%, 53.1%, and 51.0).There was a statistically significant connotation amongst female sexual dysfunction in addition to females' age, education, duration of the marriage, gynecological disease, husband age, female genital mutilation, chronic diseases and husband sexual malfunction.

Conclusion: In this group of Aswanian women, the overall FSD prevalence was (50.3%). lubrication dysfunction was the most prevalent among the studied group. Age, duration of marriage, husband age, hormonal contraception as well as female genital mutilation are associated risk factors.

Key Words: Female sexual dysfunction (FSD), female sexual function index (FSFI), husband sexual dysfunction.

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INTRODUCTION

Any sexual complaint or problem that produces marked distress or interpersonal trouble originating from disorders of desire, arousal, orgasm, or sexual pain is characterized as female sexual dysfunction[1].

A lack of desire to have sex is the most prevalent sexual issue, then an inability to orgasm as well as painful intercourse. It is challenging to know the actual prevalence because studies employ diverse criteria to define FSD. But while 21 percent of women experienced sexual dysfunction, just twenty-one percent sought treatment[2].

Serious depression has numerous negative effects, one of which is a loss of interest in once pleasurable behaviors, like sexual activity. The problem of sexual impairment can spiral out of control when other factors, for instance low self-esteem & hopelessness, are present[3].

Despite the high prevalence of female sexual problems detected in neoteric population surveys, comparing published studies is difficult for several reasons, including variations in methodology, study populations, as well as definitions of sexual function. Clinical samples also seem to have a higher prevalence of sexual dysfunctions compared to population samples, according to studies[4].

A phobia of close relationships and anxiety might result from a history of physical or sexual abuse. When these emotions are present, it can be challenging to maintain healthy sexual relationships[5]. Sex boredom or dissatisfaction with one's spouse can be affecting certain ladies. Relationship stress can have a multiplicative effect on a woman's health problems, including erectile dysfunction, which impacts her overall well-being, causes pelvic congestion, and adds stress to her already precarious immune system and cardiovascular system[6].

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The study's overarching goal was to identify the incidence of sexual dysfunction among women at Aswan governorate as well as the variables that put them at risk.

PATIENTS AND METHODS

This is a cross-sectional epidemiological study that was done on patients with female sexual dysfunction at Obstetrics and Gynecology department, Aswan university hospital, Egypt from June 2022 till August 2023.

The study was performed consistent with the Declaration of Helsinki as well as the guidelines for acceptable clinical practice in research. The ethical review board of the faculty of medicine at Aswan University in Egypt reviewed a written consent document that every person had signed.

Sample size calculation

All patients who attended outpatient clinic were enrolled in the study.

Calculating the sample size of the primary outcome; prevalence of FSD was depending on (n = 149979 as of Egyptian population census, 2020 edition) comprised our study population.

Sample size n = [DEFF*Np(1-p)]/ [(d2/Z21-α/2*(N-1)+p*(1-p)]

DEFF=Design effect

p=prevalence

d=precision

Z21-α/2=1.96 and

N=population size

Percent of sexual dysfunction 47% according to Yilmaz *et al*.[7]

The calculated sample size was 382 married women using Open Epi program, vesion3, open-source calculator SSPropor with power 80% and CI. 95%.

Inclusion criteria

Women who can read & understand Arabic, who are at least eighteen old, who have been sexually active within the last six months & who are married are eligible to participate.

Exclusion criteria

Women who were not included in the research met one or more of the following criteria: women <18 or >55 years, pregnant women or lactating, never married, not sexually active at last 6 months, past history of major pelvic surgery (eg, hysterectomy) in addition to women with any proven psychiatric or mental sickness

Methodology

Among the 1440 married women who were healthy and actively engaged in sexual activity, 500 (34.72%) fulfilled the inclusion criteria and 386 (77.2%) agreed to take part in the study, 4 questionnaires were excluded due to baize and missed data and 382 questionnaires were used in our study (Figure 1).

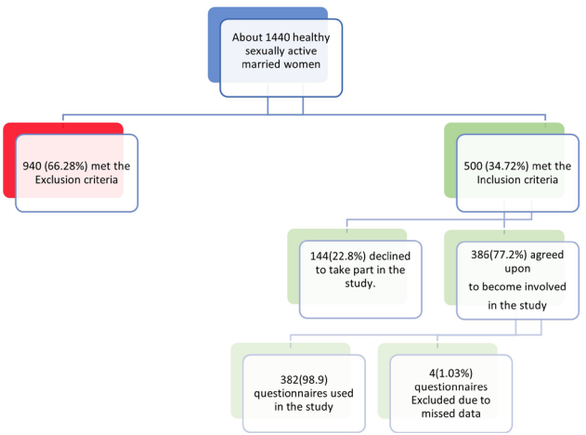

Fig. 1: The study flowchart

We assessed each woman's history and clinical examination. Two questionnaires were answered. The 1st questionnaire contained marital history & partner history. Besides the 2nd questionnaire included the Arabic version or English according to patient preference to answer and to get her best understanding of the Female Sexual Function Index (FSFI).

Examination

We started our examination by calculating BMI of the patient and vital data as BP, Pulse, RR, and Temperature. Abdominal and Local examinations (gynecological examination) were done.

Study intervention: (Female Sexual Function Index)

The Female Sexual Function Index (FSFI) is a self-administered, 19-item assessment tool for gauging several aspects of sexual function (Table1). Over the past four weeks, each question assesses a distinct dimension of sexual function. A score of 0 means that no sexual activity was attempted. A 5-point scale was functioned to grade the response. The domain factors (e.g., desire: 0.6, arousal as well as lubrication: 0.3, orgasm, satisfaction, and pain: 0.4), when added to the sum of the domain's individual items, yielded the domain scores[8]. The present trial made application of an Arabic translation of the initial questionnaire.

Table 1: FSFI Questionnaire and scoring system.

Domain	Questions	Score Range	Factor	Minimum Score	Maximum Score	Score
Desire	1, 2	1 – 5	0.6	1.2	6.0	
Arousal	3, 4, 5, 6	0 – 5	0.3	0	6.0	
Lubrication	7, 8, 9, 10	0 – 5	0.3	0	6.0	
Orgasm	11, 12, 13	0 – 5	0.4	0	6.0	
Satisfaction	14, 15, 16	0 (or 1) – 5	0.4	0.8	6.0	
Pain	17, 18, 19	0 – 5	0.4	0	6.0	
Full Scale Score Range				2.0	36	

Statistical analysis

We utilized SPSS 25 from Chicago, IL, USA, to analyze all the data. Qualitative data was presented using percentages and frequencies. To analyze the correlation between qualitative variables, the X2 chi-square test was employed. The quantitative data was displayed using standard deviation and mean values. Using the analysis of variance (F-test), quantitative information was compared amongst two groups. To identify potential participants' risk factors for FSD, logistic regression analysis was performed on the variables under study. A "P" value was employed to assess the level of significance, with a *P value* under 0.05 being deemed as a significant value.

RESULTS

(Table 2) shows a statistically significant relationship among female sexual dysfunction & females' age also education, as FSD was among the older age groups females and less educated females than younger ages and higher educated. Otherwise, there was not statistically link amongst female sexual function & residence, occupation, and income.

(Table 3) shows that lubrication dysfunction was the most prevalent (73.3%) among the studied group followed by satisfaction dysfunction (64.4%) and pain (61.3%) then desire, arousal, and orgasm dysfunctions (59.4%, 53.1%, and 51.0) and the overall FSD score was among (50.3%) of the studied group (Figure 2).

In (Table 4), there was a statistically significant association between female sexual dysfunction with the duration of the marriage, female genital mutilation, gynecological disease including endometriosis and PID as direct causes of chronic pelvic pain and contraceptive methods as FSD was statistically significantly higher among females with older duration of the marriage, more in females with type 2 and 3, (60.0%) of females with hormonal (pills& injection) CCP had FSD and (54.3%) of female with chronic pelvic pain had FSD. While regarding mode of delivery, menstrual cycle regularity, previous pelvic surgery, or chronic diseases, there was no statistically significant association between female sexual function.

In (Table 5), there was a statistically significant association between female sexual dysfunction and husband age, chronic diseases, and husband sexual dysfunction as FSD was among the older age groups females with older age of husbands and (62.1%, 70.3%, 85.5% and 61.1%) of males with chronic diseases, premature ejaculation, erectile dysfunction & both premature ejaculation and erectile dysfunction respectively had wives with FSD. Otherwise, there was no statistically significant relationship among female sexual function and other husband factors.

Table 2: Relation between FSD and characteristics of participants.

Variables	Number	Females with FSD No=192 (%)	Females with normal sexual Function No=190	χ^2 Test	*p-value*
Age (years)					
18-25	105	48 (45.7%)	57 (54.3%)	8.4	0.03*
25-35	203	96 (47.3%)	107 (52.7%)		
35-45	63	42 (66.7%)	21 (33.3%)		
>45	11	6 (54.5%)	5 (45.5%)		
Education					
illiterate	9	6 (66.7%)	3 (33.3%)	12.9	0.02*
Primary school	4	4 (100.0%)	0 (0.0%)		
Intermediate school	24	7 (29.2%)	17 (70.8%)		
High school	180	100 (55.6%)	80 (44.4%)		
College	141	65 (46.1%)	76 (53.9%)		
Postgraduate	24	10 (41.7%)	14 (58.3%)		
Residence					
Rural	172	89 (51.7%)	83 (48.3%)	0.2	0.6
Urban	210	103 (49.0%)	107 (51.0%)		
Occupation					
Not working	282	147 (52.1%)	135 (47.9%)	1.5	0.2
Working	100	45 (45.0%)	55 (55.0%)		
Income					
Low	128	66 (51.6%)	62 (48.4%)	0.2	0.9
Intermediate	225	111 (49.3%)	114 (50.7%)		
High	29	15 (51.7%)	14 (48.3%)		

*Statistically significantly different.

Table 3: Prevalence of each of the sexual dysfunction domains among the studied group.

Variables	The studied group No=382 (%)
Desire dysfunction	227 (59.4%)
Arousal dysfunction	203 (53.1%)
Lubrication dysfunction	280 (73.3%)
Orgasm dysfunction	195 (51.0%)
Satisfaction dysfunction	246 (64.4%)
Pain dysfunction	234 (61.3%)
Overall FSD prevalence	192 (50.3%)

Table 4: Relation between FSD with Gynecological history

Variables	Number	Females with FSD No=192 (%)	Females with normal sexual Function No=190	Test	*p-value*
Duration of marriage					
<5 years	110	41 (37.3%)	69 (62.7%)	15.7	0.001**
5-10 years	136	66 (48.5%)	70 (51.5%)		
>10 years	136	85 (62.5%)	51 (37.5%)		
Female genital mutilation					
No FGM					
Type 1	32	14 (43.8%)	18 (56.3%)	15.6	0.001**
Type 2	81	31 (38.3%)	50 (61.7%)		
Type 3	227	115 (50.7%)	112 (49.3%)		
	42	32 (76.2%)	10 (23.8%)		
Menstrual cycles					
Regular	286	139 (48.6%)	147 (51.4%)	1.2	0.3
Irregular	96	53 (55.2%)	43 (44.8%)		
Parity					
Nulliparous	22	9 (40.9%)	13 (59.1%)		
Para one	44	15 (34.1%)	29 (65.9%)	7.1	0.06
Para two	150	76 (50.7%)	74 (49.3%)		
Multiparous	166	92 (55.4%)	74 (44.6%)		
Contraceptive methods					
No contraceptive methods	189	89 (47.1%)	100 (52.9%)	1.04	0.3
Hormonal (pills& injection)	105	63 (60.0%)	42 (40.0%)	5.4	0.02*
IUD	88	40 (45.5%)	48 (54.5%)	1.05	0.3
Mode of delivery					
Vaginal	125	64 (51.2%)	61 (48.8%)	8.1	0.08
Cs	174	97 (55.7%)	77 (44.3%)		
Vaginal & Cs	18	8 (44.4%)	10 (55.6%)		
Gynecological disease					
No disease	154	67 (43.5%)	87 (56.5%)		
Chronic pelvic pain	208	113 (54.3%)	95 (45.7%)	4.1	0.04*
Vaginitis	60	45 (75.0%)	15(25.0%)	3.8	0.04*
PID	35	20 (57.1%)	15 (42.9%)		
Prolapse	16	7 (43.8%)	9 (56.3%)		
pelvic surgery					
No surgery	259	127 (49.03%)	132 (50.9%)	0.8	0.6
Episiotomy	126	68 (53.96%)	58 (46.03%)		
Anterior and posterior repair (colporrhaphy)	3	2 (66.7%)	1 (33.3%)		
chronic disease					
No chronic disease	315	153 (48.6%)	162 (51.4%)		
DM	27	17 (63.0%)	10 (37.0%)		
HTN	14	9 (64.3%)	5 (35.7%)	5.8	0.3
Cardiac	5	2 (40.0%)	3 (60.0%)		
Hypo/Hyperthyroidism	19	11 (57.9%)	8 (42.1%)		
Renal	2	0 (0.0%)	2 (100.0%)		

**Statistically highly significantly different.

Table 5: Relation between FSD with partners' history

Variables	Number	Females with FSD No=192 (%)	Females with normal sexual Function No=190	Test	*p-value*
Husband age					
25-35	199	92 (46.2%)	107 (53.8%)		
35-45	130	65 (50.0%)	65 (50.0%)	7.5	0.04*
45-55	43	27 (62.8%)	16 (37.2%)		
>55	10	8 (80.0%)	2 (20.0%)		
Husband education					
Illiterate& Intermediate	12	9 (75.0%)	3 (25.0%)		
High / vocational and technical Education	179	94 (52.5%)	85 (47.5%)	8.3	0.08
College	181	87 (48.1%)	94 (51.9%)		
Postgraduate	10	2 (20.0%)	8 (80.0%)		
Special habits					
No special habits	145	72 (49.7%)	73 (50.3%)	0.03	0.8
Smoking& others	237	120 (50.6%)	117 (49.4%)		
Chronic diseases					
No	250	110 (44.0%)	140 (56.0%)	11.3	0.001**
Yes	132	82 (62.1%)	50 (37.9%)		
Husband sexual dysfunction					
No sexual dysfunction	163	32 (19.6%)	131 (80.4%)		
Erectile dysfunction	64	45 (70.3%)	19 (29.7%)	11.6	0.001**
Premature ejaculation	83	71 (85.5%)	12 (14.5%)		
Premature ejaculation, erectile dysfunction	72	44 (61.1%)	28 (38.9%)		

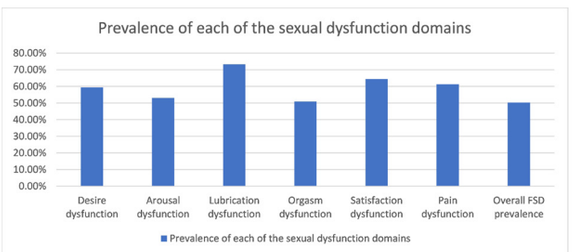

Fig. 2: Bar chart for the prevalence of FSD among the studied group.

DISCUSSION

Somewhat received to us, studies about female sexual dysfunction are enumerable. Ismail *et al*[9] discovered that 67.8 percent of 500 sexually active married women, ranging in age from eighteen to fifty-five, who were recruited from Assuit University Hospital had FSD. A much lower prevalence rate (52.8 %) was reported by Ibrahim *et al*[10] in their trial of 508 Egyptian ladies from Suez district using FSFI. In our present study we found 192 women from 382 has FSD which represent about (50.26%). while across sectional study by Mustafa *et al*[11] found that 45.6% of the participants showed indices under this limit value. Thus, FSD was prevalent among 45.6% of studied participants.

Mostafa *et al*[12] discovered that FSD affected 28 percent of women who were overweight or obese.

In the research done on 45 Turkish women, Yaylali *et al*.[13] revealed an abundance of 86% for FSD; however, our investigation reported a much lower prevalence of 30.2±4.1 kilograms per square opposed to their mean BMI of 37.5 ± 9.1 kg/m^2. It should be observed that Aswan's conservative culture may cause sexual problems to go unreported.

Moreover, 280 (73.3%) of the women in our study reported having Problem with lubrication during sex, making it the most likely sexual problem to be reported.

In Abidin *et al*.[14] study, only 6.9% reported pain, 23% desire problems and 8.3% arousal problems. Incompetent orgasm, lubrication and satisfaction among overweight and obese women was also reported in many previous literatures. When women with FSD were compared to their counterparts with no FSD using the cut-off 26.55, high education was the only studied risk factor for dysfunction. This finding agrees with Ibrahim *et al*,[10] but contradicts other studies. As in our study that we used cut-off 20.5, as women become highly educated that give her more access for partner talking and access for professional help seeking. 46.1% of college educated women suffering from FSD versus 53.9% are normal. More educated women may also be more likely to break social taboos & talk openly about their sexual issues.

We observed that women from urban areas and those with younger age had higher FSFI scores; for example, Kunkeri *et al*[15] discovered that women (a) above the age of 35, (b) with less education, and (c) from rural backgrounds were more likely to experience sexual dysfunctions. The prevalence of female genital mutilation (FGM), along with lesser levels of education & sexual literacy, may be to blame. In the present study, 72.5% are Type II FGM women from 57.4% of participants that had any type of FGM. El-Defrawi *et al*.[16] stated that the effects of FGM on

psychosexual life are detrimental. Additionally, we found that younger women had higher scores (greater function) in the desire, arousal, satisfaction,orgasm, and pain domains of the FSD, and that this link was statistically significant. The overall FSD score was statistically significantly higher among females of a younger age than older ones. Another finding is that FSFI is adversely connected with both marital longevity as well as parity.

El-Nashar *et al*.[17] discovered that psychological and hormonal variables may increase the incidence of FSD in women with no parity. The mean FSFI scores of women who used contraceptives were much lower, as were the scores of Ibrahim *et al*.[10]. Hormonal contraceptives have a negative impact on desire, which in turn affects other areas of life.

Among the partners of FSD women in the present research, 85.5% percent experienced problems with erectile dysfunction & 70.3% premature ejaculation. Worly *et al*.[18] illustrated that men experiencing sex disorders were more likely to come forward than women who did not experience such problems. But this was just the woman's opinion; it wasn't a diagnosis.

CONCLUSIONS

About 50.3% of the studied group of Aswanian women have sexual dysfunction. Age, education level, duration of marriage, female genital mutilation, hormonal contraception, husband age are associated risk factors. In terms of domain impact, lubrication and satisfaction were far higher than pain and desire issues. Using a validated instrument, this study assesses the prevalence of FSD in Aswan. We urgently require larger-scale epidemiologic investigations that are based in the community.

CONFLICT OF INTERESTS

There are no conflicts of interest.

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