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ORIGINAL ARTICLE

Female sexual dysfunction in childbearing period: a cross-sectional study in Aswan University

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ABSTRACT

Keyword: Female Sexual Function Index (FSFI), Female sexual dysfunction (FSD), Husband sexual dysfunction, Childbearing period

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Background: female sexual dysfunction (FSD) is a definition that referred to problems with arousal, desire, orgasm, or sexual pain that led to problems with partners or significant discomfort. **Objectives:** To assess prevalence of female sexual dysfunction in Aswan governorate in childbearing period. **Subject & methods:** This research was cross-sectional epidemiological research that was performed on 360 women with FSD at Obstetrics & Gynecology department, Aswan university hospital, Egypt from July 2022 till December 2023. **Results:** The average desire, arousal, lubrication, orgasm, satisfaction, and pain scores were (3.8±1.3, 3.8±1.3, 3.7±1.2, 2.4±0.83, 3.6±1.1 & 3.5±1.31) respectively and the overall FSD was ranging from 5.7 to 31.6.as we use 20.5 cutoff value for FSD. There was a greatly statistically significant negative association among FSDI & partner age, but no significant negative association was observed among FSDI & husband-sexual dysfunction or special behaviors. **Conclusion:** Based on our finding we conclude that; significant number of females in childbearing period in Aswan suffering from FSD . There was significant association among female sexual dysfunction with the female genital mutilation, gynecological disease and duration of the marriage. Furthermore, husband factors have a significant correlation with lower FSI score, especially female sexual problems.

INTRODUCTION

According to the Diagnostic & Statistical Manual of Mental problems (DSM), female sexual dysfunction is characterized as "any sexual problem or complaint caused by disorders in desire, orgasm, arousal, or sexual pain that leads to significant distress or difficulties in interpersonal relationships **(1).**

Epidemiological research has revealed that the occurrence of Female Sexual Dysfunction differs among various demographics, age groups, & nations, with a range of 24−63%. The most prevalent sexual issue is a lack of sexual desire, followed by an inability to achieve orgasm & suffering discomfort during intercourse **(2).** Sexual desire problems are the most frequently reported type of Female Sexual Dysfunction **(3)**.

In African nations like Ghana, Female Sexual Dysfunction was observed to have a prevalence rate ranging from forty-six to seventy-three percent of the reported issues, discomfort throughout sexual intercourse was the most reported condition, with a prevalence rate of 72.9 percent **(4)**.

Female genital mutilation, which is still prevalent in Africa, is recognized as a significant contributing factor to female sexual dysfunction **(5, 6)**.

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 **(7)**.
The purpose of the research was to assess prevalence of female sexual dysfunction in Aswan governorate in childbearing period

SUBJECT AND METHODS

This study was cross-sectional epidemiological research that was performed on 360 females with female sexual dysfunction at Obstetrics & Gynecology department, Aswan university hospital, Egypt from July 2022 till December 2023.

Ethical Consideration: The research 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.

Inclusion criteria:

Women involved the research were fulfilling the following criteria: Age between eighteen & forty-five, married and sexually active women throughout the past six months. And all women who can be able to give consent, & able to read and/or understand Arabic.

Exclusion criteria:

Females excluded from the research met one or more of the following criteria: Women <18 or >45 years, pregnant women or lactating, married or unmarried within the last twelve months, or not sexually active at last 6 months, history of major pelvic surgery (for example, hysterectomy) & women with any proven mental disease or psychiatric.

Sample size calculation

Calculating the sample size of the primary outcome; prevalence of FSD depending on -(n = 149979 as of Egyptian population census, 2020 edition) comprised our study population.
Sample size $\mathbf{n = (DEFF*Np(1-p))/ ((d^2/Z^2_{1-\alpha/2}*(N-1) +p*(1-p))}$
DEFF=Design effect
p= Prevalance
d=precision
Percent of sexual dysfunction 47% according to **Yilmaz et al. (8)**.
The calculated sample size was **360** married women using Open Epi program, vesion3, open-source calculator SSPropor with power 80% and CI. 95%.

Methodology

A group of 1418 sexually active married women who were in good health were included in the research. Out of them, 497 (35.1%) satisfied the criteria for inclusion, & 367 (73.8%) agreed to take part in the research. 360 questionnaires were used in our study.

All female participants in this investigation were exposed to the following:

A full history was obtained and a thorough clinical examination was conducted. All females were individually questioned in a private setting and completed two questionnaires. The initial questionnaire consisted of questions regarding marital history & the history of partners. Female people who stated having sexual difficulties were asked regarding the main provoking cause, whether they pursued medical intervention for their condition, & the reasoning behind their decision not to seek therapy.
The second questionnaire provided patients the choice between an Arabic or English version, depending on their preference, in order to ensure their optimal comprehension of the Female Sexual Function Index (FSFI). The questionnaire consists of Nineteen standardized items that

assess six domains: desire, arousal, lubrication, orgasm, pleasure, and pain. It assesses sexual functionality or problems within the past month **(9).**

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 is a reliable and validated questionnaire consisting of 19 items. Each question assesses the many aspects of sexual function over the past four weeks.

The domain score was calculated by adding the individual items within each domain and then multiplying the sum by the corresponding domain factor. The desire domain had a factor of 0.6, the arousal and lubrication domain had a value of 0.3, & the orgasm, satisfaction, and pain domain had a factor of 0.4 **.(9)**

In this research, an Arabic translation was utilized, which was derived from the original questionnaire**.**

The FSFI matched to the Arabic validated version (Ar FSFI) as described by **Anis et al. (10).**

In our study according to mean and SD subject had total score of 20.5 defined as having FSD. All studied women were then asked to fill out the FSFI.

Statistical analysis

The SPSS software version 25 was employed to analyze all data in Chicago, IL, USA. Frequency and percentage were the metrics employed to represent qualitative data. The association among qualitative variables was investigated using the chi-square test (X2). The mean & standard deviation were used to present quantitative data. ANOVA (F-test) was employed to compare quantitative data among two groups. The correlation is statistically significant at the 0.01 level. The risk factors for FSD among participants were predicted using logistic regression analysis of the variables in investigation.

RESULTS

Table (1): Socio-demographic characteristics of females in studied group.

Characteristics	The studied group No=360 (%)
Age (years)	
18-25	(28.**3**%)
25-35	(54.2%)
35-45	(17.5%)
BMI	
Mean ± SD	30.2±4.1
(Range)	(20.3-42.0)
Education	
Illiterate	(2.2%)
Primary school	(0.8%)
Intermediate school	(6.4%)
High school	(47.**2**%)
College	(36.9%)
Residence	
Rural	(45.0%)
Urban	(55.0%)

This table showed that more than half of the studied group (54.2%) were in the age group of (25 to35) years and about one-fourth (28.3%) of them were between 18 to 25 years. The

average BMI among the studied group was 30.2±4.1ranging from (20.3 to 42.0), About two-thirds of them were married for more than 5 years. Most of them (47.1%) were highly educated and more. (55.0%) were urban residents.

Table (2): Characteristics of the male partners of the studied group.

Characteristics	The studied group No=360
Husband age	
25-35	214
35-45	146
Husband education	
Illiterate	3
Intermediate	8
High / vocational and technical Education	167
College	170
Special habits	
No special habits	139
smoking	172
Smoking, Addict	27
Chronic diseases	
No chronic disease	235
Cardiac	3
DM	14
HTN	65
Husband sexual dysfunction	
No sexual dysfunction	153
Erectile dysfunction	60
Premature ejaculation	79
Premature ejaculation, erectile dysfunction	68

More than half of the studied group (59.4%) had a husband with an age group between 25 to 35 years, most of husbands had college, high school, vocational and technical Education (47.2 &46.7 respectively), (38.6%) of them don't have any special habits, and about (65.3%) of husbands don't have any chronic diseases and (57.5%) had different types of sexual dysfunction.

Table (3): Sexual dysfunction domains among the studied group.

Variables	The studied group No=360 (%) Median	Normal values and Cut point for studied group score
Desire	3.6	>3.6
Arousal	3.6	>3.6
Lubrication	3.6	>3.6
Orgasm	2.4	>2.4
Satisfaction	3.6	>3.6
Pain	3.6	>3.6
Number of participants	192	190
Overall FSD score	20.5	>20.5

In this table, the average desire, arousal, lubrication, orgasm, satisfaction, and pain scores were (3.8±1.3, 3.8±1.3, 3.7±1.2, 2.4±0.83, 3.6±1.1 & 3.5±1.31) respectively and the overall FSD was (20.4±5.39) ranging from 5.7 to 31.6.as we use 20.5 cutoff value for FSD.

Table (4): Relation between FSD with Female history.

Variables	Number	Females with FSD No=182 (%)	Females with normal sexual Function No=178	Test
Duration of marriage				
<5 years	104	(37.5%)	(62.5%)	15.7
5-10 years	128	(49.2%)	(50.9%)	
>10 years	128	(62.5%)	(37.5%)	
Female genital mutilation				
No FGM	30	(43.3%)	(56.7%)	
Type 1	77	(40.3%)	(59.7%)	15.6
Type 2	214	(50.5%)	(49.5%)	
Type 3	39	(76.9%)	(23.1%)	
Menstrual cycles				
Regular	270	(48.5%)	(51.5%)	1.2
Irregular	90	(55.6%)	(44.4%)	
Parity				
Nulliparous	21	(42.9%)	(57.1%)	
Para one	41	(34.1%)	(65.9%)	7.1
Para two	141	(50.1%)	(48.9%)	
Multiparous	157	(55.4%)	(44.6%)	
Contraceptive methods				
No contraceptive methods	178	(47.2%)	(52.8%)	1.04
Hormonal (pills& injection)	99	(59.6%)	(40.4%)	5.4
IUD	83	(47%)	(53%)	1.05
Mode of delivery				
Vaginal	118	(50.8%)	(49.2%)	8.1
Cs	164	(55.5%)	(44.5%)	
Vaginal & Cs	17	(47.1%)	(52.9%)	

Gynecological disease				
No disease	145	(43.4%)	(56.6%)	
Chronic pelvic pain	196	(54.1%)	(45.9%)	4.1
Vaginitis	57	(75.4%)	(24.6%)	3.8
PID	33	(57.6%)	(42.4%)	
Prolapse	15	(46.7%)	(53.3%)	
chronic disease				
No chronic disease	297	(49.2%)	(50.8%)	
DM	26	(61.5%)	(38.5%)	5.8
HTN	13	(61.5%)	(38.5%)	
Cardiac	5	(40.0%)	(60.0%)	

**Statistically highly significantly different.

There was a statistically significant association among 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, (59.6%) of females with hormonal (pills& injection) CCP had FSD. While regarding mode of delivery, menstrual cycle regularity or chronic diseases, there was no statistically significant association between female sexual function.

Table (5): Correlation between FSDI with age and marital variables.

Variables	**FSDI**	
	r	**p**
Age	**-0.185****	**0.002**
Husband age	**-0.275****	**<0.001**
Duration of marriage (year)	**-0.217****	**<0.001**
BMI	**-0.182****	**<0.001**
Husband special habits	-0.053	0.416
Husband chronic disease	**-0.202****	**<0.001**
Husband-sexual dysfunction	-0.079	0.189

**Correlation is significant at the 0.01 level (2-tailed).

FSDI was found to be correlated with marital & age variables in our study. There was a greatly statistically significant negative association among FSDI & partner age, the length of marriage, & body mass index with a p value of less than 0.001. There was a statistically significant negative association among FSDI and age, but no statistically significant negative association was observed among FSDI & husband-sexual dysfunction or special behaviors.

DISCUSSION

There is no doubt that female sexual activity is one of the most affecting activities in female lives. No doubts FSD has an adverse effect on general health, self-esteem and female psychology. In Arab societies, particularly in Upper Egypt, the discussion of sexual disorders is highly sensitive, which may impede the assessment of sexual disorders. A sophisticated issue that is widespread &more prevalent than males is FSD. sexual dysfunction **(11)**.

Our study showed that more than half of the studied group (54.2%) were in the age group of (25 to35) years and about one-fourth (28.3%) of them were between 18 to 25 years. The average BMI among the studied group was 30.2±4.1ranging from (20.3 to 42.0), About two-thirds of them were married for more than 5 years. Most of them (47.1%) were highly educated and more. (55.0%) were urban residents, more than two-thirds were (73.8%) housewives, and more than half of them had intermediate income (58.9%).

Our observations indicate that females residing in urban regions and those who are younger tend to have higher FSFI scores. For example, **Kunkeri et al. (12)** discovered that sexual dysfunctions were more common among women who were (a) over the age of thirty-five, (b) had lower levels of education, & (c) were from rural backgrounds. Perhaps, this might be attributed to a lack of knowledge of sexuality, poorer levels of education, & a higher prevalence of female genital mutilation (FGM)**.**

In the present investigation, we discovered that out of a total of 360 females, 182 of them were reported to have Female Sexual Dysfunction, accounting for around 50.55 percent of the sample. A study conducted by **Amany et al. (13)** reported that 45.6% of the subjects had indices below the specified limit value. Therefore, Functional sexual Dysfunction were found to be present in 45.6% of the people included in the study**.**

Additionally, it is important to note that the traditional values supported by the community in Aswan may result in a tendency to not report sexual issues.

In our study, the average desire, arousal, lubrication, orgasm, satisfaction, and pain scores were (3.8±1.3, 3.8±1.3, 3.7±1.2, 2.4±0.83, 3.6±1.1 & 3.5±1.31) respectively and the overall FSD was (20.4±5.39) ranging from 5.7 to 31.6.as we use 20.5 cutoff value for FSD.

Along with our results, **Ahmed et al., (14)** the average desire, arousal, lubrication, orgasm, satisfaction, and pain scores were (4.7 ± 0.7, 4.8 ± 0.8, 5.8 ± 1.1, 5.1 ± 0.7, 5.4 ± 0.6 & 5.6 ± 1.2) respectively and the overall FSD was (30.5 ± 5.6). In contrast to a study by **Mohamed et al., (15)** the prevalence of female sexual dysfunction was reported in 252 /500 [50.4%] cases, with Pain disorder being the predominant sexual domain disorder in 39.6% of the cases, then orgasmic disorder, satisfaction disorder, arousal disorder, lubrication disorder, and desire disorder in 32%, 26%, 19.2%, 15.6%, and 11.6% respectively. According to **Varghese et al. (16)** the most prevalent disorder was orgasm, while discomfort was the least prevalent among various domains. The reason for this variation may be the differences in the cutoff points that have been established for FSD domains.

Our results also showed there was a statistically significant association between the age group with the desire, arousal, orgasm, satisfaction and pain domains of FSD score with the higher scores (more function) among females of a younger age than older ones. While regarding lubrication score wasn't statistically significantly associated with female sexual function. The overall FSD score was statistically significantly higher among females of a younger age than older ones.

Additionally, we discovered a negative correlation between parity and duration of marriage and FSFI. Previous literature has consistently shown that women with a higher number of children have a higher possibility to have Female Sexual Dysfunction. Our findings support this, as we observed that 55.4% of the participants were multipara (women who have given birth to multiple children), while 34.1% percent were paraone (women who have given birth to one child), and 42.9% were nulipara (women who have never given birth).

El-Nashar et al. (17) found that having no children (null parity) can increase the risk of female sexual dysfunction due to psychological and biological causes.

There was a statistically significant association among 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, (59.6%) of females with hormonal (pills& injection) CCP had FSD and (54.1%) 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.

Yang et al. (18) discovered that sexual dysfunction was a common complication in young females aged around thirty-five who had chronic pelvic pain & endometriosis. Approximately 54.3 percent of females with chronic pelvic pain also had FSD. Hence, the period of active sexual function aligns with the occurrence of endometriosis in relation to age. Thus, endometriosis, a non-malignant gynecologic condition, can have an impact on female sexual function to some degree.

The findings of our study demonstrated a significant association among the Female Sexual Distress Index & both age and marital factors. A strong and statistically significant negative association was seen among FSDI & husband age, length of marriage, & body mass index, with a p-value of less than 0.001. A statistically significant negative relate was found among FSDI & age, but no statistically significant negative association was seen among FSDI & husband's unique habits or husband's sexual dysfunction.

Our study aligns with the findings of **Jaafarpour et al. (19)**, who conducted research on the prevalence and risk factors of FSD in females. They disclosed that the frequency of Female Sexual Dysfunction raised with advancing age. Sexual dysfunction was identified as an issue with desire in 181 females (45.3%), and there was a significant positive association .

In addition, **Grewal et al. (20)** conducted a study to determine the prevalence & risk factors of FSD among healthcare staff in specific healthcare facilities, which aligns with our findings. The study demonstrated a strong statistical correlation among FSDI & age, husband age (p value=0.112), and duration of marriage (p value <0.001).

Our findings revealed factors associated with sexual dysfunction (defined as FSF <26.55). There was statistically significant variation among FSDI & duration of marriage female (> 10 years), female use of hormonal therapy, male erectile dysfunction, male premature ejaculation.

In accordance with our results, **Ishak et al. (21)** revealed that there was statistically significant variation among FSDI and age, husband age, duration of marriage.

Also, in supporting with our results, **Grewal et al. (20)** who demonstrated that was statistically significant variation among FSDI and age, husband age, duration of marriage with p value 0.03, erectile dysfunction with p value >0.001.

CONCLUSION

Based on our finding we conclude that, female sexual dysfunction is a significant health problem in Aswan governorate in childbearing period. There was significant association among female sexual dysfunction with the duration of the marriage, female genital mutilation, gynecological disease. Furthermore, husband factors have a significant correlation with lower FSI score, especially female sexual problems.

RECOMMENDATION

We recommend further community study to spread more awareness for women about their sexual needs.

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