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Prevelance and risk factors of female sexual dysfunction in females attending infertility clinic at Kasr Alainy hospital: a cross-sectional descriptive study

Abstract

Background: Female sexual dysfunction (FSD) is a common health problem that is inadequately investigated in Egypt. Sexual problems are reported by approximately 40 percent of females worldwide. There is a strong relationship between FSD, quality of life and infertility.

Objective: The aim of this study is to assess the prevalence of female sexual dysfunction and also to investigate possible risk factors that may cause sexual dysfunction in the Egyptian infertile women seeking fertility

Patients and Methods: This cross-sectional clinic-based survey was conducted at the infertility clinic, in Kasr Al-Ainy Hospital, Cairo, Egypt from October 2023 to February 2024. During this study, 186 women were enrolled and asked to answer the validated Arabic version of the Female Sexual Function Index and World Health Organization Quality of Life Questionnaire- Brief that were provided by female investigators.

Results: 186 females were included in our study. The prevalence of FSD was 56 females (30.1%) while 130 females (69.9%) had good sexual function with FSFI >28.1. Also, patients with sexual dysfunction had mean value of QoL that was (38.5±**8.7)** while females with good sexual function had mean value of QoL that (64.2±11.2) respectively.

We found that the most frequent risk factors of female sexual dysfunction were advanced maternal and paternal age, no maternal occupation, duration of marriage <5 years, nulliparous women ,maternal obesity, timed intercourse and number of IVF trials.

On the other hand, no relations were reported between female sexual dysfunction and family income, residence, menstrual Rhythm, associated chronic medical diseases, drug intake, contraception, vaginitis, mode of delivery, circumcision and previous episiotomy.

Conclusion: FSD is a major health problem that affect 30.1% of women attending infertility outpatient clinic in Kasr Alainy Hospital and greatly affected their quality of life.

Keywords: female sexual dysfunction, infertility, episiotomy, women

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Introduction

Sexual function is an essential component of life, and its dysfunction can affect the quality of life of an individual. Female sexual dysfunction (FSD) is a highly prevalent, underestimated health problem. According to the Diagnostic and Statistical Manual of Mental Diseases, sexual dysfunction is characterized by a disturbance in the sexual response cycle or by pain associated with sexual intercourse. It is defined as a disorder of sexual desire, arousal, or orgasm and/or sexual pain that leads to personal distress and affects quality of life and interpersonal relationships. Sexual dysfunction may be a problem since the start of sexual activity or may be acquired later in life after a period of normal sexual functioning.[1]

Sexual dysfunction could be linked to many causes; educational level, age, employment, social level, mental health, religion, partner sexual function, medications, pelvic operations, infertility.[2]

Moreover, multiple deliveries, Lactation, menstruation, hormonal disturbance, and menopause could have marked impact on sexual function of ladies.[3]

There are three criteria for diagnosing a sexual disorder: symptoms need to have persisted for a minimum of 6 months, they need to have been experienced in all or almost all (75% to 100%) sexual encounters, and to have caused clinically significant distress.[4]

Due to embarrassment, religious sensitivities, and Eastern values, sexual issues are rarely raised by Egyptian women during medical care. As a result, FSD in Egypt is under-reported, under-treated and under-studied. How much risk of FSD is prevalent in Egypt and what exactly is its magnitude are common questions. Our aim is to evaluate the prevalence and predictors of FSD among a sample of women attending the primary care and gynecology clinics.

Aim of the work

The aim of this study is to evaluate the prevalence and risk factors of FSD among a sample of women suffering from primary or secondary infertility attending the infertility clinic.

Results

In this study, 350 married females attending infertility clinic were assessed for eligibility. Ninety nine females did not meet inclusion criteria, 40 females refused to participate and 25 missing response. The remaining 186 females were included in the final analysis (Figure 1).

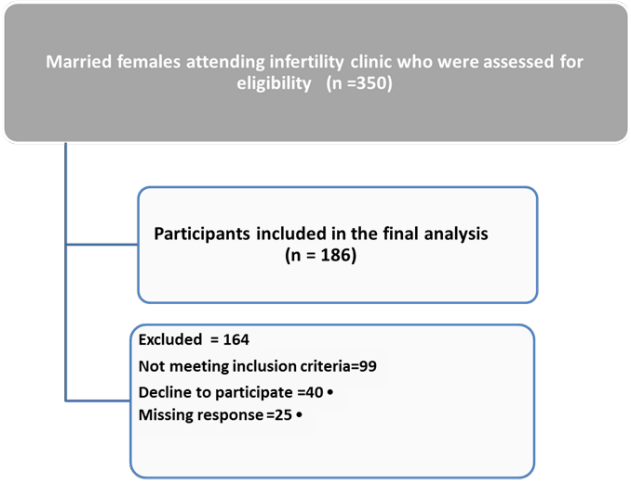

Figure 1 CONSORT Flowchart of participant eligibility.

Table 1 shows demographic characteristics for females in the study group. The most common age group was (18-25) represented by 43% (80 females). The most prevalent educational level was high school 26.8% (50 female). Most females were housewife 61.3% (114 female) and all participants were non smokers.

Table 1 Socio-demographic characteristics of participants in the study

Socio-demographic characteristics of participants in the study (n=186)	No.	%
Age (years)		
18-25 years	80	43%
26-35years	72	38.70%
≥36 years	34	18.80%
Educational level		
primary school	49	26.30%
preparatory school	17	9.10%
High school	50	26.80%
University	46	24.70%
Postgraduate	24	12.90%
Occupation		
Jobless	114	61.30%
Skilled manual worker	46	24.20%
Professional	26	14.50%
Special habits		
Smoking	0	0%
No	186	100%

Table 2 shows demographic characteristics for husbands of participants in the study. The majority of participants husbands were 18-25years old 61.8% (115 male). The most prevalent educational level was high school 30.1% (55 male) and the majority of participants were skilled workers 67.7% (152 male). There were 101 males who were smokers.

Table 2 Socio-demographic data for husbands of participants in the study

Socio-demographic for husbands of participants in the study (n=186)	No.	%
Age (years)		
18-25	115	61.80%
25-35	62	33.30%
35-45	9	4.90%
Educational level		
1ry school	47	25.80%
Intermediate school	34	18.20%
High school	55	30.10%
University	44	23.50%
Postgraduate	7	4.30%
Occupation		
Jobless	34	18.30%
Professional	26	13.90%
Skilled manual worker	126	67.70%
(smoking)		
Yes	101	54.30%
No	85	45.70%

Table 3 shows that the majority of participants had low family income 92.5% (172) .The majority of participants were urban 66.1% (123).

Table 3 Family income and residence distribution of participants in the study

Family income and residence distribution of participants in the study (n=186)	No.	%
Family income		
Low	172	92.50%
Moderate	14	7.50%
High	0	0%
Residence		
Rural	63	33.90%
Urban	123	66.10%

The majority of participants were obese 48.4% (90 female) and women with normal weight constitute the least percentage. Twenty percent of participants (36 females) were suffering from chronic medical diseases (diabetes, hypertension and bronchial asthma). Ten females used antidepressant drugs (Table 4).

Table 4 Medical disorders distribution of participants in the study (n=186)

Medical disorder distribution of participants in the study (n=186)	No.	%
BMI(Kg/m^2) Mean SD		
27.74 ± 3.44		
Normal weight	43	23.10%
Overweight	53	28.50%
Obese	90	48.40%
Chronic medical diseases		
Diabetis	18	9.60%
Hypertension	10	5.30%
Bronchial asthma	8	4.30%
Psychiatric disorders		
Bipolar disorders	8	4.35
Post traumatic stress disorder	2	1.10%
Anxiety disorders	3	1.60%
Drug intake (antidepressants)		
Yes	10	5.30%
No	176	94.70%

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The majority of the participants were fairly satisfied with their spouses 45.6% (85 female). There were five females (%2.6) suffered from sexual abuse .Most participants (174 females:93.5%)were married from less than 5 years. marriage duration was less than 5 years 93.5% (174 female) (Table 5).

Table 5 Relationship parameters distribution of participants in the study

Relationship parameters distribution of participants in the study (n=186)	No.	%
Sexual abuse		
Yes	5	2.60%
No	181	97.30%
Satisfaction with spouse		
Satisfied	52	27.90%
Fairly satisfied	85	45.60%
Dissatisfied	45	24%
Severely dissatisfied	4	2%
Duration of marriage		
<5 years	174	93.50%
5-10 years	10	5.30%
>10 years	2	1.20%

Most participants were nullipara 62.9 % (117 female). The most prevalent mode of delivery was cesarean section (27.5%; 51 female). Eighteen females delivered vaginally, all of them of had episiotomy during their vaginal delivery (Table 6).

Table 6 Obstetric parameters distribution of participants in the study

Obstetric parameters distribution of participants in the study (n=186)	No.	%
Parity		
Nullipara	117	62.90%
1	42	22.60%
2	24	12.90%
≥3	3	1.60%
Mode of delivery		
Cesarean delivary	51	27.50%
Vaginal delivery	18	9.70%
No	117	62.90%
Number of vaginal deliveries		
1	17	9.20%
2	1	0.50%
Number of cesarean sections		
1	36	19.40%
2	13	6.90%
≥3	2	1.10%
Previous episiotomy in vaginal deliveries		
Yes	18	100%
No	0	0%
3rd or 4th degree perineal tears		
No	184	98.80%
Yes	2	1.10%

Table 7 shows that the majority of participants had irregular menses 52.2% (97 female).Majority of females suffered from primary infertility (112females:60.8%) while 74 females(39.8%) suffered from secondary infertility after they delivered vaginally (18 females) or by CS (51 female) or aborted (5 females. A small number of participants were circumcised (15.5%; 29 female). 60.2% of participants (122 female) had no genital tract infection in the form of vaginitis or cervicitis at time of interview. Only 2 of participants had 3rd or 4th degree perineal tears , also 14% of participants had chronic pelvic pain .Twenty-two of paticipants had gynecological conditions such as pelvic organ prolapse, urinary incontinence, abnormal uterine bleeding.

Table 7 Gynecological parameters distribution of participants in the study

Gynecological parameters distribution of participants in the study (n=186)	No.	%
Menstrual irregularity		
Regular	89	47.80%
Irregular	97	52.20%
Type of infertility		
Primary	112	60.20%
Secondary	74	39.80%
Contraception		
IUD	42	22.50%
OCP	30	16%
NO	114	61.50%
Circumcision		
Yes	29	15.50%
No	157	84.50%
Chronic pelvic pain		
Yes	26	14%
No	160	86%
Vaginitis		
Yes	74	39.80%
No	112	60.20%
Gynecological conditions		
Pelvic organ prolapse	3	1.60%
Stress urinary incontinence	5	2.70%
Abnormal uterine bleeding	14	8%

Table 8 shows that cause of infertility were variable with different percentages .Forty-three percent was female factors, (36.1%) was male factor, while about (12.3%) was unexplained infertility. The most common cause of females infertility was ovarian (47 females: 25.2%) followed by tubal factor (28 females: 15.1).

Table 8 Causes of infertility of participants in the study

Causes of infertility of participants in the study (n=186)	No.	%
Ovarian	47	25.20%
Tubal	28	15.10%
Uterine	6	3.20%
Male	67	36.10%
Unexplained	23	12.30%
Combined	15	8.10%

Table 9 shows that majority of females participating in study did folliculometry, hormonal profile and HSG, while only 17females (9.2%) performed DHL.

Table 9 Investigations for infertility for participants in the study

Investigations for infertility for participants in the study (n=186)	No.	%
Folliculometry		
Yes	172	92.40%
NO	14	7.60%
Hormonal profile		
Yes	175	94.10%
No	11	5.90%
Hysterosalpingography (HSG)		
Yes	108	58%
No	76	42%
Diagnostic hysterolaparoscpy (DHL)		
Yes	17	9.20%
No	169	90.80%

Twenty-seven of females participating in study did IVF procedures. Majority of study participants used medications for induction of ovulation (150 females: 80.6%) (Table 10).

Table 10 Previous management strategies for infertility for participants in the study

Previous management strategies for infertility for participants in the study (n=186)		
Induction of ovulation		
Yes	150	80.60%
No	26	19.40%
Timed intercourse(TI)		
Yes	19	10.20%
No	167	89.80%
Intrauterine insemination (IUI)		
Yes	27	14.50%
No	159	85.50%
In vitro fertilization (IVF) trials		
No	159	85.50%
1	12	6.40%
≥2	15	8.60%

Table 11 shows that mean±SD of Total FSFI score was (29.2±4.9) and mean±SD of Full QOL score was (42.27±3.9).

Table 11 Female sexual function index (FSFI) and quality of life (QOL) scores for participants in the study

	Mean±SD
Desire	2.11±1.1
Arousal	0.89±0.91
Lubrication	1.67±0.68
Orgasm	1.67±0.68
Satisfaction	0.97±0.93
Pain	0.85±0.61
Total FSFI score	29.2±4.9
Full QOL score	42.27±3.9

Table 12 shows that the prevalence of female good sexual function (with FSFI >28.1) was 69.9% (130 female) while 56 females (30.1%) had poor sexual dysfunction with FSFI <28.1.

Table 12 Prevalence of female sexual dysfunction (FSFI>28.1) distribution for participants in the study

Prevalence of female sexual dysfunction (FSFI>28.1) distribution for participants in the study (n=186)	No	%
Yes	130	69.90%
No	56	30.10%
Total	186	100%

Table 13 shows statistically significant association between female sexual dysfunction and age group 25-35 years, (with p-value 0.001). there was no statistically significance between sexual dysfunction and educational level however primary school and university levels were the most common educational levels affected. There was also a statistically significant association between sexual dysfunction and females with no occupation (p<0.001) among females in the study group.

Table 13 Association between FSD and socio-demographic characteristics for participants in the study

Socio-demographic characteristics for participants	Female sexual dysfunction				P value
	Yes		No		
	No.	%	No.	%	
Age (years)					
18-25	18	22.50%	62	58.50%	
26-35	32	40%	40	37.70%	0.001
36-45	30	37.50%	4	3.80%	
Educational level					
Primary school	15	27.30%	34	25.90%	0.12
preparatory school	2	3.60%	15	11.40%	
High school	13	23.60%	37	28.20%	
University	14	25.50%	32	24.40%	
Postgraduate	11	20%	13	9.90%	
Occupation					
Housewife	34	60.70%	80	61.50%	0.001
Professional	11	19.60%	15	11.40%	
Skilled manual worker	11	19.60%	35	26.10%	

Table 14 shows a statistically significant association between FSD and age (30-40yrs) (with p-value 0.001).there was no statistically significant association between sexual dysfunction and educational level (p-value 0.08) however high school level was the most common educational level affected. There was no statistically significant association between sexual dysfunction and occupation, however skilled manual workers were the most common group suffered from FSD.

Table 15 shows that there was no statistically significant association between sexual dysfunction and low family income (p-value 0.58); also, no statistically significant association between sexual dysfunction and urban residence (p value 0.19)

Table 14 Association between female sexual dysfunction and socio-demographic characteristics for husbands of participants in the study

Socio-demographic for husbands of participants in the study	Female sexual dysfunction				P value
	Yes		No		
	No.	%	No.	%	
Age (years)					
24-30	20	35.70%	95	73.10%	0.001
31-40	28	50%	34	26.10%	
≥40 years	8	14.30%	1	0.70%	
Educational level					
Primary school	10	17.9|%	37	28.50%	
Preparatory school	14	25%	20	15.40%	
High school	22	39.30%	33	25.40%	
University	9	16.10%	35	23.80%	0.08
Postgraduate	1	1.80%	6	4.60%	
Occupation					
Jobless	10	17.80%	24	18.40%	
Skilled manual worker	37	66.10%	89	68.50%	0.17
Professional	9	16.10%	17	13.10%	
Special habits					
Smoking	26	46.50%	75	57.70%	0.38
No	30	53.50%	55	42.30%	

Table 15 Association between female sexual dysfunction and family income and residence for participants if the study

	Female sexual dysfunction				P value
	Yes		No		
	No.	%	No.	%	
Family income					
Low	52	92.90%	120	92.30%	0.58
Moderate	4	7.10%	10	7.70%	
Residence					
Rural	22	39.30%	41	31.50%	0.19
Urban	34	60.70%	89	68.50%	

Table 16 shows a highly statistically significant association between sexual dysfunction and body mass index (p-value 0.001). FSD occurred more frequently with obesity. There is no statistically significant association between FSD and chronic medical diseases or drug intake.

Table 16 Association between female sexual dysfunction and medical history for participants of the study

	Female sexual dysfunction				P value
	Yes		No		
	No.	%	No.	%	
Body mass index					
Normal weight	5	8.20%	38	29.20%	
Overweight	7	12.50%	46	35.40%	
Obese	44	78.50%	46	35.40%	0.001
Chronic medical diseases					
Yes	8	21%	28	18.90%	0.34
NO	30	79%	120	80.10%	
Drug intake					
Yes	6	21.40%	4	2.50%	0.82
No	22	78.60%	154	97.50%	

Table 17 shows a highly statistically significant association between female sexual dysfunction and dissatisfaction with the spouse (p<0.001); also, we found a highly statistically significant association between sexual dysfunction and duration of marriage <5 years (p<0.001), most cases with FSD occurred with duration of marriage less than 5 years.

Table 17 Association between females sexual dysfunction and relationship parameters in participants of the study

Relationship parameters	Female sexual dysfunction				P value
	Yes		No		
	No.	%	No.	%	
Satisfaction with spouse					
Satisfied	10	18.50%	42	31.80%	0.001
Fairly satisfied	11	20%	74	57%	
Dissatisfied	30	55.50%	15	11.50%	
Severely dissatisfied	3	5%	1	0.70%	
Duration of marriage (years)					
<5	46	82.10%	128	98.40%	0.001
10-May	8	14.20%	2	1.60%	
≥10	2	3.70%	0	0%	

Table 18 shows that there were no statistically significant associations between female sexual dysfunction and contraception, menstrual Rhythm, vaginitis.

Table 18 Association between female sexual dysfunction and gynecological conditions in participants of the study

Gynecological parameters	Female sexual dysfunction				P value
	Yes		No		
	No.	%	No.	%	
Menstrual rhythm					
Regular	39	69.60%	51	39.20%	0.09
Irregular	17	30.40%	79	60.80%	
Vaginitis					
Yes	17	36.10%	57	41%	0.05
No	30	63.90%	82	59%	
Contraception					
IUD	6	10.80%	36	27.80%	
OCP	12	21.40%	18	13.80%	0.14
No	38	67.80%	76	58.40%	

Table 19 shows a highly statistically significant association between female sexual dysfunction and nulliparity. There were no statistically significant association between female sexual dysfunction and circumcision, performing episiotomy, mode of delivery.

Table 20 shows a highly statistically significant association between female sexual dysfunction and number of IVF trials (p. value 0.001).there was also a statistically significant association between female sexual dysfunction and timed intercourse (p-value 0.001). There was no statistically significant association between female sexual dysfunction and intraurerine insemination

Citation: Lasheen Y, Elmohamady M, Ashour ASA, et al. Prevelance and risk factors of female sexual dysfunction in females attending infertility clinic at Kasr Alainy hospital: a cross-sectional descriptive study. *Obstet Gynecol Int J.* 2024;15(4):159–167. DOI: 10.15406/ogij.2024.15.00754

Table 19 Association between female sexual dysfunction and obstetric parameters of the study participants

Obstetric parameters	Female sexual dysfunction				P value
	Yes		No		
	No.	%	No.	%	
Number of vaginal deliveries					
0	50	89.20%	118	90.70%	0.88
1	6	10.70%	11	8.40%	
2	0	0%	1	0.76%	
≥3	0	0%	0	0%	
Number of cesarean delivery					
0	47	82.40%	88	68.20%	0.71
1	6	10.50%	30	23.20%	
2	3	5.20%	10	7.70%	
≥3	1	1.70%	1	0.70%	
Parity Nullipara					
	32	57.10%	85	65.40%	0.001
1	23	41.10%	43	33.10%	
≥2	1	1.80%	2	1.50%	
Mode of delivery					
CS	20	35.70%	31	32.30%	0.7
VD	6	10.70%	12	9.20%	0.88
Previous episiotomy					
Yes	6	28.50%	12	7.40%	0.47
No	15	71.50%	150	92.60%	
Circumcision					
Yes	7	18.90%	22	14.80%	0.29
No	30	81.10%	127	85.20%	

Table 20 Association between sexual dysfunction and previous plans of infertility management

Plan of infertility management	Sexual dysfunction				P value
	Yes		No		
	No.	%	No.	%	
Timed intercourse					
Yes	13	39.30%	6	3.90%	0.001
No	20	60.70%	147	96.10%	
Intrauterine insemination					
Yes	7	16.70%	20	13.80%	0.28
No	35	83.30%	124	86.20%	
Number of IVF trials					
1	5	26.30%	7	87.50%	0.001
≥2	14	73.70%	1	12.50%	

Table 21 shows a highly statistically significant between female sexual dysfunction and quality of life, with p-value (p<0.001).

Table 21 Association between female sexual dysfunction and Quality of life in participants of the study

	Female sexual dysfunction				p-value
	Yes		No		
	Mean	±SD	Mean	±SD	
QOL score	38.5	8.7	64.2	11.2	0.001

Discussion

Sexual problems are reported by approximately 40 percent of females worldwide, and approximately 12 percent (one in every eight females) have a sexual problem associated with personal or interpersonal distress.[5]

Female sexual dysfunction refers to a sexual problem associated with personal distress. It takes different forms, including lack of sexual desire, impaired arousal, inability to achieve orgasm, or pain with sexual activity.[6]

Sexual dysfunction may be a problem since the start of sexual activity or may be acquired later in life after a period of normal sexual functioning.[7]

Consequently, this study was conducted and aimed to assess the prevalence and risk factors of female sexual dysfunction among infertile females seeking fertility treatment.

This cross-sectional clinic-based survey trial was conducted at Obstetrics and Gynecology Department, Faculty of Medicine, Cairo University, infertility clinic from October 2023 until March 2024.

During this study, 186 women were enrolled, after consenting each of them and data was collected using a structured interview questionnaire where each participant was interviewed and given the same questions in the same way and the same order. Participants were asked to answer the validated Arabic version of the Female Sexual Function Index and World Health Organization Quality of Life Questionnaire- Brief that was provided by female investigators.

To the best of our knowledge, there are few studies in literature assessing our study outcomes and most of studies that disagreed with our results were due to several causes as different study methodology, outcomes, sample size and different medical conditions of studied cases at time of enrollment, different socioeconomic, religious and cultural background.

Regarding our 1ry outcome, we revealed that the prevalence of female sexual dysfunction was 30.1% (56 females) while 69.9% females (130) had good sexual function as regard FSFI >28.1. Patients with sexual dysfunction had mean value of QoL that was (38.5±8.7) while females with good sexual function had mean value of QoL that (64.2±11.2) respectively.

Alselaiti et al.[8] estimated the prevalence of FSD in Bahrain, which is male-centered and impacted with cultural and Islamic religious standards, and the associated variables with FSD, including the barriers to seeking medical help from health-care professionals. They reported that of 360 enrolled women, 43% reported having sexual problems during intercourse ($p < 0.05$, 95% CI 38.1–48.6%). Most of the sexual problems were related to having painful intercourse (42%) or low sexual desire (37%). Furthermore, the mean age of females with FSD was (30-45years) significantly higher than females with no FSD (19-28years), with (p-value< 0.05). Most importantly, the multinomial logistic regression analysis showed that husband polygamy was linked to FSD with an OR of 2.469 (95% CI 1.218– 5.001). On the other hand, females with low to no parity were associated with lower rates of FSD with an OR of 0.482 (95% CI 0.252–0.922). Furthermore, more than 96% of females were not asked by their doctor about their sexual problems, and 87% of the participants did not dare to discuss the problem with their doctor.[8]

Regarding our 2ry outcome (risk factors) for FSD, our study reported that female sexual dysfunction was statistically significantly higher among women aged between 26-35 years, with and no occupation, duration of marriage < 5 years. Also, sexual dysfunction was statistically significantly higher among participants' husbands aged 24-30 years.

In a large US study by Shifren et al.,[9] education was identified as a protective factor against sexually distressing problems.[9]

In studies from Iran and Jordan, Abdo et al.,[10]; Safarinejad et al.,[11]; and Vahdaninia et al.,[12] found that young women who are educated and have gainful employment are less likely to show symptoms of sexual dysfunction.[10–12]

However, several studies from China have shown that young women who have higher education were more likely to report sexual dysfunction.[5,13,14]

Through higher education, a study made by Choi et al.[15] reported that these women gain increased awareness of their sexual needs and rights, and such women tend to feel more disappointed with their marital and sexual relationships, which may lead to poor sexual functioning.[15]

Similarly, while increased frequency of sexual intercourse was found to have a protective effect in most cultures, some studies such as Lau et al.[13] and Ojomu et al.[16] in traditional cultures showed that frequent sex might be demanded by the partner and is therefore a risk factor for sexual dysfunction in these women.[13,16]

Some predictors showed variation within the domains. For example, female sexual dysfunction has generally been shown to be age-related in study. Older age tends to be a risk factor for all domains except for pain disorder(s), where it is shown to have a protective effect. A previous study showed a U-shaped prevalence of sexual dysfunction, with younger and older women being most affected.[17]

In our study, we noted highly statistically significant association between sexual dysfunction and nulliparity, dissatisfaction with spouse and maternal obesity.

Finally, no statistically significant associations were reported between sexual dysfunction and family income, residence, menstrual Rhythm, associated chronic medical diseases, drug intake, contraception, vaginitis, mode of delivery, circumcision and previous episiotomy

McCool-Myers et al.[18] reported that consistently significant risk factors of female sexual dysfunction were poor physical health, poor mental health, stress, abortion, genitourinary problems, female genital mutilation, relationship dissatisfaction, sexual abuse, and being religious.[18]

Risk factors such as high acceptance of pornography, masturbation, liberal sex values and knowledge of the clitoris were unique to Asian population studies.

Lau et al.[13] explain that in these societies such women are considered non-traditional. Women who do not conform to traditional female roles in these societies may experience greater difficulties with their male partners.[13]

Current practices in these cultures such as arranged marriages, marriages at a young age, polygamy and female genital mutilation are associated with significantly higher levels of sexual dysfunction in women.[19,20]

Finally, women in conservative cultures may also be too hesitant to express their needs or feel that it is socially unacceptable to discuss sexual problems with their partner as reported Lo and Kok[15] and Choi et al.[15,21]

In our study, we noted that most of the study population were suffering from primary infertility about (60.2%) compared to patients with secondary infertility who were about (39.8%).

The study also show the causes of infertility were variable with different percentages .forty three percent (43.5%) was female factors, (36.1%) was male factor, while about (12.3%) was unexplained infertility.

There was highly statistically significant association between sexual dysfunction and number of IVF trials and timed intercourse. Twenty-seven females in our study did IVF Trials, 19 females (70.3%) of them complained from different female sexual dysfunction.

Dong et al (2021), the incidence of FSD and psychological distress might rise, particularly when the period of infertility is more than eight years.

Winkelman, W. D et al.,[22]:found that causes of infertility were as follow :female factor only (58.8%), whereas 30.4% of infertility was a combination of male and female factors, 7.3% was male factor only, and 3.5% was unexplained infertility. In bivariate and multivariate analyses, women who perceived they had female factor only infertility reported greater sexual impact compared with woman with male factor infertility ($P = .01$). Respondents who were younger than 40 years experienced a significantly higher sexual impact than respondents older than 40 years ($P < .01$). When stratified by primary and secondary infertility, respondents with primary infertility overall reported higher sexual impact scores.[22]

Millheiser et al.[23] study found that Twenty-five percent of our control group had Female Sexual Function Index scores that put them at risk for sexual dysfunction (<26.55), whereas 40% of patients with infertility met this criterion. Compared with the control group, the patients with infertility had significantly lower scores in the desire and arousal domains and lower frequency of intercourse and masturbation. The patients with infertility retrospectively reported a sex-life satisfaction score that was similar to that of the controls before their diagnosis, whereas their current sex-life satisfaction scores were significantly lower than those of the controls.[23]

Mariam Saadeldine et al.,[24] the relationship between obesity and female sexual function is not consistent across studies. While women with obesity are more likely to have worse sexual function and avoid sexual activity, many studies have failed to identify these associations. Lifestyle changes resulting in weight loss lead to better sexual function, and bariatric surgery has been shown to improve sexual function in the first couple of years following the procedure; yet, the long-term effects of weight loss and bariatric surgery are still uncertain. The evidence on the relationship between obesity and female sexual function is mixed. Nevertheless, weight loss has been shown to improve sexual function in women with obesity.[24]

The strength points of this study are that

a) It was cross-sectional clinic- based survey design and having no patients who were lost during the study period

b) It was the first study in Cairo University Hospitals to assess the prevalence and risk factors of female sexual dysfunction in females seeking fertility

c) All assessment and evaluation of study outcomes were done by the same team.

Limitations of the study

1) Communication with some women was challenging due to embarrassment, religious sensitivities, and Eastern values. Some of them considered open discussion is a taboo.

2) Facing uncooperative women who didn't have enough time to wait for their turn.

3) This study was a hospital-based study, hence there was a limited number of cases with relatively smaller sample size relative to study outcomes, not being a multicentric study and this represents significant risk of publication bias and did not represent a particular community.

4) The study was performed at a tertiary hospital, hence there were multiple factors couldn't be represented as most of tertiary hospital are free of fees, targeted by patients of general population, lower levels of education, family income and different parameters which depend on the type of patient.

Conclusion

Female sexual dysfunction is a major health problem and about 30.1% of women attended infertility outpatient clinic in Kasr Alainy Hospital suffered from sexual dysfunction that greatly affected their quality of life.

The most frequent risk factors of female sexual dysfunction were advanced maternal and paternal age, l, no maternal occupation, duration of marriage <5 years, nulliparous women ,maternal obesity, timed intercourse and number of IVF trials.

On the other hand, no relations were reported between female sexual dysfunction and family income, residence, menstrual Rhythm, associated chronic medical diseases, drug intake, contraception, vaginitis, mode of delivery, circumcision and previous episiotomy

Recommendations

a) Female sexual dysfunction is advised to be evaluated using easy and simple questionnaires for women attending outpatient clinics for early diagnosis and better management of this healthcare problem and improving their quality of life.

b) Future prevention strategies should aim to address modifiable factors (e.g. physical activity, women education, employment, family income, family planning and access to sex education; international efforts in empowering women should continue.)

c) The present study can burden the knowledge and shed some light on future prospective studies with larger sample sizes to confirm our results and reassess other risk factors.

d) This study was a hospital-based study, hence there was a limited number of cases with relatively smaller sample size relative to study outcomes, so we recommend the study to be a multicentric study to be more representive.

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Conflicts of interest

The authors report no conflicts of interest.

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