

Female Sexual Dysfunction during Reproductive Age: Types and Associated Risk Factors

¹Somaya Gamal Dehina El-Sayed, ²Ahlam Mohammed Ibrahim Gouda,
³Nahed Fikry Hassan khedr

Head nurse at Mansoura Specialized Medical Hospital, Eldakahlia, Egypt

Lecturer of women's health and midwifery nursing, Faculty of Nursing, Mansoura University

Professor of women's health and midwifery nursing, Faculty of Nursing, Mansoura University

Email:somayagamal91@yahoo.com

Corresponding author email: dr.nahid2020@hotmail.com

Abstract: Determine female sexual dysfunction during reproductive age: types and associated risk factors. **Methods:** Design: Cross-sectional study design .Setting: Study was conducted at inpatient wards of Obstetrics and Gynecology departments in Mansoura University Hospital, International Hospital; known as New General Hospital now, Old General Hospital, and Sandoub Insurance Hospital. In addition to 3 Maternal and Child Healthcare Centers (MCH) in Mansoura City (i.e., Meetkhamees MCH, Weechelhagar MCH, and 1st Health office MCH). Subject: Simple random sample of 600 married women; in reproductive age (i.e., 18 to 49 years), were selected by choosing attendant woman seeking care or a woman accompanying her. Tools: Two tools are used; structured interviewing schedule and Female Sexual Function Index questionnaire (FSFI).Results: The study findings revealed that female sexual dysfunction was present in 71.7% and sexual function was present only in 28.3% of them. Lack of desire (48.2%), lack of sexual arousal (72.2%), vaginal dryness (41.3%), lack of orgasm (78.2%), lack of satisfaction (71.3%), and pain during or after sexual activity (71.7%). FSD was significantly affected by age, type of family, marriage dissatisfaction, most causes of dissatisfaction were marital disharmony, financial troubles, forced to marriage, and family violence, pregnancy, using contraceptive methods as safe period, and subcutaneous capsules, and factors related to their husbands as reluctance for practicing intercourse, senility, or choosing bad time Conclusion: Female sexual dysfunction is a complex and highly prevalent problem that affects a large number of women with low reporting rates as they are embarrassed to talk about their sexual life, and reluctant to seek medical help. It is classified into sexual interest/arousal disorders, orgasmic disorders, and genito-pelvic pain/penetration disorders. Various factors affect female sexual function as age, type of family, level of education, family income, residency, pregnancy, parity, number of children, circumcision, and the type of used Recommendation: Educational programs must be conducted to raise the awareness of maternity nurses, and women regarding female sexual dysfunction to be oriented by the normal sexual function, sexual dysfunction symptoms, decreasing, and aggravating factors to seek for appropriate help.

Keywords: Female Sexual dysfunction, Reproductive age.

1. INTRODUCTION

Female sexual functioning means woman's ability to achieve specific sexual domains like arousal, lubrication, orgasm and satisfaction. It is an important issue for quality of woman's life that results in a better well-being. Normative changes which occur during woman's reproductive life including pregnancy, childbirth, breast feeding and menopause may adversely affect the female sexual function (Murtagh, 2010).

Sexual function is a fundamental part of life. Thus, sexual dysfunction can negatively affect the person's prosperity. As indicated by the Diagnostic and Statistical Manual of Mental Diseases (DSM), sexual dysfunction is characterized by aggravation within the processes that portray the sexual response cycle or by pain related with sexual activity (**First & Wakefield ., 2013**).

Sexual problems have a great importance for men, women, and public health. It is characterized by disturbance in sexual desire and psychophysiological changes associated with the sexual response cycle in men and women (**Ahmed et al., 2014**). In Egypt, there are restricted studies on the prevalence of sexual dysfunction among women. In a study done in 2015 found that 57.3% of women had sexual issues, 42.9% decreased vaginal lubrication, 15.8% deficiency of genital sensation during sexual activity, 25.5% decreased sexual desire, 36.01% decreased climax, 32.7% pain during sexual activity and 47.8% decreased sexual satisfaction (**Afey., 2015**).

Several factors have been found to affect female sexuality. These incorporate anatomical, physiological, medical, psychological and social factors. Cultural and religious matters have massive effect on human sexual profiles as well. Psychological variables incorporate fear, depression, fatigue, stress, anxiety and beliefs. Culture, education level and religion affect beliefs about female sexuality. Biological variables incorporate gynecological, urological, endocrine and neurological problems (**Altemus et al., 2014**).

Sexual dysfunction is classified by the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) in accordance to the traditional linear model of sexual function regarding desire, arousal, and orgasm into sexual desire/interest disorder divided into (hypoactive sexual desire disorder (HSDD), sexual aversion disorder), arousal disorder, female orgasmic disorder, and sexual pain disorders divided into dyspareunia, and vaginismus (**Angel, 2010**).

In 2013, the fifth edition of Diagnostic and Statistical Manual of Mental Disorders (DSM) was publically released by the American Psychiatric Association with changes, simplifying the classification of sexual dysfunctions from four categories to three categories. The earlier classification of female hypoactive desire disorder and female arousal dysfunction were merged into a single syndrome called sexual interest/arousal disorder. As well The recently presented "genito-pelvic pain / penetration disorder" syndrome also incorporates the previously separate disorders of dyspareunia and vaginism. (**American Psychiatric Association, 2013**).

Significance of the study

Sexual activity is one of the basic needs for continuity of marital relationship. Sexual conflicts can cause serious disruptions among couples. Sexual dysfunction is a prevalent problem that affect 25% to 92% of women (**Shahhosseini et al., 2014**). However in Egyptian community, it is immoral to discuss sexual matters in most of institutions and health care centers that provides care to women due to the sensitivity of this issue, this reflects upon many sexual problems among young married females. In Egypt, there are few prior studies about prevalence and risk factors associated with female sexual function. Thus, the present study aims to determine the prevalence and associated risk factors of female sexual dysfunction at Mansoura city.

2. SUBJECTS AND METHOD

Study design: This study followed a cross-sectional study design, and was performed between January 2018 to July 2018.

Study setting: required data was collected from all sites delivering health care for women in Mansoura city; specifically from inpatient wards of Obstetrics and Gynecology departments in Mansoura University Hospital, International Hospital; known as New General Hospital now, Old General Hospital, and Sandoub Insurance Hospital. In addition to 3 Maternal and Child Healthcare Centers (MCH) in Mansoura City (i.e., Meetkhamees MCH, Weechelhagar MCH, and 1st Health office MCH).

Subjects: simple random sample of 600 married women; in reproductive age (i.e., 18 to 49 years), were selected by choosing attendant woman seeking care or a woman accompanying her with the following.

Inclusion criteria :

1-Married women older than 18 years.

International Journal of Novel Research in Healthcare and Nursing

Vol. 6, Issue 3, pp: (124-140), Month: September - December 2019, Available at: www.noveltyjournals.com

2- Pregnant women, women with menstrual disorders, history of any medical disease, abnormalities in the genital tract, or surgeries that may influence sexual function

3- Willing to share in the research.

N.B: Women in menopause, widowed, and divorced were excluded from the study.

Sample size calculation

To determine the minimum sample size for this study the following formula was used: $n = Z^2 PQ/D^2$, where

n = the minimum sample size required.

P = the proportion affected.

Q = the proportion not affected and

D = sampling error.

To have the needed power with an alpha of 0.05 and a beta of 0.8, a constant Z needs to be introduced with a value of 1.96. If the approximate prevalence of the problem is 34% (0.34) and the magnitude of the absolute sampling error that can be tolerated 'D' is 0.04, for example, then $n = Z^2 PQ/D^2$; $n = (1.96)^2 \cdot 0.34 \cdot 0.66 / (0.04)^2$ and $N = 538.78$. Thus, at least 539 married women will be enough to fit the aim of this study. The total sample size will be collected from the pre assigned settings; the number of women recruited from each site will be determined upon the flow rate of attendees to the assigned site.

Tools of data collection: Two tools were used for data gathering.

Tool I: Structured Interviewing Schedule

It was constructed by the researcher and is based on reading related literature reviews (Annex I). It entails three parts as follows:

Part 1. Socio demographic data; such as age, residence, level of education, wife's occupation, husband's occupation, family income, family type, duration of marriage, current satisfaction of marriage presence or history of other wives, and bad habits of the husband.

Part 2. Reproductive history such as age of menarche, rhythm, gravidity, current pregnancy, parity, number of living children, mode of delivery, currently used family planning method, and circumcision.

Part 3. Sexual history like frequency of intercourse, satisfaction with intercourse, and why if not satisfied.

Tool II: Female Sexual Function Index questionnaire (Annex II)

It is a brief, multidimensional self-applicable questionnaire evaluating the key dimensions of female sexual function during the four weeks just before the interview day. It includes 19 multiple choice questions measuring 6 domains including desire domain (2questions), arousal (4questions), lubrication (4questions), orgasm (3questions), satisfaction (3questions) and sexual pain (3questions). Arabic version will be used in this study.

It was adopted from(Rosen R, et al., 2000 & Wiegel ,&Meston 2005) .

Ethical considerations

A formal approval was taken from the Ethics Committee of the Faculty of Nursing, Mansoura University. A formal approval was taken from all sites where data are gathered from. Informed consent was obtained from the cases after clarifying the aim and approach of this study. Privacy and confidentiality was protected. Cases were educated about their withdraw rights from study at any time.

Validity and reliability of the study tools

The developed tool was revised by a panel of 3 experts in the specialty of the study scope. According to their comments, modifications were considered.

Pilot Study:

Pilot study phase was carried out for 3 weeks (December 2017) at Obstetrics and Gynecology Department of Mansoura University Hospital on 10% of the sample size (60 cases) to test the applicability, significance of the research tool and the clearness of the designed questionnaire and the required modification were made like changes of some questions and rephrase to others. The pilot sample was excluded from the study.

Field work

During the study period the researcher visited the study settings 3 days per week during the work hours until the determined sample size was collected. The researcher presented herself to the participants, full explanation about the aim, and scope of the study was given to obtain women's acceptance and oral permission to take part in the study. Complete instructions regarding answering the FSFI questionnaire sheets were given. After explaining the aim of study, the first tool was completed through a face to face interview in a private place while the FSFI questionnaire was completed by potential participants. Collected data was analyzed; prevalence of female sexual function was determined and correlations were tested to determine the risk factors.

Statistical analysis

Collected data were coded, computed and statistically analyzed using SPSS (statistical package of social sciences), version 16. Data were presented as frequency and percentages (qualitative variables) and mean \pm SD (quantitative continuous variables). Chi square (χ^2) was used for comparison of categorical variables, and was replaced by Fisher exact test (FET) or Mont Carlo Exact test if the expected value of any cell was less than 5. The difference was considered significant at $P \leq 0.05$

3. RESULTS

Part I: Associated Factors of Female Sexual Dysfunction among Women in Reproductive Age
Table (1): Socio-demographic Characteristics of Women in Reproductive Age

Items	n = (600) No.	%
Age (years)		
<20	12	2.0
20-29	221	36.8
30-39	206	34.3
40-49	135	22.5
>49	26	4.3
Mean \pmSD	33.91 \pm 5.66 years	
Level of education		
Doesn't read or write	17	2.8
Basic	19	3.2
Secondary	237	39.5
University	293	48.8
Post graduate	34	5.7
Wife's Occupations		
House wife	358	59.7
Working	242	40.1
Time of wife's job (242)		
Fixed hours	214	88.4
Shift	28	11.6
Husband's occupations		
Not working	43	7.2
Working	557	92.8
Requiring absence away from home(557)		
No	369	66.2
Yes	188	33.8

Duration of absence (188)		
Days	92	48.9
Weeks	39	20.7
Months	52	27.7
Years	5	2.7
Residence		
Rural	342	57.0
Urban	258	43.0
Family income		
Not enough	161	26.8
Enough	260	43.3
Enough & save	179	29.8
Type of family		
Nuclear	493	82.2
Extended	107	17.8
Satisfaction of living with extended family		
Satisfied	18	16.8
Dissatisfied	89	83.2
Reasons for dissatisfaction (89)		
Family disharmony	78	87.6
Financial problems	11	12.4

Table (1) shows the socio-demographic characteristics of the studied women. Only 2.0% of the studied women aged below 20 years, while 36.8% aged (20-<30), 34.4% aged (30-<40), 22.55 aged 40-49) and 4.3 aged more than 49 years. Most of the studied women were secondary (39.5% and university educated (48.8%). The working women represent 40.1%, 88.4% of them had fixed hours work and 11.6% had shifts. Most of husbands were working (92.8%), and 33.8% of them require to absence away from home; most of them for days (48.9%), weeks (20.7%), months (27.7%) and years (2.7%). Women from rural areas represent 57.0%, family income was not enough (26.8%), enough (43.3%) and enough & save (29.8). Types of families were extended (17.8%) and nuclear (82.3%). Women being unsatisfied in extended family (82.2%), due to family disharmony (87.6%) and financial problems (12.4%).

Table (2): Socio-demographic Characteristics of Women in Reproductive Age

Items	n = (600) No.	%
Duration of current marriage		
<5	181	30.2
5-9	115	19.2
10-14	153	25.5
≥15	151	25.2
Satisfaction of current marriage		
Satisfied	397	66.2
Not satisfied	203	33.8
Reasons of marriage dissatisfaction (203)		
Forced to marriage	30	14.8
Marital disharmony	104	51.2
Family violence	20	9.9
Financial problems	49	24.1
Presence of other wives		
No	546	91.0
Yes	54	9.0
Time of marriage to other wives (54)		
Before your marriage	27	50.0
After your marriage	27	50.0
Duration of marriage to other wives (54)		
<5	12	22.2
5-9	17	31.4

10-14	12	22.2
≥15	13	24.1
No of other wives (54)		
1	3	5.6
2	45	83.3
3	6	11.1
Affecting your marriage (54)		
No	26	48.1
Yes	28	51.9
The effects are (28)		
Loves the wife more	1	3.6
Spent all his time at other wife's house	23	82.1
Decreases of finances	4	14.3
husband has unhealthy habits		
No	339	56.5
Yes	261	43.5
The habits are (261)		
Smoking	258	98.9
Drinking alcohol	0	0.0
Drug addict	8	3.1

Duration of marriage of the studied women being <5 years in (30.2%), 5-9 years (19.2%), 10-14 years in (25.5%) and 15 years & more in (25.2%). About one third (33.8%) of the studied women were unsatisfied by their marriage. Most of causes of dissatisfaction were marital disharmony (51.2%), followed by financial troubles (24.1%), forced to marriage (14.8%) and family violence (9.9%). Only 9.9% of the studied reported that their husband had another wives with different duration of marriage. And their number varied from one (5.6%), two (83.3%) and three (11.1%). Half of these marriages occur before marriage of the studied women, nearly half (51.9%), of those women reported that the marriage of their husbands with another wife affect their marriage due to loves the wife more (3.6%), spent all his time at other wife's house (82.1%) and decreases of finances (41.5%). About 43.5% of the husbands had unhealthy habits, mostly smoking (98.9%) and drug addicts (3.1%).

Table (3): Reproductive History of Women in Reproductive Age

Items	n = (600) No.	%
Age of menarche (years)		
<12	97	16.2
12-18	495	82.5
>18	8	1.3
Menstruation rhythm		
Regular	424	70.7
irregular	176	29.3
Gravidity		
None	52	8.7
1-2	302	50.3
3-5	245	40.8
>5	1	0.2
Current pregnancy		
No	520	86.7
Yes	80	13.3
Gestational age (80)		
1 st trimester	27	33.8
2 nd trimester	44	55.0
3 rd trimester	9	11.2
Effect on sex (80)		
No	3	3.8
Yes	77	96.2

Parity		
None	96	16.0
1-2	290	48.3
3-5	213	35.5
>5	1	0.2
No of living children		
None	96	16.0
1-3	303	50.5
4-6	201	33.5
Mode of delivery (504)		
Normal	226	44.8
Cesarean Section	278	55.2
Use of family planning method		
None	270	45.0
IUDS	258	43.0
Pills	43	7.2
S.C. capsules	8	1.3
Safe period	21	3.5
Circumcision		
No	269	44.8
Yes	331	55.2

Table (3) shows the reproductive history of the studied women. Age of menarche below 12 years was reported in 16.2 % of the studied women, while it was 82.5% in age 12 to < 18 years and 1.3% at 18 years or more (late menarche) and it was regular among 70.7%. Gravidity ranged from 1-2 times in 50.3%, 3-5 in 40.8% and 8.7% were never get pregnant. Out of 600, 80 (13.3%) were pregnant at the time of the study, 33.8% in the first trimester, 55.0% in the second trimester, and 11.2% in the third trimester. Most of the pregnant ladies (96.2%) reported that their sex was affected by pregnancy. Parity ranged from 1-2 times in 48.3%, 3-5 in 35.5% and 16.0% were never get delivery. Number of children was 1-3 in 50.5% and 4-6 in 35.5 of the studied women. Mode of last delivery was normal vaginal delivery (44.8%) and CS in (55.2%). IUDs were the most common used contraceptive method (43.0%) and 55.2% of the studied women were exposed to circumcision.

Table (4): Sexual History of Women in Reproductive Age

Items	n = (600) No.	%
Frequency of intercourse		
None	144	24.0
One / week	201	33.5
≥ two / week	255	42.5
Sexual satisfaction		
Satisfied	196	32.7
Not satisfied	404	67.3
Reasons of dissatisfaction (404)		
Reasons related to wife	140	34.7
Reasons related to husband	264	65.3
Reasons related to husbands (264)		
Bad timing	101	38.3
Impotence	36	13.6
Premature ejaculation	62	23.5
Husband's reluctance	12	4.5
Senility	53	20.1

Table (4) shows that the frequency of intercourse was reported to be none in 24.0% of the studied women. Once/week in 33.5% and twice or more in 42.5% and sexual satisfaction was reported in 32.7%. The reason of dissatisfaction was due to reason related to wife (34.7%) or husbands 65.3%. Causes related to husband were bad timing (38.3%), impotence (13.6%), premature ejaculation (23.5%), husband's reluctance (4.5%) and somatic disorders (20.1%).

Table (5): Average Adjusted Scores of Subdomains of Female Sexual Function Index among women in Reproductive Age (600)

Domains	Adjusted Score	Range	Mean ±SD	Median	Total n (%)
Desire	6	1.2 – 6.0	4.12 ± 1.21	4.8	289 (48.2%)
Arousal	6	0.0 – 6.0	2.99 ± 1.96	3.6	433 (72.2%)
Lubrication	6	0.0 – 6.0	3.71 ± 2.30	4.8	248 (41.3%)
Orgasm	6	0.0 – 6.0	2.88 ± 1.95	3.2	469 (78.2%)
Satisfaction	6	0.8 – 6.0	3.58 ± 1.67	3.6	428 (71.3%)
Pain	6	0.0 – 6.0	2.78 ± 1.94	3.2	508 (84.7%)
Total Score	36	2.0 – 36.0	20.05 ± 9.68	22.6	430 (71.7%)

Table (5) shows the average and median adjusted scores of sub domains of FSFI, percentages of FSD types among studied women. The total score ranged from 2.0 to 36.0 with average 20.05 ± 9.68 and median 22.6. Desire problems were present in 48.2% of the study subjects, while arousal problems were present in 72.2%, lubrication problems were present in 41.3%, orgasm problems were present in 78.2%, satisfaction problems were present in 71.3%, and pain problems were present in 71.7%.

Table (6): Score, Number, and Percentage of Level of Female Sexual Function Index

Level of FSFI	Score	No	%
Female Sexual Dysfunction	≤26.55	430	71.7
Female Sexual Function	>26.55	170	28.3

Table (6) shows the level of female sexual status among the studied women. Female sexual dysfunction was present in 71.7% and sexual function was present only in 28.3% of them.

Part III: Associations of FSD among Women in Reproductive Age

Table (7.1): Relationship between Sexual Function of Women in Reproductive Age and their Socio-demographic Characteristics

Items	n=(600)	FSD (430)		FSF (170)		Significance test
		No.	%	No.	%	
Age (years)						$\chi^2=19.085,$ MEP<0.001
<20	12	12	100.	0	0.0	
20-29	221	167	75.6	54	24.4	
30-39	206	127	61.7	79	38.3	
40-49	135	105	77.8	30	22.2	
>49	26	19	73.1	7	26.9	
Level of education						$\chi^2=7.513,$ MEP0.106
Doesn't read or write	17	14	82.4	3	17.6	
Basic	19	16	84.2	3	15.8	
Secondary	237	179	75.5	58	24.5	
University	293	196	66.9	97	33.1	
Post Graduate	34	25	73.5	9	26.5	
Wife's Occupations						$\chi^2=0.202,$ P0.653
House wife	358	259	72.3	99	27.7	
Working	242	171	70.7	71	29.3	
Time of wife's job (242)						$\chi^2=2.011,$ P0.156
Fixed hours	214	148	69.2	66	30.8	
Shift	28	23	82.1	5	17.9	

Husband's occupations						
Not working	43	35	81.2	8	18.6	$\chi^2=2.159,$ P0.142
Working	557	395	70.9	162	29.1	
Requiring his absence away from home (557)						
No	369	261	70.7	108	29.3	$\chi^2=0.018,$ P0.893
Yes	188	134	71.3	54	28.7	
Duration of absence (188)						
Days	92	71	77.2	21	22.8	$\chi^2=4.910,$ MEP0.178
Weeks	39	27	69.2	12	30.8	
Months	52	34	64.4	18	34.6	
Years	5	2	40.0	3	60.0	
Residence						
Rural	342	249	72.8	93	27.2	$\chi^2=0.509,$ P0.475
Urban	258	181	70.2	77	29.8	
Family income						
Not enough	161	118	73.3	43	26.7	$\chi^2=4.232,$ P0.121
Enough	260	194	74.6	66	25.4	
Enough & save	179	118	65.9	61	34.1	
Type of family						
Extended	107	86	80.4	21	19.6	$\chi^2=4.862,$ P0.027
Nuclear	493	344	69.8	149	30.2	

Table (7) shows the relationship between sexual function of the studied women and their socio-demographic characteristics. Percentage of FSD was significantly lower in middle aged females (30-<40 years) than those younger or older ones. Although, this percentage was decreasing in university educated females but the difference was not significant. FSD level was higher among house wives than working females, among working shifts than those working fixed hours, among those the work of their husband require then to be absent away from home, but the difference was not significant. Also, FSD level was higher among those live in rural areas than urban and among those with not enough or enough monthly income compared to those with enough and save, but the difference was not significant. Women live in extended family reported significant higher percentage (80.6%) of FSD than those live in nuclear family.

Table (7.2): Relationship between Sexual Function of Women in Reproductive Age and their Socio-demographic Characteristics

Items	n = 600	FSD (430)		FSF (170)		Significance test
		No.	%	No.	%	
Duration of marriage						
<5	181	146	80.7	35	19.3	$\chi^2=20.322,$ MEP<0.001
5-9	115	65	56.5	50	43.5	
10-14	153	109	71.2	44	28.8	
≥15	151	110	72.8	41	27.2	
Satisfaction of marriage						
Satisfied	397	278	70.0	119	30.0	$\chi^2=1.577,$ P0.212
Not satisfied	203	152	74.9	51	25.1	
Reasons of marriage dissatisfaction (203)						
Forced to marriage	30	20	66.7	10	33.3	$\chi^2=1.330,$ P0.723
Marital disharmony	104	79	76.0	25	24.0	
Family violence	20	15	75.0	5	25.0	
Financial problems	49	38	77.6	11	22.4	

Other wives						
No	546	395	72.3	151	27.7	$\chi^2=1.372,$ P0.241
Yes	54	35	64.8	19	35.9	
Duration of marriage to other wives (54)						
<5	12	10	83.3	2	16.7	$\chi^2=7.860,$ MEP0.049
5-9	17	11	64.7	6	35.3	
10-14	12	4	33.3	8	66.7	
≥15	13	10	76.9	3	23.1	
No of other wives (54)						
1	3	3	100.0	0	0.0	$\chi^2=4.030,$ MEP0.166
2	45	30	66.7	15	33.3	
3	6	2	33.3	4	66.7	
Time of marriage to other wives (54)						
Before your marriage						$\chi^2=0.081,$ P0.778
After your marriage	27	17	63.0	10	37.0	
	27	18	66.7	9	33.3	
The husband has unhealthy habits						
No						$\chi^2=0.140,$ P0.708
Yes	339	245	72.3	94	27.7	
	261	185	70.9	76	29.1	

Level of FSD was significantly higher among those with shorter duration of marriage (< 5 years) than those with longer duration. Females with marital dissatisfaction reported higher FSD level than those with marriage satisfaction. The level was not significantly differing in relation to the cause of marital dissatisfaction, presence of other wives. FSD level was higher among females that reported that their husband had unhealthy habit.

Table (8): Sexual Function of Women according to their Reproductive History

Items	n=(600)	FSD (430)		FSF (170)		Significance test
		No	%	No	%	
Age of menarche (years)						
<12	97	68	70.1	29	29.9	$\chi^2=0.498,$ MEP 0.761
12-18	495	357	73.1	138	27.9	
>18	8	5	62.5	3	37.5	
Menstruation rhythm						
Regular	424	313	73.8	111	26.2	$\chi^2=3.303,$ P 0.069
Irregular	176	117	66.5	59	33.5	
Gravidity						
None	52	39	75.0	13	25.0	$\chi^2=3.124,$ MEP 0.395
1-2	302	213	70.5	89	29.5	
3-5	245	178	72.7	67	27.3	
>5	1	0	00.0	1	100.0	
Current pregnancy						
No	520	364	70.0	156	30.0	$\chi^2=5.335,$ P 0.021
Yes	80	66	82.5	14	17.5	
Gestational age (80)						
1 st trimester	27	23	85.2	4	14.8	$\chi^2=0.290,$ P 0.866
2 nd trimester	44	36	81.8	8	18.2	
3 rd trimester	9	7	77.8	2	22.2	
Parity						
None	96	71	74.0	25	26.0	$\chi^2=3.793,$
1-2	290	202	69.7	88	30.3	

3-5	213	157	73.7	56	26.3	MEP 0.282
>5	1	0	00.0	1	100.0	
No of living children						$\chi^2=0.893,$ P 0.640
None	96	71	74.0	25	26.0	
1-3	303	212	70.0	91	30.0	
4-6	201	147	73.1	54	26.9	
Mode of last delivery (504)						$\chi^2=0.350,$ P 0.555
Normal	226	158	69.9	68	30.1	
Cesarean Section	278	201	72.3	77	27.7	
Use of family planning method						$\chi^2=12.201,$ MEP 0.017
None						
IUDS	270	209	77.4	61	22.6	
Pills	258	169	65.5	89	34.5	
S.C. hormonal capsules	43	28	65.1	15	34.9	
Safe period	8	6	75.0	2	25.0	
	21	18	85.7	3	14.3	
Circumcision						$\chi^2=0.475,$ P 0.491
No	269	189	70.3	80	29.7	
Yes	331	241	72.8	90	27.2	

Table (8) shows the relationship between sexual function of the studied women and their reproductive history. Percentage of FSD was lower among those obtaining menarche at older age, with irregular menarche and 1-2 gravid, but the difference was not significant ($P>0.05$). The pregnant women reported a significant ($p0.021$) higher percentage of FSD than non-pregnant. The percentage of FSD among pregnant women was higher in first trimester than second and third ones. Also, FSD percentage was higher among those with high parity (3-5), big number of children (4-6), among those with CS being last mode of delivery and among circumcised women, but the difference was not significant. FSD percentage differ significantly ($P 0.017$) by the type of used contraceptive methods being high among those using Safe period (85.7%) and subcutaneous capsules (75.0%).

Figure (1): Percentage of Female Sexual Dysfunction in relation to Used Contraceptive Methods

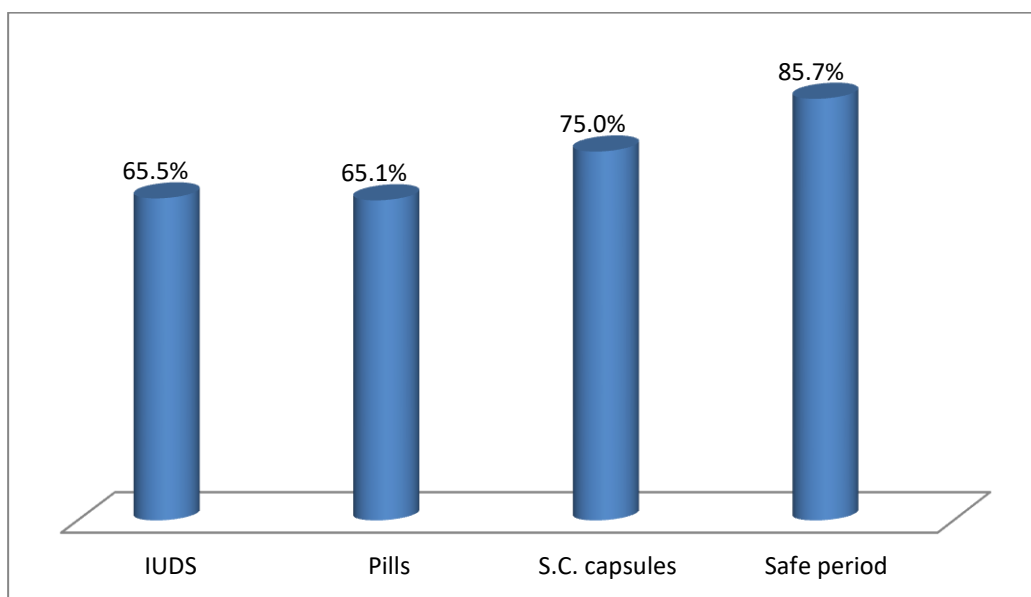


Figure 1 shows Percentage of Female Sexual Dysfunction in relation to Used Contraceptive Methods as it differs significantly among those using safe periods and represents (85.7%), Subcutaneous hormonal capsules (75.0), IUDS (65.5%), and pills (65.1).

Table (9): Relationship between Sexual Function of Women in Reproductive Age and their Sexual History

Items	n = (600)	FSD (430)		FSF (170)		Significance test
		No	%	No	%	
Frequency of intercourse						
None	144	105	72.9	39	27.1	$\chi^2=0.760,$ P 0.684
One / week	201	147	73.1	54	26.9	
≥ two / week	255	178	69.8	77	30.2	
Sexual satisfaction						
Satisfied	196	140	71.4	56	28.6	$\chi^2=0.008,$ P 0.928
Not satisfied	404	290	71.8	114	28.2	
Reasons of dissatisfaction (404)						
Reasons related to wife	99	99	71.4	41	29.3	$\chi^2=0.120,$ P 0.728
Reasons related to husband	191	191	72.3	73	27.7	
Reasons of dissatisfaction related to husbands (264)						
Bad timing	101	75	74.3	26	25.7	$\chi^2=5.081,$ P 0.278
Impotence	36	25	69.4	11	30.6	
Premature ejaculation	62	39	62.9	23	37.1	
Husband's reluctance	12	10	83.3	2	16.7	
Senility	53	42	79.2	11	20.8	

Table (9) explores the relationship between sexual function of the studied women sexual history. FSD percentage was lower among those practicing intercourse twice or more per week than among those practicing one or not practicing. Also, it was slightly higher among sexually dissatisfied women especially among those referring the cause of dissatisfaction to their husbands. FSD percentage among women that their husbands were reluctant for practicing intercourse (83.3%), suffering from somatic diseases (79.2%) or choice bad time (74.3%).

Figure (2): Percentage of Female Sexual Dysfunction in relation to Husband's Causes of Sexual Dissatisfaction

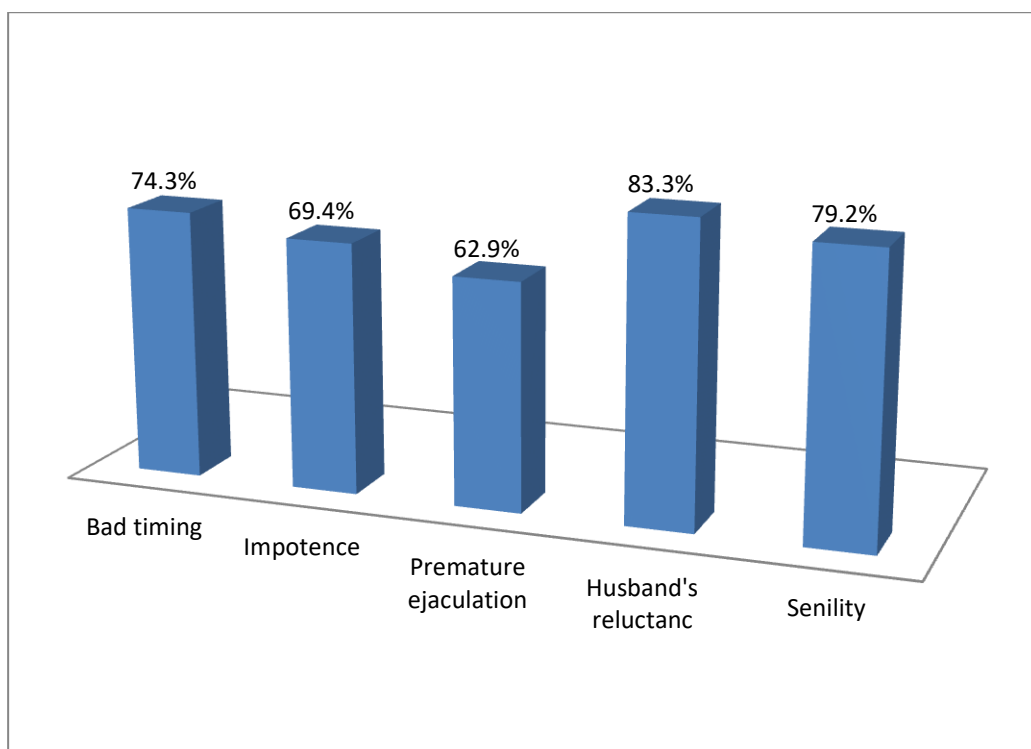


Figure (2) shows percentage of female sexual dysfunction in relation to husband's causes of sexual dissatisfaction as it represents among women that their husbands were reluctant for practicing intercourse (83.3%), senility (79.2%), choosing bad time (74.3%), impotence (69.4), and premature ejaculation (62.9%).

4. DISCUSSION

Female sexual dysfunction is a multi-causal and multidimensional problem combining biological, psychological, and interpersonal factors. It has a major impact on quality of life and interpersonal relationships. For many women, it is physically disconcerting, emotionally distressing and socially devastating. Despite the widespread interest in research and treatment of male sexual dysfunction, less attention has been paid to the sexual problems of women (**Jaafarpour et al., 2013**).

This study aimed to determine female sexual dysfunction during reproductive age: types and associated risk factors. The study findings show that demographic attributes were discovered to be highly prognostic of sexual problems. Sexual dysfunction is highly Prevalent among different ages during reproductive period. Sexual problems increased with increasing age. Percentage of FSD was significantly lower in middle aged females (30-<40 years) than those younger or older ones. With aging sexual functions decrease, and sexual problems increase

This result came in agreement with (**Ambler et al., 2012**) that studied the sexual function of older women and found that with aging lack in sexual activity occurs. Old women might be increasingly worried about issues related to intimacy, dyspareunia, lack of arousal and response, lack of sexual relation frequency, and lack of sexual desire .Also some women complained from long age differences between them and their husbands and said it affected almost all aspects of their life including sexuality.

Numerous demographic determinants as age, level of education, parity and duration of marriage were proposed to influence sexuality during pregnancy. Despite that fact that some studies demonstrated significant correlation between age and FSD, others failed to show this relationship (**Esmer et al., 2013**).

Some participants required education about sexual health, thus this was related with the incidence of sexual problems. This higher rate of sexual dysfunction in better educated people is unexpected as they are healthier and have ways of life that are less physically stressing and emotionally exigenting . Most of the studied women were secondary (39.5%), and university educated (48.8%). However, a higher educational level may likewise be related with a superfat in the women's capability to openly express their dissatisfaction.

This finding came in agreement with (**Jafarzadeh Esfehiani et al., 2016 & Elnashar et al.,2007**) who demonstrated a positive relationship between educational level and sexual dysfunction. This finding is in contrast with **Zhang & Yip, (2012)** who found that young women that have advanced education were more probably to report sexual dysfunction.

Through advanced education, these women raised their awareness about sexual demands and rights, and such women will in general feel more frustrated with their marital and sexual relationships, which may result decreased sexual functioning (**Choi et al., 2014**)

Female sexual dysfunction level was higher among house wives than working females, among working shifts (17.9%) than those working fixed hours(30.8%). This finding correspondent with those of **Coskun et al ., (2014), and Ahmadi et al., (2011)** that found working had sexual satisfaction more than housewives. Working women are financially independent, more self-confident, have high self-esteem, and there for feel more happy with their sexual life because of having cash. While women with low revenue or no revenue feel less attractive, which result in decreased sexual activity and sexual pleasure. In contrast with **Mohammad-Alizadeh-Charandabi et al., (2014)** who studied modeling of socio-demographic predictors of sexual function in women of reproductive age, and expressed that housewives have a higher quality of sexual life than working women.

Female sexual dysfunction among those the work of their husband require then to be absent away from home specially those who spend over months or years working in another country. In general, the existence of a partner affects the sexual function of women in a positive way (**Wolpe et al., 2017**).

The decreased rate of conspicuous complaint in respect to sexual problems among Egyptian women does not demonstrate decreased sexual interest but rather reflects cultural factors, i.e. shyness, embarrassment and reluctances. As well, decreased physicians' awareness and training results in insufficient identification and management of such issues. Our results emphasize the high prevalence of sexual problems among seemingly healthy people, and the significance of direct questioning about sexual function in gynecology and family planning clinics.

Female sexual dysfunction level was higher among those live in rural areas than urban and among those with not enough or enough monthly income compared to those with enough and save, but the difference was not significant. Women live in extended family reported significant higher percentage (80.6%) of FSD than those live in nuclear family. They said that they almost have no privacy, increased family's demands affected them negatively.

Level of FSD was significantly higher among those with shorter duration of marriage (< 5 years) specially in relation to pain as they are experiencing a different life, and sex newly but those with longer duration are experiencing more sexual difficulties. This came in correspondent with **Yoo et al., (2014)**. who found that there is a lack in sexual satisfaction related age in public community. It appears that by ageing, sexual activities would be influenced by emerging new responsibilities throughout women's life for example their occupation or commitment in taking care of their children and other obligations in family and community as well.

Females with marital dissatisfaction reported higher FSD level than those with marriage satisfaction. The level was not significantly differing in relation to the cause of marital dissatisfaction either due to force to marriage (33.3%), or marital disharmony (24.0%), or family violence (25.0%), or financial problems (22.4%). This problems result in decreasing the desire to sex which affects the other domains. Also presence of other wives has the same effect.

Female sexual dysfunction level was higher among females that reported that their husband had unhealthy habit. These women complain from lack of finances related to heavy smoking, also being nervous all the time. This finding came in agreement with **Villines., (2018)** who studied ways to boost libido and found that smoking cigarettes can affect the individual's cardiovascular system negatively. Good heart wellbeing is important for good sexual functioning. People smoking cigarettes may find out that their energy levels and sex drive are elevated after they stop smoking.

The pregnant women reported a significant ($p < 0.021$) higher percentage of FSD than non-pregnant. The percentage of FSD among pregnant women was higher in first trimester than second and third ones. This finding agrees with **Prado et al, 2013)** who studied the impact of pregnancy on sexual function and found that pregnancy influences female sexual function negatively, specifically the desire and excitement domains, showing the importance of addressing the issue by professionals dealing with pregnant women.

This finding agrees also with **Keskin., (2018)** who studied the effect of mode of delivery and number of children on sexual function and found that number of children has a significant impact on the quality of sexual life and should be paid more attention.

These findings are consistent with **Leeman & Rogers., (2012)** who studied sex after childbirth postpartum sexual function, and found that pregnancy and childbirth bring many changes to the health and well-being of new mothers. Both the number of pregnancy losses and parity are correlated with sexual dysfunction positively. This was generally noticed in women who gave birth more than 2 children and is likely due to anatomical changes related to recurrent pregnancy and delivery, e.g. piles, weakening of the pelvic floor and different degrees of genital tract descent. Various factors have been related with deteriorated postpartum female sexual function. After childbirth, changes in sleeping patterns and family structure can decrease the potentiality of the woman and her partner to have the time to retrieve intimacy and resume sexual activity.

Female sexual dysfunction percentage among those with CS being last mode of delivery and among circumcised women, but the difference was not significant. This finding disagrees with **Keskin., (2018)** who studied the impact of delivery mode and number of children on sexual function and found that there is no clear evidence that cesarean delivery might be protective for the development of female sexual dysfunction. Even though we found in our study; having vaginal delivery and more than one children group of women has worse sexual function than cesarean delivery.

Female sexual dysfunction percentage differ significantly ($P < 0.017$) by the type of used contraceptive methods being high among those using Safe period (85.7%) and subcutaneous capsules (75.0%). This finding disagrees with **Umran et al., (2017)** who studied impact of using family planning methods on female sexual function and found that women using intra uterine device (IUD) as a contraceptive method have significantly lower FSFI subscale scores of desire average in comparison to the women using contraceptives. In this research it was discovered that women who still use the withdrawal method as a traditional contraceptive method no negative impacts on their sexual life.

Circumcision status (female genital mutilation) was related with an increased risk of having sexual problems. It's associated with reduced scores of FSFI on all domains scores, and among both types I and II, both were associated with sexual dysfunction (Ismail et al., 2017).

Female sexual dysfunction percentage was lower among those practicing intercourse twice or more per week than among those practicing one or not practicing. Also, it was slightly higher among sexually dissatisfied women especially among those referring the cause of dissatisfaction to their husbands. FSD percentage among women that their husbands were reluctant for practicing intercourse (83.3%), suffering from somatic diseases (79.2%) or choice bad time (74.3%).

Women with an outstanding relation indicated higher desire, arousal, satisfaction, and a better FSFI score when compared to women who classified their relation as satisfactory. Thus, the quality of women's relations and feelings of their partner must be taken into account, instead of the frequency of sexual intercourses (Wolpe et al., 2017).

In this study Female sexual dysfunction was present in 71.7% and sexual function was present only in 28.3% of them, Desire problems were present in 48.2% of the study subjects, while arousal problems were present in 72.2%, lubrication problems were present in 41.3%, orgasm problems were present in 78.2%, satisfaction problems were present in 71.3%, and pain problems were present in 71.7%.

These findings were not correspondent to McCool et al., (2016) who performed a systematic review and meta-analysis of observational studies to assess prevalence of FSD premenopausal women and found that FSD prevalence in premenopausal women was predestined to be 40.9%. Prevalence rates of individual sexual disorders varied from 20.6% (lubrication problems) to 28.2% (hypoactive sexual desire disorder), but they admitted that further researches demonstrated significantly higher rates of FSD in studies performed in Africa and that agrees with our findings.

These findings were higher than those of Afefy., (2015) who studied factors associated with FSD among Women attending Cairo University Hospital and found that 57.3% of women had sexual difficulties, 42.9% lack of vaginal lubrication, 15.8% decreased genital sensation during sexual intercourse, 25.5% decreased sexual desire level, 36.01% decreased level of orgasm, 32.7% pain during sexual relation, and 47.8% decreased sexual pleasure or satisfaction.

These findings were higher than those of Jaafarpour et al., (2013) who studied the prevalence and risk factors of FSD in Iran and found that (46.2%) women had FSD. Desire difficulty was discovered in 45.3% of women, while arousal difficulties in 37.5%, a lubrication difficulties in 41.2%, an orgasm difficulties in 42.0%, a satisfaction difficulties in 44.5%, and a pain issues in 42.5%.

Huge variations have been discovered in the prevalences of FSD between countries. They may indicate medical and psychological determinants, spectacularly in relation to potential socio-economic, cultural and ethnological variations, the clinical definition that has been used for each dysfunction, type of trial carried out (either self-applicable questionnaire, mailed questionnaire, telephone interview, or private interview), interrelationship with their partners, levels of education and samples features (general population vs sexuality clinics) which were studied (Jaafarpour et al., 2013).

Limitation of the study

Socio cultural barriers that prevent women from talking freely about their sexual life and describe their problems. As the questionnaire we used relies on self-reported data, it might be subjected to recall and desirability bias.

5. CONCLUSIONS

The study findings concluded that Female sexual dysfunction is a complex and highly prevalent problem that have an impact on large number of women with low reporting rates as they are embarrassed to talk about their sexual life, and reluctant to seek medical help. It is classified into sexual interest/arousal disorders, orgasmic disorders, and genito-pelvic pain/penetration disorders. Various factors affect female sexual function as age, type of family, level of education, family income, residency, pregnancy, parity, number of children, circumcision, and the type of used contraceptive methods.

6. RECOMMENDATION

In the light of the study findings, the following are recommended:

1. Educational programs must be conducted to raise the awareness of maternity nurses, and women regarding FSD to be oriented by the normal sexual function, sexual dysfunction symptoms, decreasing, and aggravating factors to seek for appropriate help.

International Journal of Novel Research in Healthcare and Nursing

Vol. 6, Issue 3, pp: (124-140), Month: September - December 2019, Available at: www.noveltyjournals.com

2. Inclusion of sexual awareness as an integral part of pre-marital screenings and counseling for young couples to strengthen the sexual ties of couples in the future through counseling and providing them with appropriate healthy and natural habits.
3. Allocating a clinic for sexual counseling for young couples, and spouses besides the obstetrics and gynecology clinics.

Further researches

1. Effect of family planning methods on sexual relation.
2. Percentage and effect of female circumcision on sexual relation.

ACKNOWLEDGMENT

We offer our appreciation and thankfulness to all women that took part in this research.

REFERENCES

- [1] **Murtagh J., (2010).** Female sexual function, dysfunction, and pregnancy: Implications for practice. *J Midwifery Women's Health*; 55:438–446.
- [2] **First MB, Wakefield JC., (2013).** Diagnostic criteria as dysfunction indicators: bridging the chasm between the definition of mental disorder and diagnostic criteria for specific disorders. *Can J Psychiatry*;58:663–669.
- [3] **Ahmed MR, Madny EH, Sayed Ahmed WA. (2014).** Prevalence of female sexual dysfunction during pregnancy among Egyptian women. *J ObstetGynaecol Res.* 40(4):1023-9.
- [4] **Afey NA., (2015):** Factors Associated with Female Sexual Problems among Women attending Cairo University Hospital, *Journal of Biology, Agriculture and Healthcare.*Nov,14,
- [5] **Altemus, M., Sarvaiya, N., & Neill Epperson, C. (2014).** Sex differences in anxiety and depression clinical perspectives. *Frontiers in neuroendocrinology*, 35(3), 320–330.
- [6] **Angel K, (2010).** The history of 'female sexual dysfunction' as a mental disorder in the 20th century, *CurrOpin Psych*, 23 pp. 536-541.
- [7] **American Psychiatric Association (2013).** DSM-5: Diagnostic and Statistical Manual for Mental Disorders. 5th edition. American Psychiatric Press, USA.
- [8] **Shahhosseini, Z., Gardeshi, Z. H., Pourasghar, M., & Salehi, F. (2014).** A review of affecting factors on sexual satisfaction in women. *Materia socio-medica*, 26(6), 378–381.
- [9] **Rosen, R. , Brown, C. , Heiman, J., Leiblum, S., Meston, C., Shabsigh, R. , Ferguson, D. and D'agostino, R. (2000).** The Female Sexual Function Index (FSFI): A Multi-Dimensional Self-Report for the Assessment of Female Sexual Function. *Journal of Sex & Marital Therapy*, 26, 191-208. [http://dx.doi.org/10.1080/009262300278597\[21\]](http://dx.doi.org/10.1080/009262300278597[21])
- [10] **Wiegel, M., Meston, C. and Rosen, R. (2005).** The Female Sexual Function Index (FSFI): Cross-Validation and Development of Clinical Cutoff Scores. *Journal of Sex & Marital Therapy*, 31,1-20. <http://dx.doi.org/10.1080/00926230590475206>
- [11] **Jaafarpour, M., Khani, A., Khajavikhan, J., & Suhrabi, Z. (2013).** Female sexual dysfunction: prevalence and risk factors. *Journal of clinical and diagnostic research: JCDR*, 7(12), 2877.
- [12] **Ambler, D. R., Bieber, E. J., & Diamond, M. P. (2012).** Sexual function in elderly women: a review of current literature. *Reviews in Obstetrics and Gynecology*, 5(1), 16-27.
- [13] **Esmer, A. C., Akca, A., Akbayir, O., Goksedef, B. P. C., & Bakir, V. L. (2013).** Female sexual function and associated factors during pregnancy. *Journal of Obstetrics and Gynaecology Research*, 39(6), 1165-1172.

- [14] **JafarzadehEsfehani , R. , Fazel, N., Dashti, S., Moshkani, S., Hasanabad, F.H., Foji, S., Kamalimanesh, B., (2016).** Female Sexual Dysfunction and its Associated Risk Factors: An Epidemiological Study in the North-East of Iran. *Journal of Midwifery and Reproductive Health.* v 4(1), pp: 498-505.
- [15] **Elnashar, A. M., EL-Dien Ibrahim, M., El-Desoky, M. M., Ali, O. M., & El-Sayd Mohamed Hassan, M. (2007).** Female sexual dysfunction in Lower Egypt. *BJOG: An International Journal of Obstetrics &Gynaecology,* 114(2), 201-206.
- [16] **Zhang, H., & Yip, P. S. (2012).** Female sexual dysfunction among young and middle-aged women in Hong Kong: Prevalence and risk factors. *The journal of sexual medicine,* 9(11), 2911-2918.
- [17] **Choi, H., Kim, J. H., Park, J. Y., Shim, J. S., Lee, J. G., Yoon, H. Y., &Bae, J. H. (2014).** Assessment of sexual dysfunction and determination of its risk factors in the Republic of Korea.
- [18] **Coskun, B., Coskun, B. N., Atis, G., Ergenekon, E., &Dilek, K. (2014).** Evaluation of sexual function in women with rheumatoid arthritis. *Urology journal,* 10(4), 1081-1087.
- [19] **Ahmadi, Z., MOLAIE, Y. E., Malekzadegan, A., &Hosseini, A. F. (2011).** Sexual satisfaction and its related factors in primigravidas. *Iran Journal of Nursing.;*24(71):54–62.
- [20] **Mohammad-Alizadeh-Charandabi, S., Mirghafourvand, M., Asghari-Jafarabadi, M., Tavananezhad, N., Karkhaneh, M.,(2014).** Modeling of socio-demographic predictors of sexual function in women of reproductive age. *Journal of Mazandaran University of Medical Sciences.;*23(110):237–242. [Google Scholar]
- [21] **Wolpe, R. E., Zomkowski, K., Silva, F. P., Queiroz, A. P. A., &Sperandio, F. F. (2017).** Prevalence of female sexual dysfunction in Brazil: a systematic review. *European Journal of Obstetrics & Gynecology and Reproductive Biology,* 211, 26-32.
- [22] **Yoo, H., Bartle-Haring, S., Day, R. D., &Gangamma, R. (2014).** Couple communication, emotional and sexual intimacy, and relationship satisfaction. *Journal of sex & marital therapy,* 40(4), 275-293.
- [23] **Villines, Z. (2018, December 7).** "10 ways to boost libido." *Medical News Today.* Retrieved from: <https://www.medicalnewstoday.com/articles/323918.php>.
- [24] **Prado, D. S., Lima, R. V., & Lima, L. M. M. R. D. (2013).** Impact of pregnancy on female sexual function. *Revista Brasileira de Ginecologia e Obstetrícia,* 35(5), 205-209.
- [25] **Keskin, D. D. (2018).** Mode of Delivery and Number of Children Effect on Sexual Function. *Middle Black Sea Journal of Health Science,* 4(1), 7-11.
- [26] **Leeman, L. M., & Rogers, R. G. (2012).** Sex after childbirth: postpartum sexual function. *Obstetrics & Gynecology,* 119(3), 647-655
- [27] **Umran, O., &DissizMelike, R. N. (2017).** Effect of the Contraceptive Methods on Female Sexual Function. *International Journal of Caring Sciences,* 10(1), 366
- [28] **Ismail, S. A., Abbas, A. M., Habib, D., Morsy, H., Saleh, M. A., &Bahloul, M. (2017).** Effect of female genital mutilation/cutting; types I and II on sexual function: case-controlled study. *Reproductive health,* 14(1), 108.
- [29] **McCool M E, Zuelke A, Theurich M A, Knuettel A, Ricci C &Apfelbacher C.,(2018).** Prevalence of Female Sexual Dysfunction Among Premenopausal Women: A Systematic Review and Meta-Analysis of Observational Studies, *International Society for Sexual Medicine.* Published by Elsevier Inc, Volume 4, Issue 3, Pages 197–212