Prevalence and Risk Factors of Sexual Dysfunction among Married Women Attending Family Health Centers in Alexandria

Hanan Hosni El Sherbini, Assistant Professor
Community Health Nursing, Faculty of Nursing, Alexandria University

Rasha Abd El Hakim Abdou, Assistant Professor
Community Health Nursing, Faculty of Nursing, Alexandria University

Abstract

Sexuality is one of the most complex and important aspect of women's life. Sexual affairs rank first in the married couples' life and sexual satisfaction can bring about a favorable and convenient marriage. Any disruption in the sexual experience can bring changes to marriage life and affect its harmony and these changes may end with unfavorable conditions such as exposure to intimate partner violence. ***Objective:*** *Assess prevalence and risk factors for sexual dysfunction among married women attending family health centers in Alexandria.* ***Setting:*** *The study was carried out at 8 family health centers representing the 8 health zones in Alexandria namely; El-Qulea, Karmoze, El Hadara, El Mandara, El-Aml, El Dekhela, Baheg, and Orabi.* ***Subjects:*** *A convenient sample of 400 married women attending the previously selected settings.* ***Tools:*** *Five tools were used for data collection; Married women' basic data structured interview schedule, Women Sexual Dysfunction Index (FSDI), Women Sexual Distress Scale Revised Scale (FSDS), Kansas Marital Satisfaction Scale (KMSS) and Women's Experience with Battering (WEB).* ***Results:*** *Findings of the present study revealed that less than two thirds (60.0%) of the studied women had sexual dysfunction, and less than half (48.0%) of them had sexual distress. Less than one third (32.0%) of the studied women had marital dissatisfaction and more than one fifth (21.0%) of them were exposed to intimate partner violence. Moreover, statistically significant correlations were found between sexual dysfunction and sexual distress, marital satisfaction and exposure to intimate partner violence (r=0.776 p= 0.000, r=-0.812 p=0.000, and r=0.425 p=0.000 respectively).* ***Conclusion:*** *The study concluded that sexual dysfunction is a serious problem among women which affect women's whole life and need prompt interventions.* ***Recommendations:*** *Health education and marital counseling should be introduced as a general course in higher institutions of learning to prepare would-be couples for the task of inculcating a positive sexual behavior.*

Keywords: Sexual Dysfunction; Marital Satisfaction; Intimate Partner Violence; Married Women.

Introduction

Women represent half of the society. They are the cornerstone of the family and assume responsibility for many of its most functions, not only in regard to health and education, but also in food production and income generation. Therefore, the health of the women is prerequisite for the health of the whole family and by extension of communities and societies[1].

Sexuality is a fundamental need of human beings. It is one of the most complex and important aspects of women's life. Marital satisfaction, safe and pleasurable sexual relationship is one of the important and complex aspect of marriage and it is considered as a fundamental factor for the stability and durability of a married life. Disruption in the sexual life can bring changes to marriage life and affect its harmony and these changes may end with unfavorable conditions such as exposure to intimate partner violence[2,3].

Sexual dysfunction is defined as a disturbance in or pain during sexual intercourse or in any of the sexual response cycle. It is any problem that manifest during any phase of the sexual response cycle that prevents the individual or the couple from experiencing satisfaction from sexual

activity Women sexual dysfunction occurs when a woman is not able to fully, healthily, and pleasurably experience some or all of the various physical stages the body normally experiences during sexual activity[4].

Sexual dysfunction is characterized by disturbance in sexual desire and psychophysiological changes associated with the sexual response cycle in men and women. I t is the various ways in which an individual is unable to participate in a sexual relationship he or she would wish". It includes disorders of sexual desire, arousal, orgasm and sexual pain, leading to distress[5,6].

Women sexual dysfunction is actually quite common. Many women experience problems with sexual function at some point in their lives. Women sexual dysfunction can occur at all stages of life, and it may be ongoing or happen only once in a while. The prevalence of women sexual dysfunction is ranging from 19% to 63% according to several studies, and increases up to 93% in certain age groups[7,8]. However, it remains a taboo subject in many countries including Egypt. Cultural and religious values, poor sexual education, and feeling of embarrassment reduce women's chances of getting help[9,10].

Women sexual dysfunction is a multi-factorial problem. It has a biopsychosocial etiology, i.e. the origin of the dysfunction may stem from a biological, organic condition, psychological and/or a social condition. Psychological, emotional and social conditions responsible for women sexual dysfunction may include inner conflict, relationship problems, depression, stress or anxiety, and exposure to intimate partner violence. It has been noted that more than men, women seem to connect their sexuality with their partners. Sometimes this is conflated with love. Similarly, negative experiences can certainly hinder a woman's ability to become aroused. Essentially, many women need to feel safe before letting go into arousal. Thus, bad experiences under cut this feeling of safety[11].

Physiologic or hormonal causes of sexual dysfunction among women are many. These causes can be due to pelvic adhesions, ovarian cysts, fibroid tumors, cervical or uterine abnormalities, skin abnormalities, infection or most commonly, endometriosis[12-14].

Sexual dysfunction negatively affects the quality of life and personal relationships. Moreover, sexual dysfunction is highly associated with negative experiences in sexual relationships and overall wellbeing. Helping to solve sexual dysfunction and increase sexual satisfaction can make a strong contribution to a healthy family and community and can be considered as a main variable in prevention of risky sexual behaviors[15,16]. So, the current study was conducted to assess sexuality pattern and sexual dysfunction and factors affecting sexual satisfaction in women.

Aims of the Study

The aims of the study are to:

1. Assess the prevalence of sexual dysfunction among married women attending family health care centers in Alexandria.
2. Assess risk factors for sexual dysfunction among women attending family health care centers in Alexandria.

Research Questions

1. What is the prevalence of sexual dysfunction among married women attending primary health care settings in Alexandria?
2. What are risk factors for sexual dysfunction among married women attending primary health care settings in Alexandria?

Materials and Method

Materials

Design: The cross sectional descriptive design was adopted to carry out this study.

Setting: The study was carried out at 8 family health care centers rendered primary health care services for women representing the 8 health zones in Alexandria. The selected centers were those with the highest attendance rate.

Zones	Selected family health centers
East	El-Qulea
West	Karmoze
Middle	El Hadara
Al-Montazah	El Mandara
Al-Gomrouk	El-Aml
El Agami	El Dekhela
Borg Al Arab	Baheg
El Ameria	Orabi

Subjects:

- The sample size was estimate using Epi info 7 statistical program using the following parameters; total population (women attending the previously mentioned settings) 90250, prevalence of sexual dysfunction 50%, confidence level 95% and with 5% margin of error. The minimum sample size estimated to be 384 women. The final sample size was 400 women for possible non-response.
- Using the equal allocation method, a convenient sample of 50 women was selected from each of the previously mentioned settings. The total sample size was 400 women.
- **Inclusion criteria:**
  - Married women aged between 18 and 50 years.
  - Willing to participate in the study.

Tools: In order to collect the necessary data for the study five tools were used:

Tool I: Married women' basic data structured interview schedule

It was developed by the researchers to collect the necessary data from women. It included two parts:

First part: Personal and socio-demographic data: It included the age, level of education, occupation, place of residence, income, living condition as well husbands' age, level of education, and occupation.

Second part: Health status data: It included the obstetrical and gynecological health history such as number of parities, and gravity, presence of menstrual problems, use of contraceptive methods, presence of chronic health problems. In addition to husband's current health status and consumption of cigarettes and drugs. Furthermore, it included the sexuality pattern of the women such as frequency of intercourse, satisfaction, and experience of forced intercourse.

Tool II: Arabic version of the Women Sexual Dysfunction Index (FSDI)

It is a brief self-reported scale developed by Rosen R et al. 2000,[17] translated into Arabic and validated by Anis et al 2011[18]. FSDI is a short multidimensional instrument for evaluation of sexual function in women. It is composed of 18 statements forming 6 domains of sexual dysfunction namely; desire (1 item), arousal (4 items), lubrication (4 items) , orgasm (3 items) , satisfaction (3 items) and pain (3 items).The responses to each item were rated on a 5 points frequency scale between 0 and 5. Each domain score was obtained by adding individual items of the domain and multiplying this result by the domain factor (i.e. desire, 0.6; arousal and lubrication, 0.3; orgasm, satisfaction and pain, 0.4). The FSDI total score is determined by the sum of the six domains. The score varies from 2 to 36, where higher scores are associated with the lower degree of sexual dysfunction. The cutoff point for women with sexual dysfunction is $\leq$ 19 (Markus W et al 2005)[19].

Tool III: Women Sexual Distress Scale Revised (FSDS- R)

It is a self-reporting instrument developed by Derogatis L et al. at 2008[20] to measure sexually-related personal distress in women. The FSDS-R lists 12 feelings or problems and asks the respondent to indicate how often each problem has caused distress in the previous 30 days. The FSDS-R contains an additional item that specifically measures distress due to low sexual desire. The total score is determined by summing up the scores of the 12 items. Sexual distress is diagnosed when the FSDS-R total score is ≥ 11 (Derogatis L et al 2002, Revicki D et al 2012) [21,22].

Tool IV: Tool (IV): Kansas Marital Satisfaction Scale (KMSS)

It is a 3 items self-reporting instrument developed by Schumm W et al. 1983[23] to measure the marital quality. The KMSS items are rated on 7 points Likert scale, ranging from 1 (extremely dissatisfied) to 7 (extremely satisfied). The KMSS total score ranges from 3 to 21, with high scores meaning better marital quality. Marital distress is diagnosed when the KMSS total score is ≥ 17 (Schumm W et al 1985, Russel C et al. 2000)[24].

Tool V: Women Experience with Battering (WEB)

It is self-reporting instrument developed by Smith P et al. 1995[25] to describe the women's relationship with their partners and examine the exposure to battering. It contains 10 items rated on 6 points Likert scale, ranging from 1 (strongly disagree) to 6 (strongly agree), giving a total score ranges from 10 to 60, a score of ≥ 19 indicates battering experience (Smith P et al 1999, Smith P et al. 2002)[26,27].

Method

- An official letter from the Faculty of Nursing was directed to the Alexandria Directorate of Health Affairs in order to obtain their approval to carry out the study in the previously mentioned settings.
- Meetings were held with the directors of the selected settings to clarify the purpose of the study and to gain their cooperation and support during data collection.
- Tool (I) was developed by the researchers after reviewing the recent relevant literature. It was validated by juries of (5) experts in the field. Their suggestions and recommendations were taken into consideration.
- Cronbach Alpha Coefficient was used to ascertain the reliability of tool (II), (III), (IV) and (V) after translation into Arabic language, (r =0.89 for tool II, 0.921 for tool III, 0.887 for tool IV and 0.910 for tool V).
- Pilot study was carried out on 40 women who were randomly chosen from a family health care center not included in the sample namely, "Bacos Family Health Care Center" in order to ascertain the relevance, clarity and applicability of the tools, test wording of the questions and estimate the time required for the interview. Based on the obtained results, the necessary modifications were done.
- Data was collected by the researchers during the period from November 2018 to January 2019 (3 months).

Ethical considerations:

- Informed oral consents were obtained from the women after brief explanation of the purpose and nature of the research.
- The anonymity and confidentiality of responses, voluntary participation and right to refuse to participate in the study were emphasized. The researcher explained the objectives of the study to the participants. Privacy was ensured.

Statistical Analysis

After data were collected, they were coded and transferred into specially designed formats so as to be suitable for computer feeding. Following data entry, checking and verification processes were carried out to avoid any errors during data entry, frequency analysis, cross tabulation and manual revision were all used to detect any errors. The statistical package for social sciences (SPSS version 20) was utilized for both data presentation and statistical analysis of the results. The level of significance selected for this study was P equal to or less than 0.05.

Results

Table (1) shows the socio-demographic characteristics of the studied women. It was found that the age of the women ranged from 20 to 50 years with a mean of 32.45±7.203. More than half (54.5%) of them were urban dwellers. Concerning the women' educational level, the table shows that more than one quarter (27.4%) of them were illiterates or could just read and write, while 15.5% of them completed university education. On the other hand, the majority (85.7%) of them were not working, less than three quarters (72.0%) of them reported income sufficiency and only 15.3% of them were from low social level. Moreover, just more than one quarter (25.8%) of the husbands were illiterates or could just read and write, while 20.8% of them completed their university education and the vast majority (97.5%) of them were working. Additionally, the mean women' age at marriage was 21.65±3.245 and the mean duration of marriage was 10.13±7.635. Furthermore, more than half (54.3%) of the women live in nuclear families.

Table (2) shows the distribution of the studied women according to their health-related data. The table reveals that more than three quarters (79.5%) of the women had regular menstruation. While, less than one quarter of them had four times and more of pregnancy and parties (24.3% and 23.0% respectively). Less than three quarters (73.8%) of them had previous normal vaginal deliveries. More than half (56.3%) of them reported current use of contraceptive methods, and less than two thirds (65.5%) of them declared that they were circumcised. Furthermore, 15.0% of the studied women had chronic health problems compared to 20.5% of their husbands. Additionally, the vast majority of the husbands were smokers and only 3.0% of them were consuming alcohol or drugs.

Table (3) portrays the distribution of the studied women according to their sexuality pattern. Regarding the frequency of sexual intercourse, 5.3% of the studied women reported that they have four and more sexual intercourse during the week, while, 12.3% of them mentioned that they have such relation once per week. On the other hand, more than two fifths (42.0%) of the studied women reported poor sexual satisfaction and less than one third (32.0%) of them reported previous experience of forced sexual intercourse. In addition, less than one fifth (16.0%) of the studied women mentioned that their husbands had premature ejaculation and 8.0% of them had erectile disorders.

Figure (1) shows that less than two thirds (60.0%) of the studied women had sexual dysfunction. Less than two thirds (63.0%) of them had dysfunction as pain, and more than one third of them had problems in orgasm, lubrication and desire (34.5%, 39.0% and 36.0% respectively). On the other hand, 45.0% of the studied women were dissatisfied and 51.0% of them had a problem in sexual arousal.

Figure (2) reveals that less than half (48.0%) of the studied women had sexual distress.

Figure (3) portrays that less than one third (32.0%) of the studied women had marital dissatisfaction.

Figure (4) illustrates that less than one quarter (21.0%) of the studied women had exposed to intimate partner violence.

Table (4) shows that sexual dysfunction was more prevalent among women aged from 40 years to 50 years old than those aged less than 30 years (69.0% and 59.7% respectively). Regarding the place of residence, it is evident from the table that sexual dysfunction was more encountered among women from rural areas (64.3%). Additionally, the table reveals that a statistically significant relation was found between the women' level of education and sexual dysfunction (X^2=83.832, P=0.000) where, sexual dysfunction was more common among illiterate women than those who had university education (93.6% and 35.5% respectively). Concerning the women' occupation, it could be observed from the table that sexual dysfunction was higher (60.9%) among non-working than working women (54.4%). The husbands' level of education had a significant impact on sexual dysfunction (X^2=20.915, P=0.000) where, it was more encountered among women whose husbands were illiterate or could just read and write (78.6%) compared to those whose husbands were well-educated (49.4%) .Furthermore, it was observed from the table that sexual dysfunction was much more present among women whose husbands are non-working (80.0%) than working (59.5%). With respect to Women's age at marriage, sexual dysfunction was more prevalent among those who got married at age less than 20 years (68.0%) compared to those who got married at age from 30 to 40 years old (67.7%). A statistically significant relation was observed between age at marriage and sexual dysfunction (X^2=7.452, P=0.024). The table also reveals that sexual dysfunction was more encountered among those whose marriage duration is 15 years and more (68.7%) with a significant relation was detected between sexual dysfunction and duration of marriage (X^2=17.622, P=0.001). Lastly, the table illustrates that sexual dysfunction was higher among women who reported income insufficiency and those from lower social level (78.6% and 70.5% respectively). Both women income sufficiency and social level had a significant impact on the occurrence of sexual dysfunction (X^2=22.355, P=0.000, X^2=39.019, P=0.000 respectively).

Table (5) shows the relation between the sexual dysfunction and health related data. The table portrays that sexual dysfunction was more encountered among women with irregular menstruation (76.8%) with a statistically significant relation between sexual dysfunction and regularity of menstruation (X^2=12.172, P=0.001). Moreover, the table shows that the higher the number of women gravida and parties, the higher the level of sexual dysfunction, since sexual dysfunction was more encountered among women who had four and more times of pregnancy and delivery (68.0% and 71.7% respectively), with statistically significant relations between the number of gravidas and parities and sexual dysfunction (X^2=17.268, P=0.001, and X^2=17.840, P=0.001 respectively).

Moreover, sexual dysfunction was more prevalent among women with history of vaginal delivery (66.8%) than those with cesarean section (41.0%) with a statistically significant relation between sexual dysfunction and mode of delivery (X^2=21.523, P=0.000). It could be observed from the table that sexual dysfunction was less prevalent among women who reported use of contraceptive methods (41.8%) with a statistically significant relation between sexual dysfunction and use of contraceptives (X^2=71.153, P=0.000). However, it was more encountered among women who were circumcised, obese, and those who have chronic health problems (64.9%, 70.5% and 61.7% respectively) with statistically significant relations between experience of Women genital mutilation, body mass index and sexual dysfunction (X^2=7.553, P=0.006, and X^2=10.117, P=0.018 respectively). The same table also portrays that sexual dysfunction was higher among women who reported that their husbands have chronic health problems, were smokers and those

who take drugs or alcohol (61.0%, 61.6%, and 66.7% respectively).

Table (6) portrays the relation between Women sexual dysfunction and their sexuality pattern. It was noticed that the frequency of sexual intercourse had a significant impact on sexual dysfunction (X^2=22.525, P=0.000), where sexual dysfunction was less encountered (19.0%) among those who have four and more sexual intercourse per week. Additionally, the table reveals that sexual dysfunction was more present among women who reported sexual dissatisfaction (83.3%), with a statistically significant relation between the perceived satisfaction in intercourse and sexual dysfunction (X^2=87.043, P=0.000). Moreover, sexual dysfunction was more prevalent among women who reported experience of forced intercourse than those who do not (85.9% and 47.8% respectively) with a statistically significant relationship between experience of forced intercourse and sexual dysfunction (X^2=52.765, P=0.000). Lastly, the table shows that distress was more prevalent among women who reported that their husbands have erectile disorders and premature ejaculation (62.5% and 78.1% respectively). A significant relation was found between the presence of husbands' premature ejaculation and sexual dysfunction (X^2=10.429, P=0.001).

Table (7) illustrates the relationship between women sexual dysfunction and their sexual distress, marital satisfaction and exposure to intimate partner violence. It was noticed that sexual dysfunction was more encountered among women with sexual distress, those with marital dissatisfaction and those who exposed to intimate partner violence (79.7%, 73.5% and 61.9% respectively). Statistically significant relations were found between sexual dysfunction and sexual distress and marital satisfaction (X^2=59.630, P=0.000, and X^2=64.828, P=0.000 respectively).

Table (8) shows a correlation matrix between women sexual dysfunction and their sexual distress, marital satisfaction and exposure to intimate partner violence. Statistically significant correlations were found between sexual dysfunction and sexual distress and intimate partner violence (r=0.776, P=0.000 and r=0.425, P=0.000 respectively), while a negative significant correlation was noticed between sexual dysfunction and marital satisfaction (r= - 0.812, P=0.000). On the other hand, a negative significant correlation was noticed between marital satisfaction and intimate partner violence (r= - 0.540, P=0.000).

Table (9) illustrates the correlates of sexual dysfunction among the studied women. It was explored using regression analysis (Enter method) with sexual dysfunction as the dependent variable. The R^2 value is 0.332 which means that only 33.2% of the variability in the outcome is explained by the studied characteristic in the model. The table reveals that several variables were found to predictors of sexual dysfunction such as age at marriage (P=0.052), duration of marriage (P=0.000), income (P=0.013), social level (P=0.000), number of gravidas (P=0.000), number of parties (P=0.000), mode of delivery (P=0.000), frequency of intercourse (P=0.000), and satisfaction with intercourse (P=0.000).

Discussion

Sexual desire, activity and satisfaction are recognized as one of the most important dimensions in human life. It is an integral part of every person's personality[28]. Sexuality represents an important and crucial aspect of every Women life. Women sexual dysfunction is a common problem with significant impact on women, their relationships as well as their overall quality of life. According to recent epidemiological studies, the prevalence of Women sexual dysfunction ranged from 26.6% to 63% worldwide[28-30].

The current study found that less than two thirds of the studied women had sexual dysfunction. This finding comes in line with

the results of Ibrahim Z et al. 2012, El Tahlwai S et al. 2018, and Ismail S et al. 2017[10,31,32] who found that around two thirds of the studied subjects suffered from sexual dysfunction. On the other hand, lower prevalence rates were also reported in other Middle East countries such as Iran (46.2%), Saudi Arabia (48.9%), and Turkey (43.4%). The reasons of this difference may be related to the cultural, educational, and socioeconomic differences between the study populations. Additionally, Stamatiou, K et al. 2016[28], noted an overall prevalence of the following disorders: desire disorders 5-46%; arousal disorders 7-10% and orgasmic disorders 7-10%.

Women sexual function may be affected by several interpersonal, psychological, physiological, medical, social, and cultural factors. The current study found that several factors were significantly correlated with the studied women' sexual dysfunction such as age of marriage, duration of marriage, type of family, income and social class, sexual relation related factors such as frequency of intercourse, satisfaction level, presence of husbands' sexual problems. These findings were in line with those of McCabe M et al. 2016, Thomas H et al. 2016, McCool M et al. 2014, Abdo C et al. 2010 and Aggarwal R et al. 2012[6,33-36].

With respect to the women' age, the current study found that sexual dysfunction was higher among those aged from 40 to 50 years old and those aged from 20 to less than 30 years in comparison to those aged from 30 to less than 40 years. The possible explanation for this finding is that women in their 30s may show fewer symptoms of dysfunction as they learn more about their preferences and become more comfortable accepting and expressing their sexuality. Another explanation of the increase of the sexual dysfunction occurrence with the progressing age is thought to be related with the hormonal changes during the pre-menopause and menopause period. With the reduced estrogen levels in the circulatory system, various levels of vaginal atrophy and dryness occur as well sexual arousal become slower. Moreover, emotional changes due to hormonal changes, can increase feelings of stress, which also can change interest in sex. The same results were reported by McCool M et al. 2018 and Sandoval V et al. 2014[37,38] who found a U-shaped prevalence of sexual dysfunction, with younger and older women being most affected. Contrary to the current study findings, the results of Banaei M et al. 2018, and Kilic M 2019 who found no effect of age on the occurrence of Women sexual dysfunction[39,40].

In relation to level of education and employment of the women, the current study found that sexual dysfunction was more encountered among those who are not working and of lower education level. These findings could be attributed to that illiterate and nonworking women may have lack of awareness about their sexual needs and rights and how to express it. Such women tend to feel more disappointed with their marital and sexual relationships which may lead to poor sexual functioning. Additionally, the effect of stress on sex hormones may affect the Women sexual life. Similar results were reported by Banaei M et al. 2018, Kilic M 2019 and Kim H et al. 2013[39-41]. On the other hand, McCool M et al. 2018 [37] found that higher education and employments were risk factors for sexual dysfunction; where, women with higher education level may have a tendency towards breaking the taboos and openly revealing their sexual problems and those employed women may have access to several information sources which helps them to expand their awareness on the problem of sexual dysfunction and ways of management.

Regarding the husbands' age, level of education and occupation, the current study found that sexual dysfunction was higher among women whose husband's age ranged from 50 to 60 years, with lower educational levels and non-working. These findings may

be contributed to the stress and poverty associated with poor education and unemployment which in turn affect the quality of life and interpersonal relationship between the couples and thus affect their sexual relations. Additionally, as the men's age progress, the hormonal and physiological changes associated with senility may affect their sexual desire and performance and thus may contribute to sexual dissatisfaction and dysfunction. This interpretation was portrayed in the current study findings where Women sexual dysfunction was more encountered among those who reported husband's health problems such as chronic diseases, erectile disorders and premature ejaculation. The same findings were reported by Lewis R et al. 2010, and Maseroli E et al. 2016[42,43] who found that partners' characteristics such as age, level of education and type of employment, in addition to presence of chronic diseases and erectile dysfunction are among determinants of women sexual dysfunction.

Moreover, the consumption of cigarettes, alcohol or drugs are associated with damages in the blood circulation in many organs, leading to a host of related health problems including heart disease, hypertension and stroke and sexual problems such as erectile problems and low sexual desire, which all affect the sexual life of both partners and may contribute to sexual dysfunction[44]. The same picture was portrayed in the current study findings where women sexual dysfunction was more encountered among those whose husbands were smokers and/or consuming alcohol and/or drugs. These findings come in line with those of McCool M et al. 2018 and Maseroli E et al. 2016[37,43] who found that significant relationship between smoking and drug addiction and sexual dysfunction.

With respect to the place of residence, the current study finding reveals that Women sexual dysfunction was more prevalent among rural women and those with extended families, which may be explained by the inability of women in such conservative communities to express or discuss their sexual needs increasing the probability of sexual dysfunction. Similar findings were reported by Ismail S et al. 2017[32] who found that Women sexual dysfunction was more common among women who were living in rural communities. In contrast, Ibrahim Z et al. 2012[10] found no significant correlation between Women sexual dysfunction and residence and this contract may be attributed to cultural, educational and socio-economic differences between urban and rural communities.

Concerning the income and social level, the current study found that Women sexual dysfunction was more encountered among poor women and those reported income insufficiency. Similar findings were reported by McCool M et al. 2018 and Kilic M 2019[37,40]. These findings may be attributed to that poverty is associated with stress and worries about life demands which may affect the sexual pattern of the couples. Moreover, those poor couples may have extra working hours which leave little time for love and romance. Furthermore, poverty is a major cause of ill health and a barrier to accessing health care when needed as well it causes lack of information on appropriate health-promoting practices or lack of voice needed to express needs and problems.

Concerning the age at marriage, the current study finding reveals that Women sexual dysfunction was more present among those married at age less than 20 years old, which could be explained by shyness, embarrassment and lack of sexual education of young women. In the same line, the findings of Ibrahim Z et al. 2012 and Ismail S et al. 2017[10,32] who reported high prevalence of Women sexual dysfunction in those who got married at young age.

Regarding the duration of marriage, the current study found that the more the duration of marriage, the higher percentage of Women sexual dysfunction, which could be attributed to the growing age of both

husband and wife and the age-related physiological changes that may affect their sexuality. In addition to lack of privacy in the presence of growing children which was noticed in the current study findings were sexual dysfunction was more common among those with high parities. Similar findings were reported by Khani A 2013 and Isamail S et al. 2012[7,32] whose results showed increased prevalence of Women sexual dysfunction in women married for more than 10 years.

Furthermore, the current study found that the number of parities and the type of delivery had a significant role in Women sexual dysfunction as it was more encountered among those with increased number of parties and with vaginal deliveries. The pelvic floor muscles play an important role for sexual pleasure. Physical changes in Women genitalia caused by childbirth, perineal trauma caused by episiotomy may affect the muscles and in turn may lessen the sexual pleasure and contribute to sexual dysfunction. In the same line, Asselmann E et al. 2016, Song M et al. 2014[45,46] found that vaginal delivery is associated with higher rates of Women sexual dysfunction.

Several periods of hormonal changes in the women' lives such as menstruation, pregnancy, postpartum, menopause, and abortion affect their sexual performance. This is true, as the current study found that Women sexual dysfunction was more encountered among those who were reported irregularities in menstruation, history of abortion or obstetrical and gynecological problems. The same findings were reported by Khani A 2013 and Ibrahim Z et al. 2012[7,10] whose results showed increased prevalence of Women sexual dysfunction in women with irregular menstruation and repeated abortion.

With respect to the use of contraceptives, the current study found that Women sexual dysfunction was more prevalent among women who did not use contraceptive methods. Possible explanation is that using contraception may reduce anxiety resulted from unintended pregnancy during sexual intercourse and may had a positive effect on woman's sexual function. Similar finding was reported by Christensen B et al. 2010 and Burri A et al. 2011[47,48] who found a significant correlation between using modern contraceptive methods and Women sexual dysfunction.

The impact of female mutilation cutting on the lives of women and girls is enormous, as it often affects both their psychology and physical being. Among the complications that are often under-reported and not always acknowledged is women sexual dysfunction which is often occurs in tandem with chronic urogenital pain and anatomical disruption due to perineal scarring[49]. The current study found that women sexual dysfunction was higher among women who had women genital mutilation. This finding concurs with both Mahmoud M 2016, and Lurie J et al. 2020[50,51]. This could be explained by the fibrosis and rigid scar tissue following female genital mutilation which predisposes to narrowing of the vaginal orifice and muscular spasm which makes intercourse painful and difficult. These physical factors will predispose to psychological one, where the painful experience will drive women to lose both sexual desire and satisfaction.

With respect to the frequency of intercourse and satisfaction level after sexual relationship, the current study findings reveal that Women sexual dysfunction was higher among women who reported lesser sexual intercourse and those perceived poor satisfaction after relationships. In the same line Zhange H et al. 2015[52] where increased frequency of sexual intercourse was found to have a protective effect on women sexuality.

In general, people get married for specific purposes such as finding meaning in life and loving for a better quality of marital life. It is worth noting that continuation of marriage may depend on factors like marital relationship; because matrimony is more successful when spouses establish a sense of satisfaction with each other[53]. The current

study found that more than two thirds of the studied women expressed marital satisfaction. In the same context, the findings of Belal G et al. 2016 and Pejman M et al. 2017[54,55] who found that around half of the studied women had marital satisfaction.

Indeed, marital satisfaction is influenced by many factors, for example, safe and pleasurable sexual relationship is mentioned to be one of the most important factors for marital satisfaction. Sexual satisfaction serves as rewards as well as positive interactive experiences to make important contributions to couples' positive evaluations on marriages. The same picture was portrayed in the current study finding, where among those with sexual dysfunction, less than three quarters of the studied women had marital dissatisfaction with a statistically significant relationship between marital satisfaction and sexual dysfunction. These findings could be attributed to that those who were satisfied with their sexual relations tended to be satisfied and happy with their marriages, and better marital quality, in turn, helped reduce marital instability. Similar findings were reported by Khazaei M et al. 2011 and Takbiri A et al. 2017[56,57] who found that marital satisfaction was significantly related to sexual satisfaction.

Intimate partner violence is a hidden problem especially in the Arabian countries. Intimate partner violence among women is compounded by cultural norms, which prevent women from reporting cases of abuse for fear of social stigma[58]. The current study finding reveals that less than one quarter of the studied women reported exposure to violence from their husbands. This finding is in line with those of Fageeh W 2014 and El doseri H et al. 2014[59,60] who found that around one third of the women exposed to domestic violence. Moreover, Lee S et al. 2017[61] found that more than two fifths of the studied women exposed to intimate partner violence during pregnancy especially emotional violence.

Sexual activity and satisfaction are considered to be one of the most basic features of human life. Sexual satisfaction as one of the physiological needs, brings health and consequently, dissatisfaction and physical and mental pressures caused by it can lead anybody astray[62,63]. Sexual disorders can cause sexual dissatisfaction and can even affect marital and family relations as time passes which considered a risk factor for exposure to intimate partner violence[4,64]. These could explain the results of the current study which found that less than two thirds of the studied women who exposed to intimate partner violence had sexual dysfunction. This finding was in congruent with those of Soohinda S 2018, and Mohammed G et al. 2015[65,66] who found an association between sexual disorders and exposure to domestic violence.

Conclusion

Based upon the findings of the current study, it could be concluded that Women sexual dysfunction is a prevalent problem among the studied women where less than two thirds of them had sexual dysfunction. Additionally, statistically significant relationships were found between the presence of sexual dysfunction and marital satisfaction, and exposure to intimate partner violence. Furthermore, several factors were significantly correlated with sexual dysfunction such as age at marriage, duration of marriage, presence of health problems, husbands' sexual problems, income and social level.

Recommendations

In line with the findings of the study, the following recommendations are made:

- Sex education should be introduced as a viable course in the educational curriculum to prevent sexual problems among the youth.

- Marital counseling should be introduced as a general course in higher institutions of learning to prepare would-be couples for the task of inculcating a positive sexual behavior.
- Couples should be enlightened on the need to discuss sex freely and orientated on how to overcome psychological confusion and other sources of fear that may result from couple's experience of sexual dysfunction.
- Seeking professional assistance from marital counselors is imperative for couples who experience any form of sexual dysfunction at any stage of their marital relationship.

Table (1): Distribution of the Studied Women according to Their Socio Demographic Characteristics

Items	Total N= 400	
	No.	%
Age (years)		
- 20-	181	45.2
- 30-	148	37.0
- 40+	71	17.8
X ± SD	32.45 ±7.203	
Religion		
- Muslims	385	96.2
- Christians	15	3.8
Place of residence		
- Urban	218	54.5
- Rural	182	45.5
Wife's level of education		
- Illiterate / read & write	110	27.4
- Completed basic education	54	13.6
- Completed secondary / technical education	174	43.5
- Completed university education and more	62	15.5
Wife's occupation		
- Working	57	14.3
- Non-working (housewife)	343	85.7
Husband's age		
- 30-	156	39.0
- 40-	191	47.8
- 50-60	53	13.2
X ± SD	42.43 ± 6.754	
Husband's level of education		
- Illiterate / read & write	103	25.8
- Completed basic education	34	8.4
- Completed secondary / technical education	180	45.0
- Completed university education and more	83	20.8
Husband's occupation		
- Working	390	97.5
- Non-working	10	2.5
Wife's age at marriage(year)		
- <20	75	18.7
- 20-	232	58.0
- 30-40	93	23.3
X ± SD	21.65±3.245	
Duration of marriage (year)		
- <5	151	37.8
- 5-	68	17.0
- 10-	66	16.5
- 15+	115	28.7
X ± SD	10.13±7.635	
Type of family		
- Nuclear	217	54.3
- Extended	183	45.7
Income sufficiency		
- Enough	288	72.0
- Not enough	112	28.0
Family social level		
- Low	61	15.3
- Middle	250	62.5
- High	89	22.3

Table (2): Distribution of the Studied Women according to Their Health-Related Data

Items	Total N=400	
	No.	%
Regularity of menstruation		
- Yes	318	79.5
- No	82	20.5
Number of gravidas		
- Once	28	7.0
- Twice	142	35.5
- Three times	133	33.3
- Four time and more	97	24.3
Number of parities		
- Once	26	6.5
- Twice	142	35.5
- Three times	130	32.5
- Four time and more	92	23.0
Experience of abortion		
- Yes	10	2.5
- No	390	97.5
Mode of delivery		
- Normal	295	73.8
- Caesarian	105	26.2
Contraceptive use		
- Yes	225	56.3
- No	175	43.7
Presence of obstetrical / gynecological problems		
- Yes	74	18.5
- No	326	81.5
Presence of FGM		
- Yes	262	65.5
- No	138	34.5
Presence of chronic health problems		
- Yes	60	15.0
- No	340	85.0
Body mass index		
- Underweight	31	7.8
- Normal weight	169	42.3
- Over weight	122	30.5
- Obesity	78	19.5
Presence of husbands' chronic health problems		
- Yes	82	20.5
- No	318	79.5
Husbands' smoking		
- Yes	372	93.0
- No	28	7.0
Husbands' consumption of drugs or alcohol		
- Yes	12	3.0
- No	388	97.0

Table (3): Distribution of the Studied Women according to Their Sexual Pattern

Items	Total N=400	
	No.	%
Frequency of intercourse (per week)		
- Rarely	14	3.5
- Once	49	12.3
- Twice	221	55.3
- Three times	95	23.7
- Four times and more	21	5.3
Satisfaction in intercourse		
- Poor	168	42.0
- Fair	137	34.2
- Good	95	23.8
Experience of forced intercourse		
- Yes	128	32.0
- No	272	68.0
Presence of husband's erectile disorder		
- Yes	32	8.0
- No	368	92.0
Presence of husbands' premature ejaculation		
- Yes	64	16.0
- No	336	84.0

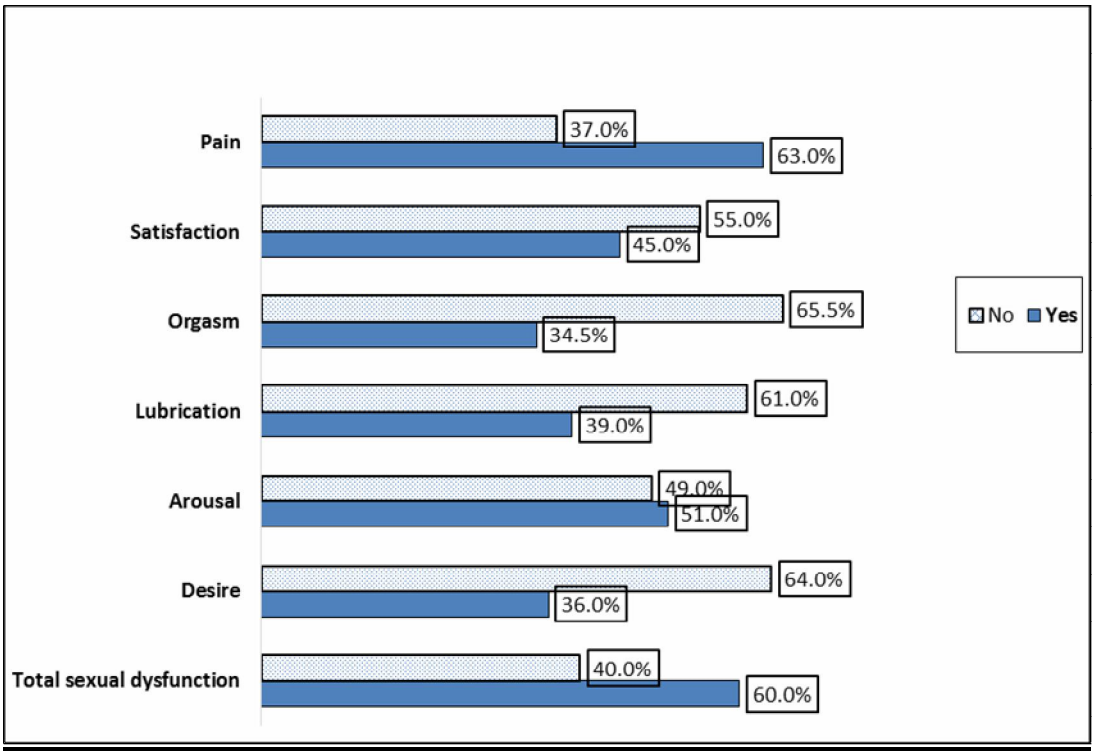

Figure (1): Distribution of the Studied Women according to the Sexual Disorder

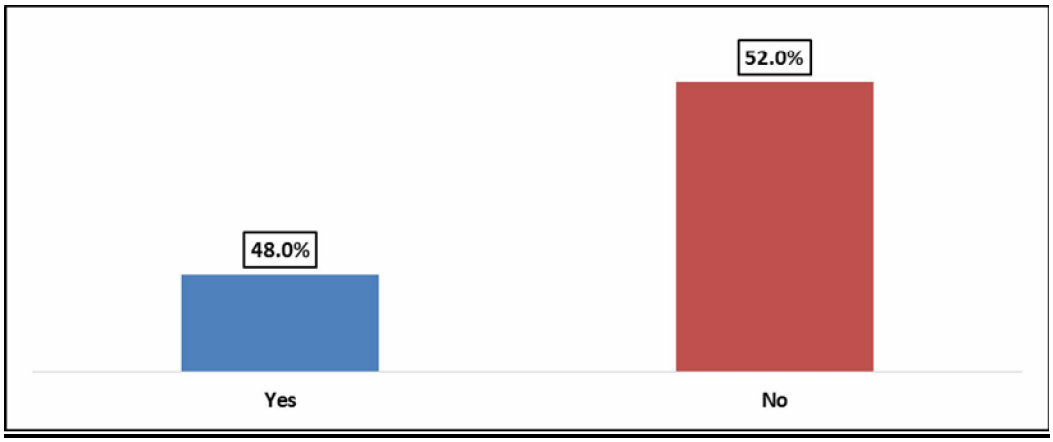

Figure (2): Distribution of the Studied Women according to the Presence of Sexual Distress

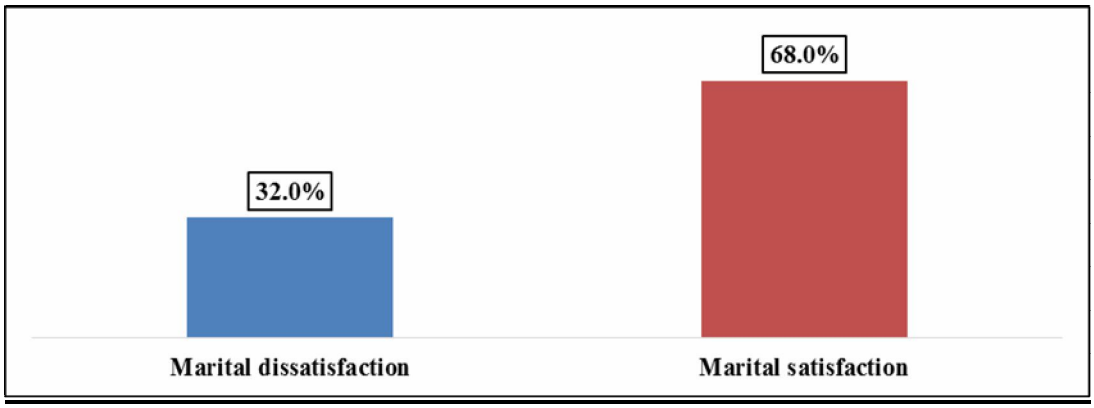

Figure (3): Distribution of the Studied Women According to Their Marital Satisfaction

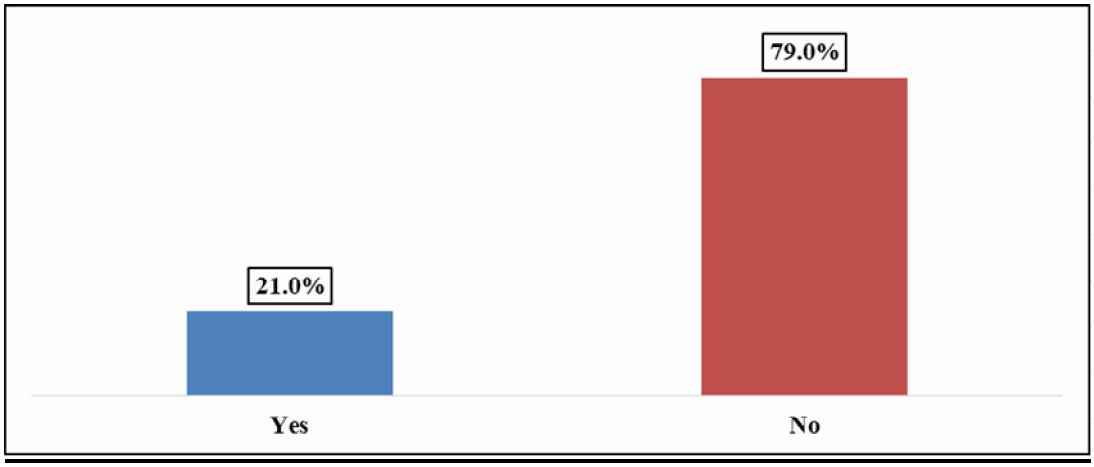

Figure (4): Distribution of the Studied Women according to The Presence of Sexual Dysfunction

Table (4): The Relation between Studied Women' Sexual Dysfunction and Their Demographic Characteristics

Items	Sexual Dysfunction				Total N=400		Test of significance
	No (N=160)		Yes (N=240)				
	No.	%	No.	%	No.	%	
Age							
- 20-	73	40.3	108	59.7	181	45.2	X^2=3.359
- 30-	65	43.9	83	56.1	148	37.0	P=0.187
- 40-50	22	31.0	49	69.0	71	17.8	
Place of residence							
- Urban	95	43.6	123	56.4	218	54.5	X^2= 2.556
- Rural	65	35.7	117	64.3	182	45.5	P=0.109
Wife's level of education							
- Illiterate / read & write	7	6.4	103	93.6	110	27.4	X^2= 83.832
- Basic education	18	33.3	36	66.7	54	13.6	P=0.000*
- Secondary / technical education	95	54.6	79	45.4	174	43.5	
- University education and more	40	64.5	22	35.5	62	15.5	
Wife's occupation							
- Working	26	45.6	31	54.4	57	14.3	X^2= 0.873
- Non-working	134	39.1	209	60.9	343	85.7	P=0.350
Husband's age							
- 30-	70	44.9	86	55.1	156	39.0	X^2= 6.837
- 40-	77	40.3	114	59.7	191	47.8	P=0.033*
- 50-60	13	24.5	40	75.5	53	13.2	
Husband's level of education							
- Illiterate / read & write	22	21.4	81	78.6	103	25.8	X^2= 20.915
- Basic education	15	44.1	19	55.9	34	8.4	P=0.000*
- Secondary / technical education	81	45.0	99	55.0	180	45.0	
- University education and more	42	50.6	41	49.4	83	20.8	
Husband's occupation							
- Working	158	40.5	232	59.5	390	97.5	X^2= 1.709
- Non-working	2	20.0	8	80.0	10	2.5	P=0.191
Wife's age at marriage(year)							
- <20	24	32.0	51	68.0	75	18.7	X^2= 7.452
- 20-	106	45.7	126	54.3	232	58.0	P=0.024*
- 30-40	30	32.3	63	67.7	93	23.3	
Duration of marriage (year)							
- <5	53	35.1	98	64.9	151	37.8	X^2= 17.622
- 5-	41	60.3	27	39.7	68	17.0	P=0.001*
- 10-	30	45.5	36	54.5	66	16.5	
- 15+	36	31.3	79	68.7	115	28.7	
Type of family							
- Nuclear	103	47.5	114	52.5	217	54.3	X^2= 11.015
- Extended	57	31.1	126	68.9	183	45.7	P=0.001*
Income sufficiency							
- Enough	136	47.2	152	52.8	288	72.0	X^2= 22.355
- Not enough	24	21.4	88	78.6	112	28.0	P=0.000*
Family social level							
- Low	18	29.5	43	70.5	61	15.3	X^2= 39.019
- Middle	81	32.4	169	67.6	250	62.5	P=0.000*
- High	61	68.5	28	31.5	89	22.3	

X^2 Chi Square Test ***** *Statistically significant at P ≤0.05*

Table (5): The Relation between Studied Women' Sexual Dysfunction and Health-Related Data

Items	Presence of Sexual Dysfunction				Total N=400		Test of significance
	No (N=160)		Yes (N=240)				
	No.	%	No.	%	No.	%	
Regularity of menstruation							
- Yes	141	44.3	177	55.7	318	79.5	X^2=12.172
- No	19	23.2	63	76.8	82	20.5	P=0.001*
Number of gravidas							
- Once	21	75.0	7	25.0	28	7.0	X^2= 17.268
- Twice	58	40.8	84	59.2	142	35.5	P=0.001*
- Three times	50	37.6	83	62.4	133	33.3	
- Four time and more	31	32.0	66	68.0	97	24.3	
Number of parities	N= 150		N= 240		N= 390		
- Once	19	73.1	7	26.9	26	6.5	X^2= 17.840
- Twice	58	40.8	84	59.2	142	35.5	P=0.001*
- Three times	47	36.2	83	63.8	130	32.5	
- Four time and more	26	28.3	66	71.7	92	23.0	
Experience of previous abortion	N= 160		N= 240		N= 400		
- Yes	2	20.0	8	80.0	10	2.5	X^2= 1.709
- No	158	40.5	232	59.5	390	97.5	P=0.191
Mode of delivery							
- Normal	98	33.2	197	66.8	295	73.8	X^2= 21.523
- Caesarian	62	59.0	43	41.0	105	26.2	P=0.000*
Contraceptive use							
- Yes	131	58.2	94	41.8	225	56.3	X^2= 71.153
- No	29	16.6	146	83.4	175	43.7	P=0.000*
Presence of obstetrical / gynecological problems							
- Yes	25	33.8	49	66.2	74	18.5	X^2= 1.462
- No	135	42.7	191	57.3	326	81.5	P=0.227
Experience of FGM							
- Yes	92	35.1	170	64.9	262	65.5	X^2= 7.553
- No	68	49.3	70	50.7	138	34.5	P=0.006*
Presence of chronic diseases							
- Yes	23	37.3	37	61.7	60	15.0	X^2= 0.0817
- No	137	40.3	203	59.7	340	85.0	P=0.775
Body mass index							
- Underweight	16	51.6	15	48.4	31	7.8	X^2= 10.117
- Normal weight	79	46.7	90	53.3	169	42.3	P=0.018*
- Over weight	42	34.4	80	65.6	122	30.5	
- Obesity	23	29.5	55	70.5	78	19.5	
Presence of husbands' chronic health problems							
- Yes	32	39.0	50	61.0	82	20.5	X^2= 0.041
- No	128	40.3	190	59.7	318	79.5	P=0.839
Husbands' smoking							
- Yes	143	38.4	229	61.6	372	93.0	X^2= 5.383
- No	17	60.7	11	39.3	28	7.0	P=0.020*
Husbands' consumption of drugs or alcohol							
- Yes	4	33.3	8	66.7	12	3.0	X^2= 0.229
- No	156	40.2	232	59.8	388	97.0	P=0.632

X^2 Chi Square Test ****** Statistically significant at P ≤0.05***

Table (6): The Relation between Studied Women' Sexual Dysfunction and Their Sexuality Pattern

Items	Presence of Sexual Dysfunction				Total N=400		Test of significance
	No (N=160)		Yes (N=240)				
	No.	%	No.	%	No.	%	
Frequency of sexual intercourse (per week)							
- Rarely	3	21.4	11	78.6	14	3.5	X^2=22.525
- Once	14	28.6	35	71.4	49	12.3	P=0.000*
- Twice	81	36.7	140	63.3	221	55.3	
- Three times	45	47.4	50	52.6	95	23.7	
- Four times and more	17	81.0	4	19.0	21	5.3	
Perceived satisfaction in intercourse							
- Poor	28	16.7	140	83.3	168	42.0	X^2= 87.043
- Fair	61	44.5	76	55.5	137	34.2	P=0.000*
- Good	71	74.7	24	25.3	95	23.8	
Experience of forced intercourse							
- Yes	18	14.1	110	85.9	128	32.0	X^2= 52.765
- No	142	52.2	130	47.8	272	68.0	P=0.000*
Husband's erectile disorder							
- Yes	12	37.5	20	62.5	32	8.0	X^2= 0.091
- No	148	40.2	220	59.8	368	92.0	P=0.763
Husbands' premature ejaculation							
- Yes	14	21.9	50	78.1	64	16.0	X^2= 10.429
- No	146	43.5	190	56.5	336	84.0	P=0.001*

X^2 Chi Square Test ****** Statistically significant at P ≤0.05***

Table (7): The Relation between Studied Women' Sexual Dysfunction and Their Sexual Distress, Marital Satisfaction and Exposure to Intimate Partner Violence

Items	Presence of Sexual Dysfunction				Total N=400		Test of significance
	No (N=160)		Yes (N=240)				
	No.	%	No.	%	No.	%	
Sexual distress							
- Yes	39	20.3	153	79.7	192	48.	X^2=59.630
- No	121	58.2	87	41.8	208	52.0	P=0.000*
Marital satisfaction							
- Yes	88	68.7	40	31.3	128	32.0	X^2= 64.828
- No	72	26.5	200	73.5	272	68.0	P=0.000*
Exposure to intimate partner violence							
- Yes	32	38.1	52	61.9	84	21.0	X^2= 0.161
- No	128	40.5	188	59.5	316	79.0	P=0.688

X^2 Chi Square Test ****** Statistically significant at P ≤0.05***

Table (8): Correlation Matrix between the Studied Women' Scores of Sexual Dysfunction, Sexual distress, Marital Satisfaction and Exposure to Intimate Partner Violence Scores

		Sexual dysfunction	Sexual distress	Marital satisfaction	Intimate Partner Violence
Sexual dysfunction	**r**				
	p				
Sexual distress	**r**	0.776			
	p	0.000*			
Marital satisfaction	**r**	- 0.812	- 0.614		
	p	0.000*	0.000*		
Intimate Partner Violence	**r**	0.425	0.310	- 0.540	
	p	0.000*	0.000*	0.000*	

r = Pearson correlation ** Significant p at P≤0.05* *r ≥0.9 very high correlation*
r 0.7-<0.9 high correlation *r 0.5-<0.7 moderate correlation* *r < 0.5 low correlation*

Table (9): Correlates of Studied Women' Sexual Dysfunction Through Regression Analysis (Enter method)

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	12.976	0.798		16.251	0.000
Women age	1.158	2.295	0.053	0.548	0.585
Husband's age	1.021	0.194	0.272	5.211	0.000*
Age at marriage	0.175	0.283	0.069	1.948	0.052*
Duration of marriage	0.760	0.223	4.011	4.974	0.000*
Income	0.400	0.320	1.561	1.025	0.013*
Social level	0.590	0.295	4.011	6.645	0.000*
Type of family	0.150	0.335	0.201	6.795	0.000*
Regularity of menstruation	0.448	0.287	2.428	2.637	0.010*
Number of gravidas	0.314	0.209	2.253	2.959	0.000*
Number of parities	0.436	0.324	1.817	4.869	0.000*
Mode of delivery	0.507	0.318	2.534	1.142	0.006*
Use of contraceptives	0.157	0.032	0.310	3.866	0.010*
Experience of FGM	0.106	0.054	0.121	1.235	0.007*
Presence of obesity	0.328	0.872	2.317	5.174	0.000*
Frequency of sexual intercourse	1.985	0.885	2.725	4.141	0.000*
Satisfaction with intercourse	0.202	0.307	0.214	2.113	0.000*
Experience of forced intercourse	2.397	0.516	0.852	8.327	0.000*
Husband's premature ejaculation	0.389	0.074	0.362	6.601	0.001*
Husband's erectile disorder	2.010	1.023	0.101	1.965	0.051*

Model X^2= 408.78, P < 0.0001 *Cox & Snell R^2 = 0.433* ** Significant at P ≤ 0.05*

References

1. Asaju K, Adagba S. Women Participation in National Development in Nigeria: The Imperative of Education. Journal of Public Administration and Governance. 2013;3(1): 57-62.

2. Rahmani A, Merghati Khoei E, Sadeghi N, Allahgholi L. Relationship between sexual pleasure and marital satisfaction. Iran Journal of Nursing. 2011; 24(70): 82-90.

3. Aydin M, Neval C, Mustafa K, Lokman I, Mustafa K, Muammer K. Comparison of Sexual Functions in Pregnant and Non-Pregnant Women. Urology journal. 2015;12 (5): 23-41.

4. Poornowrooz N, Jamali S, Haghbeen M, Javadpour S, Sharifi N, Mosallanezhad Z. The comparison of violence and sexual function between Fertile and infertile women: A study from Iran. Journal of Clinical and Diagnostic Research. 2019;13(1):1-15.

5. Taavoni S, Haghani H. Sexual satisfaction and marital satisfaction in 45-65-year-old men in the north of Tehran. Journal of Men's Health. 2010; 7(3): 284–284.

6. McCabe M, Sharlip I, Lewis R, Atalla E, Balon R, Fisher A, et al. Incidence and prevalence of sexual dysfunction in women and men: A consensus statement from the fourth international consultation on sexual medicine 2015. The Journal of Sexual Medicine. 2016; 13(2): 144-52.

7. Khani A, Jaafarpour M, Suhrabi Z, Khajavikan J. Women Sexual Dysfunction: Prevalence and Risk Factors. Journal of Clinical and Diagnostic Research. 2013; 7(1): 278-87.

8. Ismail S, Sayed D, Abusikkin I. Prevalence and risk factors for women sexual dysfunction in Saudi women. Egyptian Journal of Dermatology and Venerology. 2012; 32(2):53 -66.

9. Elnashar AM, El-Dien Ibrahim M, El-Desoky MM, Ali OM, El-Sayd Mohamed Hassan M. Female sexual dysfunction in Lower Egypt. BJOG. 2007;114(2):201-6.

10. Ibrahim Z, Ahmed M, Ahmed W. Prevalence and risk factors for Women sexual dysfunction among Egyptian women. Archives of Gynecology and Obstetrics. 2012; 287(6): 1173–80.

11. Jamali S. The impact of intimate male partner violence on women's sexual function: A study in Iran. Journal of Clinical and Diagnostic Research. 2016; 10(11):29-33.

12. Alahveriani K, Rajaie H, Shakeri Z, Lohrasbi A. Studying the relationship between sexual disorder and marriage satisfaction in those suffering from depression. Procedia-Social and Behavioral Sciences. 2010; 5: 1672–5.

13. Sevinç M, Garip E. A study of parents' child raising styles and marital harmony. Procedia - Social and Behavioral Sciences. 2010; 2(2): 1648–53.

14. Kalantarkousheh S, Hassan S. Function of life meaning and marital communication among Iranian spouses in Universiti Putra Malaysia. Procedia - Social and Behavioral Sciences. 2010; 5: 1646–9.

15. Sungur M, Gündüz A. A comparison of DSM‐IV‐TR and DSM‐5 definitions for sexual dysfunctions: Critiques and challenges. The journal of sexual medicine. 2014; 11(2): 364-73.

16. Shamu S, Abrahams N, Temmerman M, Musekiwa A, Zarowsky C. A Systematic Review of African Studies on Intimate Partner Violence against Pregnant Women: Prevalence and Risk Factors. PLoS ONE. 2011; 6(3): e17591.

17. Rosen R, Brown C, Heiman J, Leiblum S, Meston C, Shabsigh R. The Women Sexual Function Index (FSFI): A multidimensional self-report instrument for the assessment of Women sexual function. Journal of Sex & Marital Therapy. 2000; 26: 191–208.

18. Anis T, Gheit S, Saied H, Al kherbash S. Arabic translation of Women sexual function index and validation in an Egyptian population. The Journal of Sexual Medicine. 2011; 8(12): 3370-8.

19. Markus W, Meston C, Rosen R. The Women Sexual Function Index (FSFI): Cross-Validation and Development of

Clinical Cutoff Scores. Journal of Sex & Marital Therapy. 2005; 31:1-20.

20. DeRogatis L, Clayton A, Lewis-D'Agostino D, Wunderlich G, Fu Y. Validation of the women sexual distress scale-revised for assessing distress in women with hypoactive sexual desire disorder. The Journal of Sexual Medicine. 2008; 5(2): 357–64.

21. Derogatis L, Rosen R, Leiblum S, Burnett A, Heiman J. The Women Sexual Distress Scale (FSDS): Initial Validation of a Standardized Scale for Assessment of Sexually Related Personal Distress in Women. Journal of Sex & Marital Therapy. 2002; 28(4): 317–30.

22. Revicki D, Margolis M, Fisher W, Rosen R, Kuppermann M, Hanes V, et al. Evaluation of the Sexual Desire Relationship Distress Scale (SDRDS) in Women with Hypoactive Sexual Desire Disorder. The Journal of Sexual Medicine. 2012; 9(5): 1344–54.

23. Schumm W, Nichols C, Grigsby C. Characteristics of responses to the Kansas Marital Satisfaction Scale by a sample of 84 married mothers Psychol. Rep Journal. 1983; 53: 567-72.

24. Schumm W, Anderson S, Benigas J, Cutchen M, Griffin C, Morris J, et al. Criterion-Related Validity of the Kansas Marital Satisfaction Scale. Psychological Reports. 1985; 56(3) :719–722.

25. Smith P, Earp J, DeVellis R. Measuring Battering: Development of the Women's Experience with Battering (WEB) Scale. Women's Health; Research on Gender, Behavior, and Policy. 1995; 1:273-88.

26. Smith P, Smith J, Earp J. Beyond the Measurement Trap. Psychology of Women Quarterly. 1999; 23(1): 177–93.

27. Smith P, Thornton G, Devellis R, Earp J, Coker A. A Population-Based Study of the Prevalence and Distinctiveness of Battering, Physical Assault, and Sexual Assault in Intimate Relationships. Violence Against Women. 2002; 8(10): 1208–32.

28. Stamatiou K, Margariti M, Nousi E, Mistrioti D, Lacroix R, Saridi A. Women Sexual Dysfunction (FSD) in Women Health Care Workers. Materia Socio Medica. 2016; 28(3): 178-88.

29. Shifren J, Monz B, Russo P, Segreti A, Johannes C. Sexual Problems and Distress in United States Women. Obstetrics & Gynecology. 2018; 112(5): 970–8.

30. Lou W, Chen B, Zhu L, Han S, Xu T, Lang J, et al. Prevalence and Factors Associated with Women Sexual Dysfunction in Beijing, China. Chinese Medical Journal. 2017; 130(12):1389–94.

31. El-Tahlawi S, Ezzat N, Elsary A, Yousef N, Abdelreheem T. Women Sexual Dysfunction in Elfayoum Governorate. Advances in Sexual Medicine. 2018; 8(01): 1–13.

32. Ismail S, Abdel-Azim N, Habib D, Zaky M, Saleh M, Abbas A. Prevalence, Risk Factors and Women's Attitude towards Women Sexual Dysfunction in Upper Egypt: Hospital based study. Human Andrology. 2017; 7(4): 143–53.

33. Thomas H, Thurston R. A biopsychosocial approach to women's sexual function and dysfunction at midlife: A narrative review. Maturitas. 2016; 87: 49–60.

34. McCool M, Theurich M, Apfelbacher C. Prevalence and predictors of Women sexual dysfunction: a protocol for a systematic review. Systematic Reviews. 2014; 3(1):75.

35. Abdo C, Valadares A, Oliveira W, Scanavino M, Afif J. Hypoactive sexual desire disorder in a population-based study of Brazilian women. Menopause. 2010; 17(6):1114–21 .

36. Aggarwal R, Mishra V, Panchal N, Patel N, Deshchougule V, Jasani A. Sexual Dysfunction in Women: An Overview of Risk Factors and Prevalence in Indian Women. Journal of South Asian Federation of Obstetrics and Gynecology. 2012; 4(3): 134–6.

37. McCool M, Theurich M, Zuelke A, Knuettel H, Apfelbacher C. Predictors of Women sexual dysfunction: a systematic review and qualitative analysis through gender inequality paradigms. BMC Women's Health. 2018; 18(1): 108.

38. Sandoval C, Calao-Pérez M, Enríquez A, Gonzalez E, Ibarra R, Sotomayor M, Castillejos R. Orgasmic Dysfunction: Prevalence and Risk Factors from a Cohort of Young Women in Mexico. The Journal of Sexual Medicine. 2014; 11(6): 1505–11.

39. Banaei M, Dashti A. Sexual Dysfunction and its Associated Factors After Delivery: Longitudinal Study in Iranian Women. Materia Socio Medica. 2018; 30(2): 198-205.

40. Kılıç M. Prevalence and risk factors of sexual dysfunction in healthy women in Turkey. African Health Sciences. 2019; 19 (3): 2623-2633.

41. Kim H. Sexual Desire, Sexual Function, and Quality of Life in Married Women with Hypoactive Sexual Desire Disorder. Korean Journal of Health Education and Promotion. 2013; 30(5): 163–75.

42. Lewis R, Fugl-Meyer K, Corona G, Hayes R, Laumann E, Moreira E, et al. Original articles: Definitions/Epidemiology/Risk Factors for Sexual Dysfunction. The Journal of Sexual Medicine. 2010; 7(4): 1598–607.

43. Maseroli E, Fanni E, Mannucci E, Fambrini M, Jannini E, Maggi M, et al. Which are the male factors associated with Women sexual dysfunction (FSD)? Andrology. 2016; 4(5): 911–20.

44. Harte C, Meston C. Association between smoking cessation and sexual health in men. BJU International. 2011; 109(6): 888–96.

45. Asselmann E, Hoyer J, Wittchen H, Martini J. Sexual problems during pregnancy and after delivery among women with and without anxiety and depressive disorders prior to pregnancy: A prospective-longitudinal study. The Journal of Sexual Medicine. 2016; 13(1): 95-104.

46. Song M, Ishii H, Toda M, Tomimatsu T, Katsuyama H, Nakamura T, et al. Association between sexual health and delivery mode. Sexual Medicine. 2014; 2(4): 153-8.

47. Christensen B, Gronbaek M, Osler M, Pedersen B, Graugaard C, Frisch M. Sexual dysfunctions and difficulties in Denmark: Prevalence and associated Sociodemographic factors. Archives of Sexual Behavior. 2010; 40(1): 121-32.

48. Burri A, Spector T. Recent and lifelong sexual dysfunction in a Women UK population sample: Prevalence and risk factors. The Journal of Sexual Medicine. 2011; 8(9): 2420-30.

49. Siddig I. Women genital mutilation: What do we know so far? British Journal of Nursing. 2016; 25(16): 912-16.

50. Mahmoud M. Effect of Women genital mutilation on Women sexual function, Alexandria, Egypt. Alexandria Journal of Medicine. 2016; 52(1): 55-9.

51. Lurie J, Weidman A, Huynh S, Delgado D, Easthausen I, Kaur G. Painful gynecologic and obstetric complications of Women genital mutilation/cutting: A systematic review and meta-analysis. PLOS Medicine. 2020; 17 (3): e1003088.

52. Zhang H, Fan S, Yip P. Sexual dysfunction among reproductive‐aged Chinese married women in Hong Kong: Prevalence, risk factors, and associated consequences. The Journal of Sexual Medicine. 2015; 12(3): 738-45.

53. Zare A, Montazeri M. A Survey of Factors Related to Marital Satisfaction among Married Women in Taft City, Iran. Social Behavior Research & Health.2019; 3(1):309-21

54. Belal G, Gaheen M. Factors Affecting Marital Satisfaction among Primigravida Women in Tanta City, Egypt. IOSR Journal of Nursing and Health Science (IOSR-JNHS). 2016; 5(6): 71-8.

55. Pejman M, Akram J, Vafa F. Factors affecting quality of life and marital satisfaction among married nurses and nursing assistants. Annals of Tropical Medicine and Public Health. 2017; 10(6): 1460-7.

56. Khazaei M, Rostami R, Zaryabi A. The relationship between sexual dysfunctions and marital satisfaction in Iranian married students. Procedia - Social and Behavioral Sciences. 2011; 30: 783-5.

57. Takbiri A, Imeni M, Azizi E. The relationship between sexual satisfaction and marital satisfaction in elderly. Journal of Gerontology. 2017; 2(2): 43-50.

58. Abramsky T, Watts C, Garcia-Moreno C, Devries K, Kiss L, Ellsberg M, Jansen H, Heise L. What factors are associated with recent intimate partner violence? findings from the WHO multi-country study on women's health and domestic violence. BMC Public Health. 2011; 11(1): 109.

59. Fageeh W. Factors associated with domestic violence: A cross-sectional survey among women in Jeddah, Saudi Arabia. BMJ Open. 2014; 4(2): e004242.

60. Eldoseri H, Tufts K, Zhang Q, Fish J. Adverse health effects of spousal violence among women attending Saudi Arabian primary health-care clinics. Eastern Mediterranean Health Journal. 2014; 20(11): 717-25.

61. Lee S, Lee E. Predictors of intimate partner violence among pregnant women. International Journal of Gynecology & Obstetrics. 2017; 140(2): 159-63.

62. Maasoumi R, Elsous A, Hussein H, Taghizadeh Z, Baloushah S. Women sexual dysfunction among married women in the Gaza Strip: An internet-based survey. Annals of Saudi Medicine. 2019; 39(5):319-27.

63. World Health Organization. Multi-country study on women's health and domestic violence against women: initial results on prevalence, health outcomes and women's responses. 2013. Available at: http://www.who.int/gender/violence/who_multicountry_study/en/. Accessed on: January 2019.

64. Sen S, Bolsoy N. Violence against women: Prevalence and risk factors in Turkish sample. BMC Women's Health. 2017; 17(1): 100.

65. Soohinda S. Female sexual dysfunction and its relationship with marital satisfaction in Indian women. Journal of Medical Science and Clinical Research. 2018; 6(2):762-9.

66. Mohammed G, Hashish R. Sexual violence against women and its impact on their sexual function. Egyptian Journal of Forensic Sciences. 2015; 5(3): 96-102.