



Factors Associated with Sexual Dysfunction in a Sample of Iraqi Women

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ABSTRACT

Background: Female sexual dysfunction is a disorder that occurs when there is a change in a woman's usual sexual behavior. In these changes there may be a decrease, or even a cessation of the desire to have sexual relations. On the other hand, there may also be an inability to enjoy them. In general, the four areas in which women have difficulties within sexual dysfunction are: desire, arousal, orgasm, and pain associated with intercourse.

Objective: to determine the elements that are linked to sexual dysfunction in women receiving medical care at our healthcare facility.

Patients and method: a case-control study carried at the period from the first of August 2020 to the end of July 2021, with individual matching in both groups regarding the age and body mass index. The study included 200 participants divided into 2 groups (each group included 100 women).

Results: Mean age of the studied group was 40.9 ± 4.1 and a body mass index of 28.4 ± 2.7 kg/m². The secondary education level with 47.5%, while the most frequently mentioned occupation was housewife with 45.0%. The frequencies of the associated factors show women in a menopausal state in 19.5%, with metabolic syndrome in 30.5%, the presence of chronic disease in 42.0%, the risk of anxiety 21.0%, and risk of depression was 5%.

Conclusion: There is an association between female sexual dysfunction with each of risk of anxiety, perception of health status as sick, and smoking

Keywords: Female sexual dysfunction, risk of anxiety, sick, smoking

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1. INTRODUCTION

Sexuality in women is a reflection of their level of physical, mental and social well-being, with sexual dysfunction being the difficulty or impossibility of the individual to participate in sexual relations as desired (1). Female sexual dysfunction (FSD), formerly called hypoactive sexual desire disorder in the American Psychiatric Association's DSM-IV and female sexual interest and arousal disorder in the DSM 5th Edition (DSM-5), has parameters for the assessment, being divided into 4 domains: desire, excitement, orgasm and pain (2). There are studies carried out in the United States, one of them in 31,581 women over 18 years of age (with an average age of 49 years), found sexual dysfunction in 9.5% (3), while another carried out in 2,207 women between 30 and 70 years old reports a prevalence of 8.3% (4), and other studies show similar trends with prevalence between 7.4% (4) and 9% (5). Sexual dysfunctions exhibit a significant prevalence, impacting approximately 43% of women and 31% of men. Hypoactive sexual desire disorder (HSDD) has been observed in around 30% of women and 15% of men in research conducted on representative samples of the population. This condition is linked to a diverse range of physical and psychological factors (6). Sexual arousal disorders, such as erectile dysfunction in males and female sexual arousal disorder in females, exhibit a prevalence rate ranging from 10% to 20% across both genders (7). Notably, the occurrence of these illnesses in males is significantly influenced by age. Orgasmic disorder is a prevalent condition among women, with a reported prevalence rate of between 10% to 15% in research conducted within community settings (8). Sexual pain disorders have been documented to occur in approximately 10% to 15% of women and in fewer than 5% of men. In addition to their widespread prevalence, sexual dysfunctions have been found to impact significantly on interpersonal functioning and overall quality of life in both men and women (9). FSD cases are most frequently identified in the peri- and postmenopausal state; reaching between 50% (10) in a study carried out on women between 40 and 64 years of age who came for consultation or as companions and 65.6% of women between 45 and 59 years of age in a menopausal state, increasing further with age; because 40% report loss of sexual pleasure and difficulty reaching orgasm (11), in addition to other frequent problems such as lubrication and pain during intercourse (12).

The factors associated with sexual dysfunction have been studied by several authors, registering metabolic syndrome as an independent risk factor, age, level of education, physical health and mental health in the woman (13), although other authors also refer to married marital status, smoking habit, as well as having been married for more than 14 years, more than 2 children (14), the level of education, and having a partner over 42 years of age and the use of antidepressant therapy (15, 16). At the national level, we have not found studies on the factors associated with female sexual dysfunction, and given the importance of knowing these factors, we propose to carry out the study to identify them.

The aim of this study is to determine the elements that are linked to sexual dysfunction in women receiving medical care at our healthcare facility.

2. METHODOLOGY

Study design:

The design is a case-control study carried at the period from the first of August 2020 to the end of July 2021, with individual matching in both groups regarding the age and body mass index. The study included 200 participants divided into 2 groups (each group included 100 women):

Group A (case group): Any woman with sexual dysfunction defined as a score less than or equal to 24 on the Index of Female Sexual Function (IFSF) (17).

Group B (control group): Any woman without defined sexual dysfunction with a score greater than 24 on the Index of Female Sexual Function (IFSF) (17).

Inclusion criteria

❖ Cases

- Women carrying out their routine activities defined by the Social Life and Health survey.
- Women from 18 to 59 years old seen in outpatient ophthalmology, otorhinolaryngology and dermatology clinics.

❖ Controls

- Woman without sexual dysfunction matched by age and BMI.

- Women who carry out their routine activities defined by the Social Life and Health Survey
- Women from 18 to 59 years old seen in outpatient ophthalmology, otorhinolaryngology and dermatology clinics.

Exclusion criteria for cases and controls

- Women with mental deficit that prevents them from understanding the questionnaire.
- Pregnant women or 2 months in the postpartum period.
- Women with blindness or other recognized disabilities of the sense organs
- Women with sequel stroke or spinal cord injury
- Women with malignant neoplasia, high lower limb amputation
- Women with end-stage chronic renal failure on hemodialysis.
- Women who do not agree to participate in the study.

Statistical analysis

Descriptive statistical analysis was performed with measures of centralization and dispersion for the quantitative variables. Likewise, absolute and relative frequencies were calculated for the qualitative variables. Inferential statistics were also applied between the study groups and each of the factors to be studied with Odds Ratio (OR), using 95% confidence intervals. Finally, multivariate analysis was performed with logistic regression with a confidence level of 95% and significance level of $p < 0.05$.

3. RESULTS

This study included 200 women, 100 cases with sexual dysfunction and 100 controls, with an age of 40.9 ± 4.1 and a body mass index of 28.4 ± 2.7 kg/m². The secondary education level with 47.5% (95), while the most frequently mentioned occupation was housewife with 45.0% (90). The frequencies of the associated factors show women in a menopausal state in 19.5% (39), with metabolic syndrome in 30.5% (61), the presence of chronic disease in 42.0% (84), the risk of anxiety 21.0% (42), and risk of depression was 5% (10).

In the descriptive bivariate analysis according to the presence of FSD, it was found that the most frequent level of education was secondary level for both groups, 42 (42.0) in cases and

53 (53.0) in controls respectively. In occupation, being a housewife was more frequent in the cases with 45 (45.0) and employed 47 (47.0) in the controls; and the state of menopause occurred in 24 (24.0) in the cases and 15 (15.0) in the controls. Regarding having had at least one pregnancy, 78 (78.0) and 73 (73.0) of the cases and the controls respectively, with 2 or more children being more frequent with 65 (65.0) in cases and 51 (51.0) in controls. In other factors studied we found that the metabolic syndrome occurred in 38 (38.0) of the cases and 33 (33.0) in controls respectively, the former having reported a sick state of health in 56 (56.0) and controls 28 (28.0). The cases reported risk of anxiety in 34 (34.0), risk of depression in 6 (6.0); in the controls they reported risk of anxiety in 8 (8.0), risk of depression in 4 (4.0) (**Table 1**). In the bivariate analysis, the main associated factors were anxiety with an OR of 6.45. (95%CI:3.46-12.01, $p<0.05$), smoking with an OR of 3.45 (95%CI:1.23-4.67, $p<0.05$) and a higher level of education with an OR of 0.50 (95% CI: 0.32-0.80 , $p<0.05$) (**Table 2**). In the multivariate analysis, anxiety in OR=1.21 (95% CI: 1, 10-1.45, $p<0.05$), the perception of health status as sick in OR=1.50 (95% CI: 1.26-1.94, $p<0.05$) and the habit of smoking in OR=2.26 (95% CI: 1.08-4.76, $p<0.05$), which tells us that the probability of having a history of sexual dysfunction decreases by 52% (**Table 3**).

Table 1. Baseline criteria of the studied groups.

Variable		Sexual dysfunction			
		Group A (n=100)		Group B (n=100)	
		No.	%	No.	%
Level of education	Illiterate	7	7.0	5	5.0
	Primary	21	21.0	19	19.0
	Secondary	42	42.0	53	53.0
	University or higher	30	30.0	23	23.0
Occupation	Employee	38	38	47	47.0
	Unemployed	6	6.0	3	3.0
	Retired	11	11.0	5	5.0
	Housewife	45	45.0	45	45.0
Menopause		24	24.0	15	15.0
Number of Pregnancies	0	22	22.0	27	27
	1	13	13.0	22	22.0
	2	30	30.0	21	21.0
	3	20	20.0	19	19.0
	4	15	15.0	11	11.0
Metabolic syndrome		38	38.0	33	33.0
Perception of health status	Healthy	44	44.0	72	72.0
	Sick	56	56.0	28	28.0
Anxiety risk		34	34.0	8	8.0
Risk of depression		6	6.0	4	4.0

Table 2. Bivariate analysis of sexual dysfunction risk factors in women in the studied group

Variable		OR	CI 95%
Metabolic syndrome		1.21	0.75-1.93
Level of education	Primary	2.91	0.95-8.91
	Secondary	1.17	0.74-1.84
	University or higher	0.50	0.32-0.80
Occupation	Employee	0.64	0.40-1.01
	Unemployed	1.97	0.70-5.53
	Retired	2.42	1.06-5.49
	Housewife	1.06	0.67-1.68
Menopause		1.74	0.98-3.08
Number of Pregnancies	0	0.69	0.40-1.18
	1	0.55	0.29-1.03
	2	1.66	1.00-2.75
	3	1.05	0.60-1.84
	4	1.45	0.76-2.76
Sick		3.28	2.05-5.23
Smoking habit		3.45	1.23-4.67
Anxiety risk		6.45	3.46-12.01
Risk of depression		3.03	1.16-7.93

Table 3. Multivariate analysis of sexual dysfunction risk factors in women in the studied group

Parameters	adjusted OR	CI 95%	
		Minimum	Maximum
Anxiety risk	1.21	1.10	1.45
Sick	1.50	1.26	1.94
Smoking habit	2.26	1.08	4.76

Hosmer-Lemeshow goodness-of-fit test >0.05 AIC=123.4

4. DISCUSSION

The prevalence of sexual dysfunction in the current study was 50% which is in agreement with Australian community-based study of women within the age between 18–39 years mentioned that 50.2% of them were suffer from sexually distressed (18). But it is more than that reported in an recently Iranian study conducted by Hamzehgardeshi Z et al, when it was 31.8% of the participants underwent from sexual distress (19). This difference may be attributed to the sample size collection between the studies. Socio-demographic characteristic found that the level of higher education were found in 30% of the women in case group while it was 50% in Hamzehgardeshi Z et al, (19). Furthermore, having 2 or more children was the most frequent parity condition in both cases and controls and according to Romano M et al, reports an average of 2.8 ± 1.5 children in women with sexual dysfunction (20). Among the factors studied, it was not found to be associated with metabolic syndrome, not in agreement with the study carried out in Mezones-Holguin et al (21) that found an association with diabetes mellitus in the first years postmenopause, although it is worth mentioning that diabetes mellitus could be part of the definition of metabolic syndrome; which would be overlapped by the other components of the syndrome; in addition, another study associated it with sexual desire (22), which in our study was measured only in one dimension of the instrument. We must take into account that the diagnostic criteria of metabolic syndrome have been subject to many definitions, the use of different definitions for the diagnosis could condition a variation in the frequency of metabolic syndrome in the population, according to one definition or another; and of course with this modify the associations that it may present. One of the discordant points in the definitions is abdominal obesity, the IDF considers that it should be the main diagnostic and exclusive criterion for diagnosing metabolic syndrome (23). The WHO does not consider it as the main criterion, and for ATP III it is a component of the five proposed, but not exclusive for diagnosing metabolic syndrome aspects that may have influenced the lack of association in our findings (24). A study carried by Basson R et al, mentions that sexual dysfunction in women is linked with several psycho-demographic factors like; retired, level of higher education, poor physical health (perception of illness) and mental health (anxiety and depression); similar to the factors found in our study where anxiety, ill health, smoking (25).

In addition, there are other studies that mention menopause associated with sexual dysfunction (26), but our results did not show this; perhaps due to the frequency of sexual dysfunction in non-menopausal women, which was 30.9% compared to 44.26% in menopausal women (27).

5. CONCLUSIONS

According to the results obtained, it is concluded that there is an association between female sexual dysfunction with each of risk of anxiety, perception of health status as sick, and smoking.

Ethical Approval:

All ethical issues were approved by the author. The research protocol was approved by the Ethics Committee and Research Committee of the Iraqi ministry of health.

Data collection and patients enrollment were in accordance with Declaration of Helsinki of World Medical Association , 2013 for the ethical principles of researches involving human.

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