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Original Research

The Effect of Frequency of Sexual Intercourse on Symptoms in Women with Fibromyalgia

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Abstract

Objectives: Fibromyalgia is known to affect sexual function, but the effect of frequency of sexual intercourse on fibromyalgia symptom severity is unclear. This study investigated how frequently women with fibromyalgia engaged in sexual activity affected how severe the disease was.

Methods: The depression status of the participants was evaluated with the Beck Depression Inventory (BDI) and the mean monthly frequency of sexual intercourse in the last 3 months was noted. Pain levels of fibromyalgia patients were evaluated with Visual Analog Scale (VAS), pain prevalence Widespread Pain Index (WPI), symptom level Symptom Severity Scale (SSS), and fibromyalgia exposure status with Fibromyalgia Impact Questionnaire (FIQ).

Results: A hundred women with fibromyalgia with a mean age of 37.11±6.2 years and 100 healthy female controls with a mean age of 36.53 ± 5.85 years participated in the study. Female patients with fibromyalgia had higher BDI and VAS scores and lower frequency of sexual intercourse ($p<0.001$). While no significant relationship was observed between the frequency of sexual intercourse and VAS, FIQ, SSS and WPI scores, it was found that BDI was lower in those with an average monthly frequency of 8 or more sexual intercourses ($p=0.02$).

Conclusion: This study revealed that the frequency of sexual intercourse is low in female patients with FM and that depression is less common in women with FM who have a higher frequency of sexual intercourse.

Keywords: Depression, disease severity, fibromyalgia, pain, sexual intercourse

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Fibromyalgia (FM) is a syndrome characterized by psychosomatic symptoms such as widespread chronic musculoskeletal pain, fatigue, sleep disturbances, anxiety, depression, cognitive dysfunction, dyspareunia, dysmenorrhea, headache, and gastrointestinal disorders. Although different rates are stated in different countries, its global prevalence is 2.7%.[1] Research on FM pathophysiology focuses on peripheral sensitization, central sensitization, inflammation, immunity, genetic aspects, endocrine and psychopathological factors.[2] Depression, anxiety, obesity, socioeconomic status, and exercise level are related to fibromyalgia disease severity.[3-8]

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According to neuroimaging studies, the paraventricular nucleus of the hypothalamus, the periaqueductal gray of the midbrain, the hippocampus, and the cerebellum become more active during sexual activity, especially during orgasm.[9] Sexual intercourse can increase cognitive functions by increasing neurogenesis in the striatum.[10] Orgasm releases oxytocin, which reduces stress and is associated with positive social interactions.[11] Positive physical contact can affect cardiovascular and neuroendocrine function.[12] Frequency of sexual activity is strongly positively correlated with overall happiness.[13] Sexual intercourse reduces symptoms of depression.[14] During sexual activity, low-to-moderate-intensity physical activity is performed.[15,16] Also, during sexual activity or when intercourse is at its peak, there is a release of endogenous endorphins that give a happy or pleasurable feeling after sex. Elevated plasma prolactin levels have been detected up to 60 minutes after orgasm in both men and women.[17]

Sexual activity is known to have positive effects on cardiovascular and pulmonary diseases, muscle strength increase, stress and depression.[18-21]

In this study, it was aimed to investigate the effect of frequency of sexual intercourse on disease severity in female patients with fibromyalgia.

Methods

Study Design

The research was designed as a cross-sectional descriptive study. Ethics committee approval was obtained for the study (Dated 12.10.2021, no: 21/598). All subjects provided written informed consent to participate in the study, which was carried out in accordance with the Declaration of Helsinki.

Participants

The study included 100 female participants who presented to the Physical Medicine and Rehabilitation outpatient clinic with complaints of widespread pain and were diagnosed with fibromyalgia in accordance with the American College of Rheumatology (ACR) 2016 criteria. Additionally, 100 healthy volunteers who visited the hospital as a companion without any complaints were included in the study. The study excluded people who had uncontrollable systemic disease (cardiovascular, pulmonary, hepatic, renal, and hematological), major psychiatric conditions, endocrine disorders, menopausal status, pregnancy, and those who were taking antihypertensive, antidepressant, anxiolytic, or antiepileptic medications.

General Evaluation

All participants had thorough physical examinations and detailed histories taken. Participants' sociodemographic and clinical characteristics were assessed using data on their age, gender, height, weight, schooling, duration of disease, employment status, and income level. The prevalence of pain was determined using the widespread pain index, the severity of the symptoms was determined using the symptom severity scale, the fibromyalgia exposure status was determined using the fibromyalgia impact questionnaire, the participants' depression status was determined using the Beck depression scale, and the mean monthly frequency of sexual intercourse in the previous three months was recorded.

Visual Analog Scale

In our study, VAS was used to measure pain. For this, a line of 10 cm long is drawn and divided into intervals each measuring 10 mm wide. The patient was instructed to indicate on the scale, which ranged from 0 (no pain) to 10, the value that best represented his level of discomfort. The distance between the spot where there is no pain and the point the patient marked indicated the extent of the patient's agony. [22]

Widespread Pain Index

Ask about the body parts where pain has been experienced over the past week. The score is 0 to 19.[23]

Symptom Severity Scale

The Symptom Severity Scale is evaluated in two groups, A and B, and the total score obtained from these items is calculated. In group A, all items including fatigue, awakening from rest, cognitive findings and somatic symptoms in the last week are scored between 0-3 (maximum score: 9). In group B, the presence of headache, pain-cramps in the lower abdomen and depression in the last 6 months is evaluated (maximum score: 3). As a result, the maximum score of SSS is 12.[23]

Fibromyalgia Impact Questionnaire

It is used to evaluate both the clinical severity of the disease and the effectiveness of different treatments in FMS. The Turkish version of the FIQ was developed by Sarmer et al.[11] and its validity and reliability were tested. FIQ contains 10 questions. It measures well-being, fatigue, morning stiffness, pain, sleep, anxiety, depression, job status, and physical condition. Each item is evaluated on a scale of 0-10 (Total score is maximum 100). Higher scores indicate more influence.[24]

Beck Depression Inventory

Beck developed the Beck Depression Inventory, which consists of 21 items related to depressive symptoms like pessimism, a sense of failure, dissatisfaction, guilt, restlessness, fatigue, decreased appetite, indecision, sleep disorder, and social withdrawal. Validity and reliability studies on the instrument were done in our country. Each item has four

graded self-evaluation statements that identify a depression-related behavior.[24]

Statistical Analysis

The analysis of the data obtained from the research was carried out in the computer environment with the IBM SPSS 23.0 (IBM SPSS Statistics, Version 23.0 Armonk, NY: IBM Corp.) program. Descriptive statistics are given using median (1st quartile - 3rd quartile) and % distribution. In the statistical analysis, the normality analysis of the data was examined with the Kolmogorov-Smirnov test. In the analysis of continuous data, Mann-Whitney U test in paired groups and Kruskal-Wallis analysis of variance in multiple groups were used. Bonferroni correction was applied in pairwise comparisons in case of significance as a result of multiple group analysis. Chi-square test was used in the analysis of categorical data. A $p<0.05$ value was accepted for statistical significance.

Results

100 women with fibromyalgia with a mean age of 37.11±6.2 years and 100 healthy female controls with a mean age of 36.53±5.85 years participated in the study. There was no significant difference between the groups in terms of age, educational status, economic and body mass index ($p>0.05$).

It was determined that the BDI and VAS scores were higher and the frequency of sexual intercourse was lower in female patients with fibromyalgia compared to the control group ($p<0.001$) (Tables 1, 2).

Table 1. Comparison of pain and depression scores between groups

	Patient	Control	p*
	Median (1st quartile - 3rd quartile)	Median (1st quartile - 3rd quartile)	
BDI	15 (9-19.2)	7 (3-10)	**<0.001**
VAS	6 (5-8)	3 (3-4)	**<0.001**

* Mann-Whitney U Test; BDI: Beck Depression Inventory; VAS: Visual Analog Scale.

Table 2. Comparison of frequency of sexual intercourse between groups

Average number of sexual intercourses per month	Patient (n)	Control (n)	p*
0	12	5	**<0.001**
1-4	57	30	
5-7	14	44	
≥8	17	21	
Total	100	100	

* Pearson Chi-Square.

While no significant relationship was observed between the frequency of sexual intercourse and VAS, FIQ, SSS and WPI scores in female patients with fibromyalgia, BDI was found to be lower in those with an average monthly frequency of 8 or more sexual intercourses ($p=0.02$). There was no significant relationship between frequency of sexual intercourse and VAS and BDI scores in the control group (Table 3).

Discussion

In this study, it was determined that pain and depression were more common and sexual intercourse frequency was less in female patients with fibromyalgia compared to women of similar age and socioeconomic status. In addition, it has been shown that women with fibromyalgia who have sexual intercourse 8 or more times a month have better moods than those who have less.

The risk of developing depression and FM increases after a triggering event in individuals with a genetic predisposition.[25,26] Childhood traumas and life stresses on the basis of genetic predisposition predispose to depression.[27,28] Increasing evidence recently shows that a significant proportion of patients with fibromyalgia experienced childhood trauma.[29,30] Serotonin transporter (5-HTT) gene polymorphism associated with depression may also be associated with fibromyalgia.[31] The mechanisms of depression and fibromyalgia, which are frequently observed together in the clinic, are also similar. The frequency of depression in patients with FM has been evaluated both in studies using structured psychiatric interviews and in studies using mood-evaluating scales. Uguz et al.,[32] in the study where they used Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV) Axis I disorders (SCID-I) for mood examination, showed that 47.6% of patients with FM had a psychiatric disorder and 14.6% had major depression. In a meta-analysis examining the prevalence of depression in patients with FM, it was concluded that depression was observed with a high frequency in patients with FM and this condition was associated with poor clinical outcomes.[33] In our study, it was determined that the frequency of depression was high in patients with FM, which was consistent with the literature. Depression should be screened in patients with FM, as it is associated with high rates of association and poor clinical outcomes.

In chronic painful conditions, libido, frequency of sexual intercourse, erection, ejaculation, vaginal lubrication, orgasm and sexual satisfaction decrease.[34] Patients with chronic pain with sexual dysfunction have greater pain intensity and depressive symptoms than those without.[35]

Table 3. Relationship between frequency of sexual intercourse and evaluation parameters

Average number of sexual intercourses per month	0 Median (1st quartile-3rd quartile)	1-4 Median (1st quartile - 3rd quartile)	5-7 Median (1st quartile - 3rd quartile)	≥8 Median (1st quartile - 3rd quartile)	p*
Patient					
BDI	18 (9.7-22)	16.5 (11.2-20)	14.5 (8.5-20)	8 (4.5-15.5)	**0.02**
VAS	5 (3-7.7)	6 (5-8)	6 (3.7-7)	6 (4-8)	0.35
FIQ	57.7 (49,6-74,9)	59.1 (48.2-74.1)	59.8 (49.5-64)	60.4 (38.7-74.7)	0.82
SSS	7,5 (6-9,2)	8 (6-10)	8 (5.7-9)	6 (4-8.5)	0.26
WPI	4,5 (3-5.7)	5 (3.5-9)	5 (4-8.5)	7 (3-10)	0.25
Control					
BDI	7 (3-7)	8 (3.5-10)	6 (3-8.7)	9 (2-12)	0.44
VAS	4 (2-4)	2 (0-5)	3 (0.5-4)	3 (0-3)	0.73

* Kruskal-Wallis Test; BDI: Beck Depression Inventory; VAS: Visual Analog Scale; FIQ: Fibromyalgia impact questionnaire; SSS: Symptom severity scale; WPI: Widespread pain index.

Sexual function in FM, a chronic painful condition, has long been the focus of studies. Sexual dysfunction reduces the quality of life of FM patients.[36] A meta-analysis examining data from 1367 participants from 12 studies on female sexual function of fibromyalgia syndrome showed that women with FM had significant sexual dysfunction and sexual difficulties, such as increased dyspareunia and decreased sexual desire and sexual satisfaction, compared to healthy women.[37] Kayhan et al.[38] found that VAS scores in FM patients with sexual dysfunction were higher than those without sexual dysfunction and concluded that pain plays an important role in the development of sexual dysfunction in female patients with FM. In the study of Yilmaz et al.,[39] it was shown that the frequency of sexual intercourse in female patients with FM is lower than in healthy controls. In our study, in accordance with the literature, the frequency of sexual intercourse was found to be lower in FM patients compared to healthy controls. 66% of those with chronic pain do not talk about their sexual problems due to the fact that the subject is a taboo, the inappropriateness of the examination environment, and the lack of interest in sexuality.[40] Patients with FM should be questioned in terms of this problem that reduces their quality of life.

The effect of mood on sexual functions in patients with FM is controversial in the literature. Tıkız et al.,[48] in their study, found that major depression did not affect sexual function in women with FM. However, Aydin et al.[41] showed that depression affects sexual function in premenopausal female patients with FM. In the studies of Alves et al.,[36] a correlation was found between sexual dysfunction and depressive mood in patients with FM. Depressive symptoms and antidepressant use are associated with decreased sexual desire in women with FM.[42] Sexual activity is associated with better psychological and physical functioning.[43] Sexual intercourse has psychological effects such as happiness, well-being, less perception of psychological stress and mental health.[14,44-46] Maunder et al.,[47] in their study, found a correlation between frequency of sexual intercourse and verbal recognition performance. In our study, it was determined that female patients with FM had less depression than those with a higher frequency of sexual intercourse. It may be useful to inform female patients with FM about the subject and to recommend it as a lifestyle change, especially in cases with accompanying depression.

The results of this study should be evaluated taking into consideration some limitations. First, the number of participants is partially insufficient for a common disease such as FM. A standard scale was used for mood assessment, not a structured psychiatric interview. Sexual function was evaluated only as frequency, and other components such as orgasm satisfaction were not questioned.

Conclusion

This study showed that the frequency of sexual intercourse was low in female patients with FM, there was no relationship between the frequency of sexual intercourse and the severity of the disease, but the mood of women with FM who had a high frequency of sexual intercourse was better.

Disclosures

Ethics Committee Approval: The research was designed as a cross-sectional descriptive study. Ethics committee approval was obtained for the study (Dated 12.10.2021, no: 21/598). All subjects provided written informed consent to participate in the study, which was carried out in accordance with the Declaration of Helsinki.

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Conflict of Interest: None declared.

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