

Evaluation of sexual function and depression in female patients with fibromyalgia

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SUMMARY

OBJECTIVE: Fibromyalgia is one of the most important problems, especially for women. Studies point to disorders in the sexual functions of fibromyalgia patients that reduce their quality of life. The aim of this study was to investigate sexual dysfunction and its relationship with disease severity and depression in women with fibromyalgia.

METHODS: This study included 98 female patients diagnosed with fibromyalgia and 54 healthy women. The Female Sexual Function Index was used to assess sexual dysfunction. Fibromyalgia disease severity was measured with the Fibromyalgia Impact Questionnaire. Hamilton Depression Scale was filled in to evaluate the depression status of the patients.

RESULTS: According to the female sexual function index data, female sexual dysfunction was found in 78 (79.6%) patients with fibromyalgia and only in 12 (22.2%) controls. When the female sexual function index scores of fibromyalgia patients with and without depression were compared, patients with additional depression had lower female sexual function index scores, and this difference was statistically significant ($p=0.002$). In the correlation analysis, the female sexual function index score showed a significant negative correlation with the hamilton depression scale ($\rho=-0.235$, $p=0.020$) and fibromyalgia impact questionnaire ($\rho=-0.215$, $p=0.033$) scores.

CONCLUSION: This study highlights the high prevalence of sexual dysfunction in female fibromyalgia patients and the significant correlation between sexual dysfunction and both disease severity and depression.

KEYWORDS: Fibromyalgia. Sexual dysfunction, psychological. Depression.

INTRODUCTION

Fibromyalgia (FM) is a chronic condition of uncertain origin, deemed the most prevalent cause of widespread pain among middle-aged women. It is a complex disorder, characterized by the presence of widespread pain in the muscles and joints, in addition to other symptoms including poor sleep quality, persistent fatigue, comorbid cognitive difficulties, and a diverse array of somatic and psychiatric symptoms, which all contribute to a decline in the patients' overall quality of life^{1,2}. Besides the primary complaints of tenderness and pain, individuals diagnosed with FM have also reported other symptoms such as chronic fatigue, sleep disturbance, anxiety, depression, cognitive difficulties, numbness/tingling, headaches, and sexual disturbances^{3,4}.

Medications used to treat depression have also been frequently associated with sexual dysfunction (SD). There are numerous reports of high occurrences of SD among women diagnosed with panic disorder, anxiety disorders, and depression. These problems may include issues related to sexual desire and arousal or pain during sexual activity³⁻⁵.

The aim of this study was to examine the frequency of SD and its association with the severity of illness and depression among a group of female FM patients seeking treatment at our clinic using a cross-sectional design.

METHODS

This study included 98 female patients diagnosed with FM and 54 healthy women. Patients were selected from consecutive patients diagnosed with FM according to the American College of Rheumatology criteria who applied to our outpatient clinic. The control group consisted of hospital staff and patient relatives who volunteered among married women in the same age range as the patients.

Considering the possible effects of medical treatments used in FM treatment on sexual function, only newly diagnosed patients who have not been treated yet were included in the study. Furthermore, history of psychiatric illness that may affect sexual function or psychological state, use of antidepressant/

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antipsychotic medication, smoking, presence of urogenital disease, systemic disease (autoimmune, inflammatory, neurological, and endocrine), pregnancy, postmenopausal women, or women who did not have sexual activity in the last month were excluded from the study. At the end of the evaluations, 98 married women aged 23–51 (mean 38.47 ± 6.72) years with FM and 54 healthy relatives aged 25–52 (mean 36.94 ± 6.55) years without FM complaints were included in the study.

Demographic characteristics such as age, educational level, marital status, employment, and body mass index (BMI) were recorded. The Turkish-approved version of the 19-item “Female Sexual Function Index” (FSFI), which evaluates sexual function in the last 4 weeks, was used to evaluate sexual functions. FSFI total score less than ≤ 26.5 was considered SD¹. The Turkish version of the Hamilton Depression Scale (HDS), which was previously validated in Turkish, was used to assess depression. FM disease severity was measured with the Fibromyalgia Impact Questionnaire (FIQ). A higher score on the FIQ indicates a more severe disease, with a maximum score of 100 points.

Statistical analysis

Data were abbreviated as mean \pm standard deviation (minimum-maximum) or percentage and number. The normality of the numerical variables was determined through the application of the Shapiro-Wilk test of normality. To compare scale

scores for two-category variables, an independent sample t-test was utilized, while chi-square tests were employed to compare groups with categorical variables. Significance was set at a p-value of less than 0.05.

RESULTS

The age of the participants ranged from 25 to 56 years, with a mean \pm standard deviation of 38.49 ± 6.68 . A total of 72 patients and 32 controls were not working, while 26 patients and 22 controls were actively employed. The mean BMI was 26.38 ± 4.34 in patients and 24.88 ± 3.42 in controls. The results indicate that there is no correlation between the patient's BMI, employment status, disease severity, SD, or depression status (Table 1).

HDS scores ranged from 5 to 20 in patients (11.55 ± 3.76) and 1 to 9 in controls (4.30 ± 2). FIQ scores ranged from 32 to 96 in patients (71.45 ± 21.69) and between 5 and 41 in controls (18.43 ± 8.84). The mean FSFI scores were 23.80 ± 2.68 in patients and 29.15 ± 2.38 in controls. The mean HDS and FIQ score for the patients were significantly higher than the controls ($p < 0.001$, $p < 0.001$) and the mean FSFI score was significantly lower than the scores for the controls ($p < 0.001$) (Table 2).

Based on the overall FSFI score, SD was present in 78 (79.6%) patients with FM and only in 12 (22.2%) controls. The most common sexual problem was satisfaction in patients

Table 1. Comparison of descriptive features by groups.

Characteristics	Groups		Test statistics	
	Control group n=54	FM patients n=98	Test value	p-value
Age				
Mean \pm SD	36.94 \pm 6.55	38.47 \pm 6.72	-1.350 [†]	0.179
M (min-max)	36 (25-52)	39 (23-51)		
BMI				
Mean \pm SD	24.88 \pm 3.42	26.38 \pm 4.34	-1.927 [†]	0.054
M (min-max)	24.4 (18.2-33.2)	25.7 (18.1-37.9)		
Occupation				
Not working	32 (59.3%)	72 (73.5%)	3.254 [†]	0.071
Working	22 (40.7%)	26 (26.5%)		
Educational level				
Illiterate	3 (5.6%)	4 (4.1%)	1.152 [†]	0.764
Primary school	16 (29.6%)	37 (37.8%)		
Secondary school	23 (42.6%)	39 (39.8%)		
Higher education	12 (22.2%)	18 (18.4%)		

BMI: body mass index, [†]independent sample t-test (t); [†]Chi-square test (χ^2). Summary statistics are given as mean \pm standard and median (minimum-maximum) for numerical data and number (percentage) for categorical data.

(n=79, 80.6%) and orgasm in controls (n=15, 27.8%). The least detected sexual problem was pain (n=45, 45.9%) in patients and lubrication (n=4, 7.4%) in controls. When the FSFI sub-domain scores were compared, no significant difference was found in the “Desire” domain of FSFI between patients and controls ($p>0.05$). The difference in all domains except the “Desire” domain was statistically significantly higher in favor of the control group ($p<0.001$) (Table 2).

According to the FSFI results, the mean score of the patients was 23.80 ± 2.68 , and the mean score of the controls was 29.15 ± 2.38 ($p<0.001$). In addition, the difference between

the mean FIQ score of the patients (71.45 ± 21.6) and the mean FIQ score of the controls (18.43 ± 8.8) was statistically significant ($p<0.001$) (Table 2).

HDS results show that 75 (76.5%) of the patients had depression. When the FSFI scores of FM patients with and without depression were compared, patients with additional depression had lower FSFI scores, and this difference was statistically significant ($p=0.002$).

No significant correlation was found between sociodemographic characteristics such as age, BMI, occupation, education and depression, SD, or disease severity (Table 3).

Table 2. Comparison of scales and subscales according to groups.

Characteristics	Groups		Test statistics	
	Control group n=54	FM patients n=98	Test value	p-value
FIQ score				
Mean±SD	18.43±8.84	71.45±21.69	-17.171	<0.001
M (min-max)	17 (5-41)	81 (32-96)		
HDS				
Mean±SD	4.30±2.00	11.55±3.76	-13.175	<0.001
M (min-max)	4 (1-9)	12 (5-20)		
FSFI				
Mean±SD	29.15±2.38	23.80±2.68	12.254	<0.001
M (min-max)	29.4 (24.8-33.6)	23.8 (18.2-29.5)		
FSFI desire				
Mean±SD	4.61±0.89	4.41±1.17	1.076	0.284
M (min-max)	4.7 (3-6)	4.2 (1.8-6)		
FSFI arousal				
Mean±SD	4.86±0.74	3.73±0.84	8.291	<0.001
M (min-max)	4.8 (3.6-6)	3.6 (2.1-6)		
FSFI lubrication				
Mean±SD	4.84±0.77	3.65±0.70	9.678	<0.001
M (min-max)	4.8 (3.6-6)	3.6 (2.4-6)		
FSFI orgasm				
Mean±SD	4.71±0.98	3.80±0.94	5.572	<0.001
M (min-max)	4.6 (3.2-6)	3.6 (1.6-6)		
FSFI satisfaction				
Mean±SD	5.06±0.93	3.58±0.58	12.041	<0.001
M (min-max)	5.2 (3.2-6)	3.6 (2.8-5.6)		
FSFI pain				
Mean±SD	5.07±0.57	4.62±0.78	3.775	<0.001
M (min-max)	5.2 (4-6)	4.8 (3.2-6)		

FSFI: Female Sexual Function Index; Mean±SD: mean±standard deviation; HDS: Hamilton Depression Scale score, independent sample t-test (t). Summary statistics are given as mean±standard and value. The values denoted in bold are statistically significant ($p<0.05$).

Table 3. Comparison of measurements according to sexual dysfunction status in fibromyalgia patients group.

FM patients	Sexual dysfunction		Test statistics	
	No n=20	Yes n=78	Test value	p-value
Age				
Mean±SD	38.60±6.64	38.44±6.79	0.097 [†]	0.923
M (min-max)	38.5 (23-51)	39 (25-56)		
Occupation				
Not working	12 (60%)	60 (76.9%)	2.339 [†]	0.126
Working	8 (40%)	18 (23.1%)		
Educational level				
Illiterate	2 (10%)	2 (2.6%)	2.883 [†]	0.410
Primary school	6 (30%)	31 (39.7%)		
Secondary school	9 (45%)	30 (38.5%)		
Higher education	3 (15%)	15 (19.2%)		
BMI				
Mean±SD	24.78±3.42	26.79±4.47	-1.871 [‡]	0.064
M (min-max)	24.39 (21-31)	26.41 (18-38)		

BMI: body mass index, [†]independent sample t-test (t); [‡]Chi-square test (χ^2). Summary statistics are given as mean±standard and median (minimum, maximum) for numerical data and number (percentage) for categorical data.

DISCUSSION

FM is a widely debated disorder characterized by widespread musculoskeletal pain and believed to affect a significant portion of the global population, ranging from 2 to 4%⁶. In addition to the primary symptoms of pain and tenderness, patients with FM also reported SD and cognitive disorders such as depression, anxiety, memory, and concentration difficulties^{2,5,7}.

Previous research has demonstrated that sexual difficulties are prevalent among both men and women, with reported rates of occurrence ranging from 10 to 52% in males and 25 to 63% in females^{8,9}. There is a significant body of literature indicating that the prevalence of SD is elevated among individuals with FM in comparison to the general population^{1,3-5,7}. The results of our study indicate that SD is a common problem among FM patients, with a high prevalence of 79.6%. This is consistent with previous studies, which have reported a prevalence of SD in FM patients ranging from 54 to 97%^{1,7,10}.

In our study, when the subfield scores of the FSFI scale were evaluated, the most common sexual problems in FM patients were satisfaction (n=79, 80.6%) and orgasm (n=15, 27.8%) in the control group. Pain was the least detected sexual problem in FM patients (n=45, 45.9%). Aydın et al.⁷ found that the most common sexual disorder among the subscales in their study involving 48 FM patients was a lack of desire (n=30, 62.5%). Additionally, the study found a prevalence of

SD of 54.2%, a frequency that is less than the one reported in our study. We think that this difference is due to the fact that Aydın et al.⁷ took the cutoff value of 22.7 instead of 26.55 for FSFI, unlike other studies¹¹. In our study, there was a statistically significant difference in favor of the control group in all domains except the “Desire” domain in the FSFI subdomain scales. There was a difference in favor of the control group in the “Desire” subdomain scores, but this difference was not statistically significant. This may be due to our sample size not being large enough. Overmeire et al.⁴ also reported the frequency of decreased sexual desire in women with FM but suggested that this was not related to FM severity but to depression and antidepressant drugs. In our study, although none of the patients used antidepressants, there was a significant relationship between SD and both depression and FM disease severity.

Past studies have established a correlation between FM and a high prevalence of both anxiety and depression^{12,13}. Additionally, it has been established that both conditions are associated with decreased sexual function^{7,14,15}. However, studies on the specific impact of depression on SD in FM patients have yielded inconsistent results. Our study demonstrated that 76.5% of the FM patients had depression. These rates were significantly higher than those in the control group (p<0.001). Tikiz et al.⁵ examined the SD of 40 female patients with FM, and similarly showed that 67.5% of these patients also had depression. In the same research,

there was no considerable difference found between the FSFI scores of FM and FM plus depression patients. On the contrary, Yılmaz et al.¹⁶ reported that patients with higher Beck Depression Inventory scores had lower FSFI scores and concluded that depression aggravated FM-related female SD. Our study revealed that individuals with depression had notably lower FSFI scores in comparison to those without depression ($p=0.002$), aligning with the results reported by Yılmaz et al.¹⁶.

In the correlation analysis, the FSFI score was found to have a strong inverse relationship with the HDS ($\rho=-0.235$, $p=0.020$) and FIQ ($\rho=-0.215$, $p=0.033$) scores. There was a statistically significant positive correlation between HDS and FIQS ($\rho=0.227$, $p=0.024$). These findings suggest that as HDS increases, disease severity scores increase and SD scores decrease. Although Aydın et al.⁷ reported a negative correlation between depression and FSFI scores, similar to our results, they did not report a result related to FIQ scores since they did not measure the severity of the disease in their study. Tikiz et al.⁵, on the contrary, reported that FSFI scores decreased significantly in FM and FM plus depression groups compared to healthy controls, but depression did not make an additional contribution to SD, and they did not detect a correlation between FIQ scores and FSFI scores. In their study, Yılmaz et al.¹⁶ reported a strong inverse relationship between the total FSFI score and both FIQ and depression scores in women with FM. Our findings align with those reported by Yılmaz et al.¹⁶.

SD still represents a major clinical challenge, as the diagnosis and treatment of SD are limited by several factors. In their study of 106 female subjects with hypoactive SD, Lerner et al.¹⁷ showed that group cognitive-behavioral group therapy can be an effective option for the treatment of female SD, which can have an effect on most of the possible factors and have a positive effect on female SD.

One of the limitations of our study is that it was a cross-sectional study and conducted on a limited number of population, and that it could not give an idea about the status of sexual function after FM treatment was started. In addition, the fact that the patients did not receive any treatment that could affect sexual functions, including antidepressants, is one of the strengths of our study in terms of showing the simple relationship between SD and FM.

CONCLUSION

Our study highlights the high prevalence of SD in female FM patients, as well as a significant correlation between SD and both disease severity and depression. These findings emphasize the importance of addressing SD in the management of FM and the need for further research in this area.

ETHICAL APPROVAL

This study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Istanbul Training and Research Hospital Institutional Clinical Research Ethics Committee (Date: 30.11.12/No. 209).

AUTHORS' CONTRIBUTIONS

İHE: Conceptualization, Data curation, Formal Analysis, Investigation, Methodology, Validation, Visualization, Writing – original draft, Writing – review & editing. **FU:** Data curation, Formal Analysis, Investigation, Resources, Writing – review & editing.

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