
The evaluation of anxiety and depression status in spouses of sexually active reproductive women with fibromyalgia

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ABSTRACT

Objective. Fibromyalgia (FM) can cause neuropsychiatric symptoms and sexual dysfunction. However, no data exist regarding anxiety and depression status in spouses of sexually active women with FM. Accordingly, we aimed to evaluate whether emotional status are affected in spouses of women with FM, and to search whether there was a relationship between sexual dysfunction of women with FM and emotional status of their spouses.

Methods. Thirty newly diagnosed, never treated reproductive women with FM and 30 age-matched healthy women as well as their spouses were included. Psychological status was evaluated using Beck depression/anxiety inventory (BDI/BAI). Sexual function was evaluated using Female Sexual Function Index (FSFI) and Index of Female Sexual Function (IFSF).

Results. BDI, BAI, FSFI and IFSF scores were significantly higher in women with FM than in controls. The spouses of women with FM had increased BDI and BAI scores as compared to spouses of controls (7.10 ± 7.76 vs. 2.10 ± 2.68 , 6.96 ± 6.62 vs. 2.20 ± 3.16 , respectively, $p < 0.001$). BDI scores of women with FM significantly correlated to BDI scores of their spouses, but there was no significant relationship between BDI scores of spouses and sexual functions of women with FM.

Conclusion. FM can cause deterioration of emotional status and lead to sexual dysfunction. Also, psychological status could be affected in spouses of women with FM at reproductive age, and the severity of depression of their spouses was significantly correlated to that of women with FM. However, this affection in psychological status did not relate to sexual problems of the women with FM.

Introduction

Fibromyalgia (FM), one of the most common chronic musculoskeletal pain disorders, is defined as presence of chronic (for 3 months or more) widespread pain and pain on palpation of at least 11 of 18 tender point sites throughout the body (1-3). In addition, several additional symptoms have been reported in patients with FM such as fatigue, sleep disruption, anxiety and depression, headache, and concentration problems (1-4). Moreover, functional disability can occur and quality of life (QOL) can be impaired in those patients (1, 2, 5).

The prevalence of FM is higher in women and previous studies have shown that there is a strong association between FM and sexual dysfunction in women (6-10). The patients with FM can decrease frequency of sex activity due to the onset of chronic pain, physical limitations, fatigue, and loss of sexual satisfaction (11). In addition, most patients can experience a decline in their sexual activities, and consequently a cessation of their sex life (10). Moreover, it has been reported that as high as two thirds of married patients with FM have a decline in sexual activities and 30% of them report deterioration of the marital relationship (12). Although substantial data exists that FM leads to many symptoms related to musculoskeletal system, depression and anxiety, impairment of QOL, and sexual dysfunction resulting in deterioration of the marital relationship, there has been no data regarding anxiety and depression status in spouses of sexually active women with FM. Accordingly, in the present study, we aimed to evaluate whether emotional status are affected in spouses of sexually active women with FM during reproductive age, and to search whether there was

Competing interests: none declared.

a relationship between sexual dysfunction of women with FM and the emotional status of their spouses.

Methods

Study population

A total of 30 newly diagnosed and never treated female subjects with FM at reproductive age and their spouses, and 30 age-matched healthy women and their spouses were included. Inclusion criteria were to be at reproductive age, on regular menstrual cycle and sexually active for women, and to be sexually active for their spouses. All women with FM and controls, and their spouses had no history of any systemic disease including musculoskeletal, neurologic, inflammatory, endocrine, or the other clinically significant chronic diseases. Exclusion criteria for spouses were a history of sexual dysfunction. Women who were pregnant, postmenopausal, older than 50 years of age, and single or widowed; had inflammatory genital disease or vaginal discharge, a history of psychiatric disorders or any psychiatric disorder requiring antidepressants or antipsychotic medication or any other drugs possibly affecting their sexual or psychiatric status were also excluded from the study. In addition, the subjects with excessive alcohol consumption (>120 g/day) and current smokers were also excluded. All women with FM, controls and their spouses were questioned in detail to search for symptoms and signs of FM. The severity of disease was detected using validated Turkish version of the Fibromyalgia Impact Questionnaire (FIQ) forms which contains 10 self-administered instruments including physical functioning, work status, depression, anxiety, sleep, pain, stiffness, fatigue and well-being (13). Also, visual analogue scale (VAS: from 0 = no pain to 10 = the worst pain) were applied to measure pain score.

Evaluation of anxiety and depression status

Using the Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI) scales (14, 15), anxiety and depression statuses of the participants were evaluated by two psychiatrists

from the department of psychiatry who were unaware of the clinical status of the participants. The BDI is a self-administered questionnaire consisting of 21 questions rated in a scale of 0-3 measuring the severity of depression. The depressive subscale contains: pessimism, past failures, guilty feelings, punishment feelings, self-dislike, self-criticalness, suicidal thoughts or wishes, worthlessness, loss of pleasure, crying, agitation, loss of interest, indecisiveness, loss of energy, change in sleep patterns, irritability, change in appetite, concentration difficulties, tiredness and/or fatigue, and loss of interest in sex. The score ranges from 0 to 63, and 17 is found to be the cut-off point for depression, and the scores between 13 and 17 were rated as minimal depression. The BAI is a 21-item self-report questionnaire used for measuring the severity of an individual's anxiety. It assesses common symptoms of anxiety experienced over the past week, including numbness and tingling, shortness of breath, and fear of the worst happening. Items are ranked on a 4-point scale for a maximum total score of 63. Based on total score, the levels of anxiety are divided into 4 degree: minimal (from 0 to 7), mild (from 8 to 15), moderate (from 16 to 25), and severe (from 26 to 63). Symptoms can be grouped into two groups of somatic and cognitive complaints. The BAI is widely used for assessing clinical anxiety with demonstrated robust psychometric properties.

Evaluation of sexual dysfunction

A urology specialist team containing two urology specialists who were unaware of the clinical status of the participants could determine the presence and severity of sexual dysfunction using Female Sexual Function Index (FSFI) (16), which is widely used in several countries and its Turkish version has been validated (17). FSFI questionnaire contains 19 items that assess the following six domains: sexual desire; arousal; vaginal and lubrication; orgasm; sexual satisfaction; and pain. Individual domain scores are obtained by adding the scores of the individual items that comprise the domain and

multiplying the sum by the domain factor. The full scale score is obtained by adding the six domain scores. Values ≤ 26 indicate sexual dysfunction. Validated Turkish version of Index of Female Sexual Function (IFSF) questionnaire was also used to evaluate sexual function in women (18). IFSF questionnaire system included quality of sexual intercourse (questions 1 and 2), desire (questions 4 and 5), overall satisfaction with sexual function (questions 6 and 7), orgasm, lubrication, and clitoral sensation. Specific questions analyzed the degree of lubrication (question 2), ability to achieve orgasm (question 8), and the degree of clitoral sensation (question 9), with responses graded on a scale of 1 (almost never or never) to 5 (almost always or always). A score of 0 indicated no attempt at intercourse and scores between 1 and 3 revealed the presence of related sexual dysfunction symptom. For each case, a total IFSF score of ≤ 30 was arbitrarily considered to indicate sexual dysfunction (19).

Statistical analysis

The analyses were performed using SPSS 9.0 (SPSS for windows 9.0, Chicago, IL). Categorical variables were defined as number and percentage. Numeric data were expressed as mean \pm SD. The groups were compared using chi-squared test regarding categorical variables. Student *t*-test or Mann-Whitney U-test (for comparison of a characteristic across the groups if that characteristic did not have a normal distribution) was used to compare continuous variables. Correlation analyses were performed using Pearson or Spearman's (if characteristic did not have a normal distribution) correlation matrix. A *p*-value less than 0.05 was considered significant.

Results

Clinical characteristics of the study population

The groups were comparable in respect to age, education status, and BMI. Presence of non-restorative sleeping, morning rigidity, fatigue, headache, light-headedness, boredom, discomfort, paresthesia, difficulties in breathing, dysmenorrhoea and sexual problems were

Table I. Clinical features, symptoms and signs, and findings of the women with fibromyalgia and healthy controls.

	Women with FM (30)	Controls (30)	p-value
<i>Clinical Features</i>			
Age (year)	38.5 ± 6.6	37.3 ± 5.9	NS
Education duration (year)	8.4 ± 2.1	9.1 ± 1.9	NS
BMI (kg/m ²)	26.4 ± 4.9	27.2 ± 3.8	NS
<i>Symptoms and Signs</i>			
Non-restorative sleeping (n, %)	30 (100)	4 (13)	<0.001
Morning rigidity (n, %)	23 (77)	2 (7)	<0.001
Fatigue (n, %)	29 (97)	9 (30)	<0.001
Headache (n, %)	19 (63)	7 (23)	=0.001
Lightheadedness (n, %)	4 (13)	2 (7)	<0.001
Boredom (n, %)	9 (30)	0 (0)	=0.001
Discomfort (n, %)	15 (50)	1 (3)	<0.001
Paresthesia (n, %)	23 (77)	2 (7)	<0.001
Difficulties in breathing (n, %)	10 (33)	0 (0)	=0.001
Dysmenorrhoea (n, %)	15 (50)	5 (17)	=0.006
Sexual problem (n, %)	17 (57)	3 (10)	<0.001
<i>Findings</i>			
Number of tender point	13.16 ± 1.82	1.76 ± 1.54	<0.001
VAS score	7.26 ± 1.57	1.13 ± 1.30	<0.001
FIQ score	58.13 ± 13.00	9.03 ± 6.78	<0.001

FM: fibromyalgia; BMI: body-mass index; VAS: visual analogue scale; FIQ: Fibromyalgia impact questionnaire.

Table II. Data from anxiety and depression status, and sexual functions of the women with fibromyalgia and healthy controls.

	Women with SCH (42)	Controls (43)	p-value
<i>Emotional status</i>			
BDI score	14.54 ± 8.3	4.22 ± 4.70	<0.001
BAI score	15.30 ± 10.28	5.71 ± 5.76	<0.001
<i>Sexual function problem</i>			
Desire	2.94 ± 0.97	4.36 ± 1.14	<0.001
Aroused	3.44 ± 1.16	4.51 ± 1.17	=0.001
Lubricated ("wet")	3.01 ± 0.75	3.62 ± 0.88	=0.006
Orgasm	3.38 ± 0.98	3.92 ± 0.76	=0.02
Satisfied	4.30 ± 1.43	5.38 ± 0.84	=0.001
Pain during penetration	2.65 ± 1.12	1.86 ± 0.80	=0.003
Total FSFI score	19.74 ± 4.95	23.79 ± 3.10	<0.001
Total IFSF score	26.30 ± 7.16	34.10 ± 4.85	<0.001

FM: fibromyalgia; BDI: Beck depression inventory; BAI: Beck anxiety inventory; FSFI: female sexual function index; IFSF: index of female sexual function.

significantly higher in women with FM than in controls. In addition, women with FM had significantly higher number of tender point, VAS score and FIQ score (Table I).

Depression status and sexual function status

The Beck depression and anxiety scores were significantly different between the two women groups (Table II). Total FSFI score and scores of its components were significantly higher in women with FM than in healthy women (Table II).

Comparison of the depression status of spouses

Beck depression inventory score and anxiety score were significantly higher in spouses of women with FM than in spouses of healthy women (7.10±7.76 vs. 2.10±2.68, 6.96±6.62 vs. 2.20±3.16, respectively, p<0.001 for each) (Fig. 1). In addition, BDI scores of women with FM were significantly correlated to BDI scores of their spouses with non-linear association, and the best model was the cubic model as for estimating depression of spouses by the depression severity of women with FM

(Fig. 2). However, there was no any relationship between BDI scores of spouses and disease severity and sexual function status of women with FM.

Discussion

The present study is the first study to assess the anxiety and depression status of spouses of women with FM at reproductive age. Psychological statuses of the all study participants were evaluated by assessing BAI and BDI scores. We found that there were significant differences between women with FM and age-matched healthy women in respect to depression, anxiety, and sexual dysfunction parameters. We also found that spouses of women with FM had higher BDI scores than spouses of age-matched healthy women. Furthermore, we revealed that BDI scores of women with FM were significantly correlated to BDI scores of their spouses. However, there was no any relationship between BDI scores of spouses and disease severity as well as sexual function status of women with FM.

Fibromyalgia is often encountered clinical entity in the daily clinical practice. It disproportionally affects women with a prevalence of 3.4% in women, and 0.5% in men (5). In addition to widespread pain and multiple tender points throughout the whole body especially involving the neck, shoulders and pelvic girdles, the patients with FM also have other symptoms including general fatigue, migraine, poor sleep, morning fatigue and paresthesia (20). Additionally, FM can coincide with emotional disturbances and mood disorders, such as anxiety, depression and negative self-image. The symptoms of FM and emotional problems may cause functional disability and have a negative effect on QOL including adverse effect on sexual function (2, 11). In other respects, Malin *et al.* (21) recently reported that perceived stress was associated with symptoms including pain, sleep disturbances, fatigue and cognitive dysfunctions and a range of relevant psychological variables in females with FM. The Auhors argued that if stress could be controled, most of these variables were no longer significant suggesting that stress impacts

on the majority of variables associated with FM, and they concluded that stress appeared to have a major role in modulating several key 'up-stream' processes in FM.

Previous studies showed that FM is associated with sexual dysfunction in women with FM (20, 22). In addition to generalized pain and fatigue, musculo-genic disorders due to pelvic floor muscles, psychogenic disorders, including depression and mood disorders may be responsible for sexual dysfunction in women with FM. There has been a suggestion that depression is a risk factor for sexual dysfunction (22-24). Previous studies have reported that most of chronic pain sufferers can decline sexual activities or cessation their sex life (25). Interviewing 50 patients suffered from chronic pain and their spouses, Maruta *et al.* (25) reported that 78% of chronic pain sufferers and 84% of their partners described deterioration or cessation of their sexual activities. Consequently, in a study evaluating 66 married patients who had chronic pain, 30% of married patients reported deterioration of the marital relationship (26). In another survey of patients with back pain referred to rehabilitation program, about half of the subjects complained decreased frequency of sex since the onset of chronic pain, associated with physical limitations, fatigue and loss of sexual satisfaction (27). Accordingly, recent studies have indicated that there is a significant correlation between sexual dysfunction and depression in patients with FM (22-24, 28). Aydin *et al.* (7) recently showed that BDI score was significantly correlated with FSFI score confirming the suggestion that depression is a risk factor for sexual dysfunction, and they reported that the domains of sexual desire, arousal, and orgasm were the most common problems in patients with FM. Although generalised pain was argued as a factor for cognitive performance in previous studies (29, 30), desire and arousal problems were the most common sexual problems in the patients with FM in the study of Aydin *et al.* The authors asserted that this condition was probably related to the depressive mood of those patients. On the other

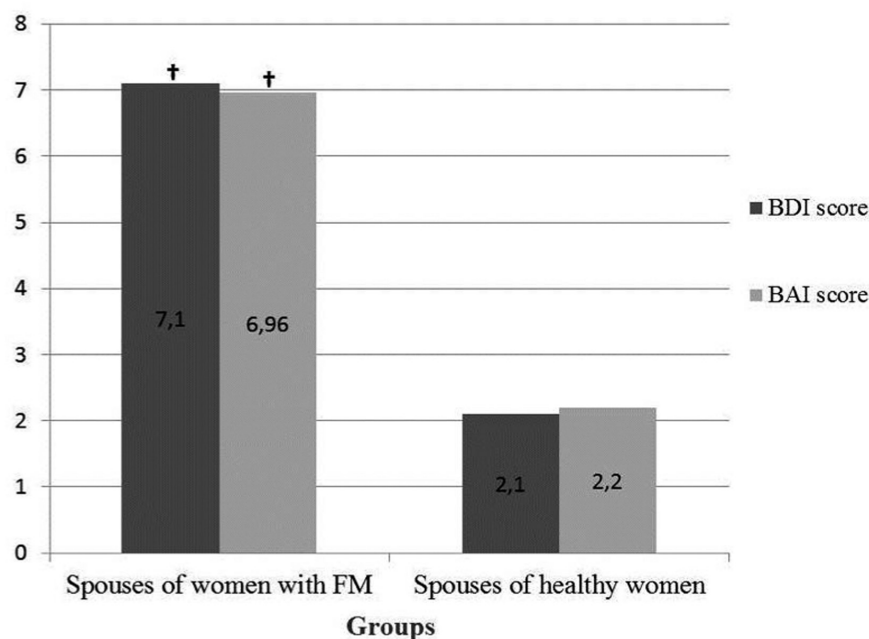


Fig. 1. Comparison of the BDI and BAI scores in spouses of the each women group. †: $p < 0.001$ as compared to spouses of healthy women. BDI: Beck depression inventory; BAI: Beck anxiety inventory.

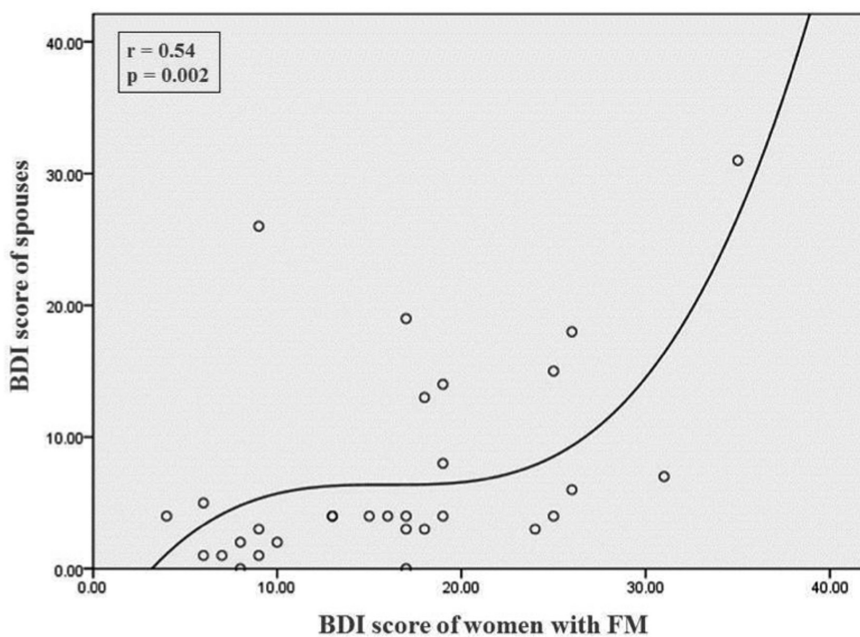


Fig. 2. Graph showing the nonlinear association between BDI score of women with FM and BAI score of their spouses ($r=0.54$, $p=0.002$). The best model was the cubic model. BDI: Beck depression inventory; FM: fibromyalgia; BAI: Beck anxiety inventory.

hand, it has been suggested that the use of antidepressants, as well as some psychological factors, such as anxiety, depression, sleep disorders and fatigue, may contribute to reduce the quality of sexual life of the patients with FM (8, 20, 22, 31-33). Although sexual satisfaction is an important determinant in

QOL and well marital relationship, and available data exists that there is an association between psychiatric conditions, most commonly depression and anxiety, and sexual dysfunction, there has been no data regarding anxiety and depression status in spouses of sexually active women with FM. Accord-

ingly, in the present study we aimed to evaluate whether emotional status are affected in spouses of sexually active women with FM during reproductive age, and to search whether there was a relationship between sexual dysfunction of women with FM and emotional status of their spouses.

Study limitations

The present study has several limitations. First, the sample size was relatively small. Second, the patient's selection was strict; therefore, our results can not be applied to overall FM population. Third, a comprehensive exploration of the sexuality was not applied in the spouses of the patients with FM as well as the spouses of the healthy women.

In conclusion, the present study suggested that as compared to age-matched healthy women, symptoms of anxiety and depression were frequent, and sexual functions were affected in women with FM at reproductive age. Our results support the contention that FM can cause deterioration of emotional status and lead to sexual dysfunction. Also, the present study adds new data in the literature that psychological status may be affected in spouses of women with FM at reproductive age, and the severity of depression of their spouses were significantly correlated to that of women with FM. However, this affection in psychological status did not relate to sexual problems of the women with FM.

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