

Sexual Dysfunction and Childhood Trauma In Female Patients With Fibromyalgia

Evrım Özkorumak Karagüzel, MD,¹ Murat Karkucak, MD,² Demet Aykut Sağlam, MD,¹ Ahmet Tiryaki, MD,³ Aykut Karahan, MD,⁴ and Erhan Capkin, MD²

¹ Karadeniz Technical University Faculty of Medicine, Department of Psychiatry, Trabzon, Turkey

² Karadeniz Technical University Faculty of Medicine, Department of Physical Medicine and Rehabilitation, Trabzon, Turkey

³ Aydın University Faculty of Medicine, Department of Psychiatry, Istanbul, Turkey

⁴ Ministry Hospital, Trabzon, Turkey

ABSTRACT

Background: Fibromyalgia (FM) is a rheumatological diseases characterized by diffuse pain and stiffness accompanied with fatigue, insomnia and headache. Physical and psychological factors were implicated in sexuality of patients with FM. There are few studies investigating the effect of childhood trauma on sexuality of patients with FM. The aim of this study is to investigate effect of childhood trauma on sexuality of FM.

Methods: Thirty-six patients with FM and 29 healthy females were included in this study. The patients with FM and healthy controls were assessed in terms of sociodemographic and clinical variables, sexual function and childhood traumas.

Results: The healthy controls had significantly longer duration of marriage with higher rate of marriage by arrangement. Communication subscale score was significantly higher in patients with FM. General and emotional trauma scores were significantly higher in patients with FM. There was no correlation between the scores of GRSSS, CTQ and FIQ.

Conclusion: The type of marriage and duration of marriage were important sociodemographic variables concerning sexuality in FM. This study indicated that childhood trauma was not a related factor in sexuality of FM.

INTRODUCTION

Fibromyalgia (FM) is a clinical pain syndrome with common and characteristic symptoms including widespread pain, tenderness, fatigue, insomnia and psychological distress (1). The pain is in axial and peripheral skeleton lasting more than three months and accompanied by tender points on physical examination (2). Women account for the majority of cases of FM (3). Depressive and anxiety disorders are highly prevalent in FM (4-6). The exact pathophysiology of FM is not yet known although a relation to sexuality has been suggested.

Sexuality is a complex process that can be influenced by aging, adverse life experiences, and various illnesses and their treatments (7). Several studies have compared sexuality in patients with FM and healthy controls, and many have reported impaired sexual function in patients with FM (8). However, the mechanism of the association and related factors between sexual dysfunction and FM is not yet fully understood. Organic and psychological factors are reported to affect sexuality in FM (9-11). Psychological factors including anxiety, depression, catastrophization, alexithymia, sleep disorders, chronic stress, and post-traumatic stress disorders are among the psychological factors reported to be associated with FM in previous studies. Also the influence of psychiatric comorbidity on sexuality has been found more than the symptom severity of the disease (12). Physical and sexual abuse during childhood are other reported psychological risk factors in the development of FM (13, 14) especially in female patients (15), but the relationship and the mechanism is still obscure. Decreased sexual desire, arousal and orgasm and increased pain with intercourse

Conflict of Interest: None

Address for Correspondence: ✉ Associate Prof. Dr. Evrim Özkorumak, Karadeniz Technical University Faculty of Medicine, Department of Psychiatry, Trabzon, Turkey 📧 evrimozkorumak@yahoo.com

are documented as major sexual dysfunctions in women with FM with a history of abuse as a risk factor (16). Physical and emotional abuse in childhood have been reported to be more frequent in FM patients than in healthy controls in a cross sectional design study in Turkey and the traumatic effect was found to be negatively correlated with the sexual function (16). However, further studies are required in order to understand the relationship between history of abuse and sexual dysfunction in women with FM.

FM and abuse history are more frequent in females than in males. Therefore there is a need for further investigation of the relationship of trauma and sexuality in female FM patients (8). We hypothesized that a history of childhood trauma was an associated factor in impairment of sexuality in female patients with FM. The aim of this study was to compare female patients with FM with healthy controls in terms of sexual functioning and retrospective childhood self-reports of traumas and to discuss factors associated with sexuality in female patients with FM.

METHODS

Participants: Thirty-six consecutive heterosexual women diagnosed with FM and referred to the Karadeniz Technical University Physical Medicine and Rehabilitation Department, Turkey, were recruited. Sexually active heterosexual premenopausal women aged 18-55 and diagnosed with FM according to American College of Rheumatology (ACR) criteria (3) were included in the study. Controls were recruited from relatives and neighbors of hospital personnel of similar age, sex and educational levels to those of the patient group. The control group consisted of 29 healthy heterosexual premenopausal women with no history of neurological or rheumatological disorders. Women with clinically significant chronic diseases or those receiving any antidepressant or antipsychotic medication that might potentially affect sexuality, pregnant and postmenopausal women, and women with psychiatric disease or mental retardation were excluded. Subjects with any cognitive disturbance that might impair comprehension of informed consent, such as dementia, delirium or any history of head trauma were also excluded from the study. Psychiatric evaluation and measures of sexuality were applied by a psychiatrist experienced in sex therapy. Functional status, disease activity, current status and progression disease were rated using clinical assessment scales. Informed consent was obtained from participants following detailed

explanations of the study and procedures. The Karadeniz Technical University Faculty of Medicine local ethical committee approved the study, and informed consent was obtained from all subjects.

MATERIALS AND PROCEDURE

Sociodemographic data: A semistructured questionnaire including sociodemographic and medical history was given to all subjects. The questionnaire inquired into gender, age, education, marital status, profession, employment status, date of diagnosis, current medication, and history of psychiatric diagnosis. Data concerning sexual life were also collected.

Golombok–Rust Sexual Satisfaction Scale (GRSSS): This scale assesses the existence and severity of sexual dysfunction. It is capable of discriminating between female sexual disorder and normal sexual function in the female with subscales consisting of frequency, communication, satisfaction, avoidance, sensuality, vaginismus and anorgasmia (17). Tugrul et al. (18) performed the standardization studies of the Turkish version. The forms for females were used in this study. The Cronbach alpha value of the scale was 0.92.

Childhood Trauma Questionnaire (CTQ): The CTQ is a Likert-type self-report scale composed of 40 items that rate childhood emotional, physical and sexual abuse and childhood physical and emotional trauma on a scale from 1 to 5 (19). Higher scores indicate a higher level of childhood trauma. The CTQ is composed of three subscales, emotional abuse and neglect, physical abuse and sexual abuse. A total score can also be measured. The Turkish version of the CTQ was validated by Aslan and Alparslan (20). Cronbach alpha scores ranged from 0.71 to 0.95 in a clinical sample.

Fibromyalgia Impact Questionnaire (FIQ): Patients' current health status was assessed using the 10-item, self-administered FIQ, of known adequate reliability and validity (21). The FIQ rates severity of pain, daytime fatigue, morning tiredness, stiffness, anxiety and depression, as well as the number of days of feeling good (21). The severity of symptoms including local and exercise-induced pain was marked on a 10-cm visual analog scale (VAS) (21). The number of days of feeling good during the previous week was also graded. Sarmer et al. (22) performed the validity and reliability study of the Turkish version of this scale.

Statistical assessment: All data were analyzed using SPSS statistical software (version 13.01, serial number 9069728; SPSS Inc, Chicago, IL, U.S.A.). Normal distri-

bution was examined using the Kolmogorov-Smirnov test. Demographic variables were compared between FM patients and the healthy control group using student's t test for continuous variables and the chi-square test for categorical variables for independent samples. Quantitative data were presented as mean \pm standard deviation and ordinal data as percentages. The significance level was set at two-tailed $p < 0.05$. Pearson's correlation analyses were used to determine the correlation among sexual function, trauma scores and disease activity scores.

RESULTS

Descriptive characteristics: The study population consisted of 36 women with FM and 29 healthy women. Mean ages were 38.18 ± 6.22 years for the women with FM, and 35.86 ± 5.35 for the control group. There was no significant difference between the patient and control groups in terms of age ($p = 0.122$). Years of education was 7.28 ± 2.95 years in women with FM and 7.96 ± 3.12 in the control group. The difference was also insignificant ($p = 0.419$). The level of employment was significantly higher among healthy women (51.7%; $n = 14$) than among the patients (11.1%; $n = 4$) ($p = 0.001$). The frequency of marriage after a period of dating was significantly higher in the control group (69.0%; $n = 20$ versus 38.9%; $n = 14$) in controls ($p = 0.030$). Duration of marriage was significantly longer in patients with FM (18.33 ± 7.51 years versus 10.34 ± 5.21 years) ($p = 0.0005$). However, we observed no correlations between duration of marriage and GRSSS total or subscales. Mean duration of disease was 2.88 ± 3.18 years. Mean VAS and FIQ scores were 7.47 ± 1.48 and 71.66 ± 17.38 , respectively. Mean number of tender points was 14.8 ± 2.4 . The level of reporting a sexual symptom

Table 1. Sociodemographic Variables of Patients and Healthy Control

		Patient (n=36)	Control (n=29)	p
		Mean \pm s.d.	Mean \pm s.d.	
Age (years)		38.18 \pm 6.22	35.86 \pm 5.35	0.122
Education (years)		7.28 \pm 2.95	7.96 \pm 3.12	0.419
Duration of marriage (years)		18.33 \pm 7.51	10.34 \pm 5.21	0.0005*
		n(%)	n(%)	
Type of Marriage	Voluntarily arranged	22 (61.1)	9 (31.0)	0.030*
	By choice	14 (38.9)	20 (69.0)	
Employment	Housewife	32 (88.9)	14 (48.3)	
	Employed	4 (11.1)	15 (51.7)	0.001*

* $p < 0.05$, significant

was significantly higher in patients with FM (47.2%; $n = 17$ versus 13.8%; $n = 4$) ($p = 0.009$). There was no difference in history of psychiatric illness between patients with FM and the healthy controls (22.2%; $n = 8$ versus 10.3%; $n = 3$) ($p = 0.349$). Sociodemographic and clinical variables of both groups are shown in Tables 1 and 2.

SEXUAL FUNCTIONING

GRSSS subscales of frequency, satisfaction, avoidance, sensuality, vaginismus, anorgasmia and total scores were higher in the patient group, but the difference was not statistically significant. Mean Communication subscale score was significantly higher in patients with FM (6 ± 2.27 versus 2.11 ± 4.62) ($p = 0.014$) (Table 3).

CHILDHOOD TRAUMA

The Mean CTQ total and emotional abuse subscores were significantly higher in patients with for FM. The Mean CTQ total was 71.58 ± 33.01 for patients, 33.72 ± 9.89 for the control ($p = 0.0005$). The emotional abuse subscores were 42.22 ± 21.70 for patients and 9.20 ± 11.52 for the control ($p = 0.0005$). There was no correlation between GRSSS-total and subscores and the CTQ-total and subscores in patients, control group and the total sample. Correlations between T-GRSSS, FIQ and G-CTQ are shown in Table 3.

Table 2. Comparison of Clinical Rating Scales

	Patient (n=36)		Control (n=29)		p
	Mean	s.d.	Mean	s.d.	
GRSSS[‡]					
Frequency [‡]	5.80	± 1.79	5.28	± 1.71	0.230
Communication [‡]	6.00	± 2.27	4.62	± 2.11	0.014*
Satisfaction [‡]	3.98	± 1.90	3.93	± 1.71	0.957
Avoidance [‡]	5.64	± 2.45	4.72	± 1.65	0.078
Sensuality [‡]	6.19	± 1.82	5.31	± 2.25	0.085
Vaginismus [‡]	5.19	± 1.87	5.28	± 1.60	0.853
Anorgasmia [‡]	4.14	± 1.44	4.10	± 1.47	0.922
Total score [‡]	4.86	± 2.43	4.14	± 1.75	0.168
CTQ[‡]					
Total [‡]	71.58	± 33.01	33.72	± 9.89	0.0005*
Emotional [‡]	42.22	± 21.70	9.20	± 11.52	0.0005*
Physical [‡]	24.47	± 11.74	23.17	± 4.38	0.543
Sexual [‡]	5.25	± 0.93	5.34	± 1.86	0.447

Values are presented as mean \pm SD and n,%

GRSSS: Golombok-Rust Sexual Satisfaction Scale

CTQ: Childhood Trauma Questionnaire

* $p < 0.05$, significant

[‡] Student's t test for comparison

[†] Mann-Whitney u test for comparison

Table 3. Correlation of T-GRSSS*, FIQ** and T-CTQ***

	T-GRSSS*		FIQ**	
	R	p	r	p
FIQ**	-0.151	0.380		
T-CTQ***	0.102	0.441	0.122	0.477

* Total Golombok-Rust Sexual Satisfaction Scale

** Fibromyalgia Impact Questionnaire

*** Childhood Trauma Questionnaire

Pearson correlation was used in comparison of parametric values.

r represents pearson coefficient of correlation, p represents

significance of coefficient of correlation

Significant p and r values are in bold

DISCUSSION

This study shows that women with FM have impaired communication concerning sexuality and higher emotional and general traumatic scores compared to healthy women. Despite this high level of emotional and general traumatic events, no correlation was found between the subscales of trauma and communication of sexuality.

FM is a heterogenous syndrome, and the mechanisms leading to sexual dysfunction in this condition may therefore be diverse and often multifactorial. Studies investigating sexual function in females with FM have reported severe impairment in many domains of sexuality. Most studies have detected a decrease in sexual desire and arousal and in experience of orgasm in patients with FM, and some studies have observed an increase in genital pain (10, 11). Physical and psychological childhood trauma are documented risk factors both in FM and in sexual dysfunction (13, 14, 23, 24). However, very few studies investigating sexual function in FM have examined sexual abuse as a related factor in sexual dysfunction (16). Hausser et al. (14) reported that sexual abuse directly affects the sexuality of patients with FM. In the current study, only the communication domain of sexual function was impaired in patients with FM. This domain plays a critical role in women's sexuality. A woman's relationship with her partner has a significant effect on her sexual satisfaction and the extent of sexual dysfunction (25, 26). If the stimulation provided is the kind she desires and if sufficient time is available, then she can stay focused, and her sexual excitement and pleasure intensify (27). Communication within marriage is an important element in sexual satisfaction. The impact of traumatic experiences on communication between man and woman in the context of FM may be an issue requiring further investigation, despite the negative results of this study. Other potential significant variables that can impact

on sexual communication other than childhood trauma must also be considered. One is the type of marriage involved. A significantly higher number of females in the patient group were married by arrangement rather than by choice, and this could have confounded the results. Although the rate of arranged marriage is beginning to fall in Turkey, it is still common (28). Arranged marriages is viewed as uniting the families of origin. Thus the couples live with or very near to family members of origin, which may disturb the privacy of the couples and decrease the autonomy of the women. Although the effect of extended and larger families on couples has not been researched yet, the type of marriage may be a potential factor in communication between couples for further research. The other factor is the duration of marriage; even in large studies the duration of partnership has seldom been investigated, or even if it has been considered, it is very rarely analyzed thoroughly as an independent variable. A survey of German students reported that sexual activity and sexual satisfaction declined as the duration of relationship increased (29). In this study, the duration of marriage was significantly longer in patients with FM, and this may also be a demographic predictor for sexual dysfunction that should be controlled in further studies.

There are some limitations to this study. One of them is that patients were recruited from one center, the Physical Medicine and Rehabilitation Department of a university hospital. This may cause selection bias for a well controlled and follow up sample that does not represent the whole population of FM patients. Moreover, only females were enrolled in this study, although this is compatible with our primary hypothesis. Our results should therefore not be generalized for all FM patients. Another major limitation is the small sample size, which made it impossible to perform mediation or moderation analyses between sexual functioning and a history of trauma in FM. The cross-sectional nature of this study also makes it difficult to draw any conclusion concerning causal relations between FM and sexual dysfunction. The stratification of the sample into patients with or without history of childhood trauma might be a solution for excluding confounding factors, but this requires larger samples in further studies. Another limitation is that childhood trauma was evaluated using a self-report questionnaire that may result in problems concerning simple forgetting and non-disclosure of some details or memory deficits documented in traumatic patients (30).

This study provides further information about sexuality of Turkish female patients with FM. It failed to find that

childhood trauma is a factor related to sexuality of patients with FM. Nevertheless, it shows that sociodemographic variables such as duration or type of marriage should be borne in mind during assessment of sexuality in FM.

References

1. Wolfe F. Fibromyalgia: The clinical syndrome. *Rheum Dis Clin North Am* 1989; 15:1-18.
2. Wolfe F, Smithe HA, Yunus MB, et al. The American College of Rheumatology 1990 criteria for the classification of fibromyalgia. Report of the multicenter Criteria Committee. *Arthritis Rheum* 1990; 33:160-172.
3. Wolfe F, Ross K, Anderson J, Russell IJ, Hebert L. The prevalence and characteristics of fibromyalgia in the general population. *Arthritis Rheum* 1995; 38:19-28.
4. Kayhan F, Küçük A, Satan Y, et al. Sexual dysfunction, mood, anxiety, and personality disorders in female patients with fibromyalgia. *Neuropsychiatr Dis Treat* 2016; 12:349-355.
5. Epstein SA, Kay G, Clauw D, et al. Psychiatric disorders in patients with fibromyalgia. A multicenter investigation. *Psychosomatics* 1990;40:57-63.
6. Pierluigi F, Manganeli P. Fibromyalgia and psychiatric disorders. *Acta Bio Medica Atenei Parmensis* 2007;78:88-95.
7. Nusbaum MRH, Hamilton C, Lenahan P. Chronic illness and sexual functioning. *Am Fam Physician* 2003; 67: 347-354.
8. Kalichman L. Association between fibromyalgia and sexual dysfunction in women. *Clin Rheumatol* 2009; 28: 365-369.
9. Bazzichi L, Giacomelli C, Rossi A, et al. Fibromyalgia and sexual problems. *Reumatismo* 2012; 64: 261-267.
10. Tikiz C, Muezzinoglu T, Pirildar T, et al. Sexual dysfunction in female subjects with fibromyalgia. *J Urol* 2005;174:620-623.
11. Yilmaz H, Yilmaz SD, Polat HAD, et al. The effects of fibromyalgia syndrome on female sexuality: a controlled study. *J Sex Med* 2012; 9: 779-785.
12. Bazzichi L, Rossi A, Giacomelli C, et al. The influence of psychiatric comorbidity on sexual satisfaction in fibromyalgia patients. *Clin Exp Rheumatol* 2013; 31:81-85.
13. Paras ML, Murad MH, Chen LP, et al. Sexual abuse and lifetime diagnosis of somatic disorders: A systematic review and meta analysis. *JAMA* 2009;302:550-561.
14. Hauser W, Kosseva M, Üceyler N, Klose P, Sommer C. Emotional, physical, and sexual abuse in fibromyalgia syndrome: A systematic review with meta-analysis. *Arthritis Care Res* 2011;63:808-820.
15. Jiao J, Vincent A, Cha S, Luedtke CA, Oh TH. Association of abuse history with symptom severity and quality of life in patients with fibromyalgia. *Rheumatol Int* 2015;35: 547-553.
16. Atagun MI, Atagun Z, Dogan S, et al. Sexual dysfunction is related with childhood trauma in female patients with fibromyalgia. *Anadolu Psikiyatri Derg* 2013; 14: 200-209 (Turkish).
17. Rust J, Golombok S. The GRISS: A psychometric instrument for the assessment of sexual dysfunction. *Arch Sex Behav* 1986;15:157-165.
18. Tuğrul C, Öztan N, Kabakçı E. Golombok-Rust Cinsel Doyum Ölçeği'nin standardizasyon çalışması. *Turk Psikiyatr Derg* 1993;4:83-88 (Turkish).
19. Bernstein DP, Fink L, Handelsman L, et al. Initial reliability and validity of a new retrospective measure of child abuse and neglect. *Am J Psychiatry* 1994;151:1132-1136.
20. Aslan SH, Alparslan ZN. Reliability, validity and factor structure of the childhood trauma questionnaire among a group of university students. *Turk Psikiyatri Derg* 1999; 10:275-285 (Turkish).
21. Burckhardt CS, Clark SR, Bennett RM. The Fibromyalgia Impact Questionnaire: Development and validation. *J Rheumatol* 1991;18:728-733.
22. Sarmer S, Ergin S, Yavuzer G. The validity and reliability of the Turkish version of the Fibromyalgia Impact Questionnaire. *Rheumatol Int* 2000;20:9-12.
23. Kinzl JF, Traweger C, Biebl W. Sexual dysfunctions: Relationship to childhood sexual abuse and early family experiences in a nonclinical sample. *Child Abuse Negl* 1995; 19:785-792.
24. Leonard LM, Follette VM. Sexual functioning in women reporting a history of child sexual abuse: Review of the empirical literature and clinical implications. *Ann Rev Sex Res* 2002;13: 346-388.
25. Bancroft J, Loftus J, Long JS. Distress about sex: A national survey of women in heterosexual relationships. *Arch Sex Behavior* 2003;32:193-208.
26. Wallwiener S, Strohmaier J, Wallwiener LM, et al. Sexual function is correlated with body image and partnership quality in female university students. *J Sexual Med* 2016;13: 1530-1538.
27. Basson R. Women's sexual dysfunction: Revised and expanded definitions. *CMAJ* 2005;172:1327-1333.
28. Manglos-Weber, ND, Weinreb AA. Own choice marriage and fertility in Turkey. *J Marriage Fam* 2016. doi:10.1111/jomf.12348
29. Klusmann D. Sexual motivation and the duration of partnership. *Arch Sex Behav* 2002;31:275-287.
30. McNally RJ. Cognitive abnormalities in post-traumatic stress disorder. *Trends Cogn Sci* 2006;10: 271-277.