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Original Article

Expressing emotions, rejection sensitivity, and attachment in patients with fibromyalgia

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ABSTRACT

Objectives: This study aimed to examine emotional awareness, control of emotions, and the childhood attachment process in fibromyalgia patients.

Patients and methods: The observational study was conducted with 117 participants (14 males, 103 females; mean age: 43.9±9.0 years; range, 22 to 64 years) between February 20, 2022, and May 20, 2022. Sixty-one patients and 56 healthy control subjects filled out a form including sociodemographic data, such as age, sex, occupation, and educational status. In addition, the participants answered the Expressing Emotions Scale, Rejection Sensitivity Scale, and Experiences in Close Relationships Scale.

Results: In our study, Expressing Emotions Scale scores are significantly higher in the healthy control group than in the patient group ($p<0.05$). Rejection Sensitivity Scale scores are significantly higher in the patient group than in the healthy control group ($p<0.05$). In the Experiences in Close Relationships Scale, a significant difference was determined between the patient and control groups in the avoidant attachment subdimension ($p<0.05$). Similarly, a significant difference was observed between both groups in terms of the anxiety attachment subdimension ($p<0.05$).

Conclusion: The ability to express emotions is lower and avoidant and anxious attachment rates are higher in fibromyalgia patients.

Keywords: Chronic, chronic fatigue syndrome, emotional disorders, fibromyalgia.

Fibromyalgia is a syndrome involving diffuse musculoskeletal system pain, fatigue, and insomnia. Its underlying etiology is yet to be fully understood.[1] Patients generally present with complaints of pain. Patients often use many drugs and try different treatment options. In addition, psychiatric syndromes are more commonly seen in these patients compared to the general population. Diseases such as anxiety disorders and depression are more common in fibromyalgia patients, resulting in increased pain levels and reduced quality of life.[2,3] Daily activities of the patients are impaired, and they have problems in interpersonal relationships. Occasionally, issues in the relationships of the patients increase fibromyalgia symptoms. Besides pharmacological treatment, supporting their skills in communication and relationship in social life and performing psychotherapeutic intervention in a positive direction support the treatment process.[4,5] Attachment defines the relationship established with the caregiver in childhood. Many studies have shown the relationship established in childhood with subsequent psychiatric disorders. In addition, attachment is related to the way one express their emotions and their ability to cope with stress. People who develop safe attachment patterns can develop easier coping strategies against

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the problems they encounter.[6] Diseases progressing with chronic pain, such as fibromyalgia, create a severe psychostressor for an individual. In chronic disease exposure, the frequency of mental illness increases, and the severity of symptoms can be high. In such cases, recognition of one's close relationships and emotions both affects the treatment process of psychosomatic diseases and offers a new perspective to the clinician. Data in the literature about attachment and the ability to express emotions in fibromyalgia patients is scarce. In this respect, our study aimed to examine emotional awareness, control of emotions, and the childhood attachment process. Multidirectional assessment of a subjective symptom such as pain requires increased psychiatric support in fibromyalgia patients. Our main hypothesis is that patients with fibromyalgia have more difficulty expressing their emotions and managing negative effects. Our other hypothesis is that the patients who experienced attachment problems and had lower levels of attachment in childhood more commonly exhibit attachment disorders.

PATIENTS AND METHODS

The observational study was conducted with 117 participants (14 males, 103 females; mean age: 43.9±9.0 years; range, 22 to 64 years) in the physical therapy and rehabilitation outpatient clinic of the Medicine Faculty of Recep Tayyip Erdoğan University Hospital between February 20, 2022, and May 20, 2022. Patients with a diagnosis of fibromyalgia who applied to the physical therapy outpatient clinic were referred to the psychiatry outpatient clinic, and clinical interviews were conducted with the patients in accordance with the DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition) diagnostic criteria. Patients and volunteers interviewed in the psychiatry outpatient clinic were assessed in terms of psychiatric disorders. The patient group (n=61) enrolled in this observational and descriptive study was created from consecutive fibromyalgia patients who presented to the outpatient clinic and who met the inclusion criteria. Whereas patients' relatives who met inclusion criteria and had no chronic disease or drug usage were included in the control group (n=56). The inclusion criteria were being literate and having an academic capacity to adapt to the scales. Patients with additional chronic diseases, those diagnosed with psychiatric diseases, patients who were using drugs regularly and those with a psychiatric diagnosis and treatment within the last two years were excluded from the study. A sociodemographic data form consisting of age, sex, occupational level, and educational level were given to the participants, and the expressing emotions scale, Rejection Sensitivity Scale, and Experience in Close Relationships Scale were conducted.

The expressing emotions scale is a scale developed by King and Emmons.[7] It is a Likert-type scale that evaluates the participants' way of expressing emotions, their emotion management, anger attitude, and emotional control according to the environment. Participants are thought to better express themselves as the score from the scale increases. The validity and reliability study of the scale was conducted by Kuzucu.[8] In the validity and reliability study, it was found that the internal consistency of the scale was good, and Cronbach's alpha value of the scale was 0.85.

The Rejection Sensitivity Scale consists of 18 items with a 6-point Likert-type scoring system. It was developed by Downey and Feldman.[9] The scale has two subdimensions. The first is being rejected by friends and the other is being rejected by the family. High scores from the scale indicate increased rejection sensitivity. The participants read and filled out the scale by themselves, and a clinician made the calculation. Turkish validity and reliability study was performed by Erözkan.[10] In the validity and reliability analysis, Cronbach's alpha value of the scale was 0.83.

The Experiences in Close Relationship Scale was developed by Fraley.[11] It has two dimensions: avoidant attachment and anxiety attachment. Turkish validity and reliability study was conducted by Selçuk.[12] In the validity and reliability analysis, internal consistency was evaluated for each subdimension of the scale. Cronbach's alpha value of the avoidant attachment subdimension was 0.90, and Cronbach's alpha value of the anxious attachment subdimension was 0.86. The scale evaluates one's feelings in romantic relationships and friendship relationships and is self-assessed.[13]

Statistical analysis

The power analysis of the design phase of the study was performed with G*Power version 3.1.9 (Heinrich-Heine-Universität Düsseldorf, Düsseldorf, Germany). Considering an alpha of 0.05, a size effect of 0.5, and study power of 80%, the minimum number of samples needed to be included in each group was calculated as 51.[14] Considering that there may be missing data, 65 patients and 65 control groups were included in the study. However, since four participants from the patient group and nine participants from the control group did not meet the inclusion criteria, the study was continued with 61 patients and 56 controls.

TABLE 1
Sociodemographic data of the patient and control groups

	Patient group (n=61)				Control group (n=56)				
	n	%	Mean±SD	Min-Max	n	%	Mean±SD	Min-Max	*p*
Age (year)			44.8±8.7	22-62			42.7±9.1	22-64	0.218
Illness duration (year)			4.8±3.7	0-20					
Sex									0.459
Female	55	90.2			48	85.7			
Male	6	9.8			8	14.3			
Marital status									0.189
Married	55	90.1			45	80.3			
Single	4	6.6			9	16.1			
Divorced	2	3.3			2	3.6			
Education									0.649
Primary education	40	65.6			34	60.7			
High school	10	16.4			13	23.2			
University	11	18.0			9	16.1			
Job									0.204
Jobless	44	72.1			35	62.5			
Officer	7	11.5			8	14.2			
Worker	5	8.2			9	16.1			
Retired	4	6.6			2	3.6			
Student	1	1.6			2	3.6			
Total	61	100.0			56	100.0			

SD: Standard deviation.

Data obtained in the study were analyzed using IBM SPSS version 25.0 (IBM Corp. Armonk, NY, USA). Descriptive statistics are presented as mean ± standard deviation or frequency and percentage. Normality of the variables was examined with visual and probability plots and analytic methods (Kolmogorov-Smirnov test/Shapiro-Wilk test). Patient and control groups were compared with independent samples t-test and the chi-square test. The correlations between continuous variables and scale scores were examined with Spearman's correlation test, and scale scores were compared between patient and control groups with the Mann-Whitney U test. Effect size was calculated using the formula: $r = Z \div \sqrt{n}$. The r value was used in the interpretation of effect sizes.[15,16] A *p*-value <0.05 was considered statistically significant.

RESULTS

Sociodemographic data were compared between the two groups, and no statistically significant difference was found (Table 1). The mean disease duration was 4.8±3.7 years, and no significant correlation was found between the duration of disease and scale scores in the patient group (Table 2). Patients' scores were separately compared for each scale (Table 3). Internal consistencies were calculated for each of the scales used in the research. Cronbach's alpha value of the expressing emotions scale, the Rejection Sensitivity Scale, the avoidant attachment subdimension of the Experiences in Close Relationships Scale, and the anxious attachment subdimension was 0.78, 0.82, 0.81, and 0.82, respectively. There was a significant difference with high effect size between the groups regarding the expressing emotions scale (p<0.05; effect size: 0.59). The mean score was significantly lower in the control group compared to the patient group. There was a moderately significant difference between the groups in terms of the Rejection Sensitivity Scale

TABLE 2
The relationship between the disease duration of the patient group and the scale scores

	n	r	*p*
EQ	61	-0.006	0.961
RSS	61	-0.012	0.929
ECR-R AVS	61	-0.064	0.625
ECR-R ANS	61	0.193	0.136

EQ: Expressing emotions scale; RSS: Rejection Sensitivity Scale; ECR-R AVS: Experiences in Close Relationships-Revised Avoidant Attachment Subscale; ECR-R ANS: Experiences in Close Relationships-Revised Anxiety Attachment Subscale.

TABLE 3
Comparison of scale scores of the patient and control groups

	Patient group			Control group				
	n	Median	IQR	n	Median	IQR	r	*p*
EQ	61	63.00	25.00	56	80.00	15.00	0.59	0.000*
RSS	61	64.00	36.00	56	40.50	16.00	0.48	0.000*
ECR-R AVS	61	57.00	19.00	56	43.00	23.00	0.58	0.000*
ECR-R ANS	61	55.00	17.00	56	46.50	20.00	0.25	0.006*

IQR: Interquartile range; EQ: Expressing emotions scale; RSS: Rejection Sensitivity Scale; ECR-R AVS: Experiences in Close Relationships-Revised Avoidant Attachment Subscale; ECR-R ANS: Experiences in Close Relationships-Revised Anxiety Attachment Subscale; * p<0.01; r: Effect size.

scores (p<0.05; effect size: 0.48). The mean score was significantly higher in the patient group compared to the control group. There was a statistically significant high effect difference between the patients and control groups in terms of the avoidance attachment subdimension of the Experience in Close Relationships Scale (p<0.05; effect size: 0.58). The mean score of the avoidance attachment subdimension was higher in the patient group compared to the control group. Again, there was a significant difference with a low size effect between the groups in terms of the attachment subdimension (p<0.05; effect size: 0.25). The mean anxiety attachment subdimension score was higher in the patient group compared to the control group.

DISCUSSION

In our study, it was found that expressing emotion was lower, while rejection sensitivity, avoidance, and anxiety attachment styles were higher in the fibromyalgia patients compared to the control group. Fibromyalgia is a psychosomatic syndrome in which psychiatric symptoms are frequently observed, usually accompanied by intestinal system disorders, fatigue, and chronic pain. Thus, patients suffer more pain and have more problems in daily activities due to their disease. Although the mechanisms by which fibromyalgia occurs are not fully determined, genetic and psychosocial factors are thought to play a role.[17] Mostly no somatic causes present in these patients, and some of them benefit from psychiatric treatments such as duloxetine, pregabalin, and milnacipran.[18] Fibromyalgia was originally thought to be a peripheral muscle disorder; however, recent studies have shown the presence of central pain susceptibility.[19,20] Fibromyalgia patients have more reaction to pain compared to normal individuals, as in they have a lower pain threshold. Problem solving skills and defining and experiencing emotions are decreased. Therefore, they have difficulty in expressing emotions, and pain sensitivity increases in the presence of psychostressors.[21] Thus, it is thought that symptoms of the patients result from difficulties in recognition of emotions. In the literature, most studies related to fibromyalgia have been conducted on alexithymia. Consistent with each other, studies generally show that fibromyalgia patients are individuals who have difficulties in expressing their emotions. Alexithymia rates were found to be high in patients with fibromyalgia. In parallel with this information, we found that expressing emotion scores were lower in fibromyalgia patients. It is seen that alexithymic individuals have difficulties in expressing their emotions.[22] It was demonstrated in a study that patients having difficulty expressing emotions suffer more pain and impairment in daily activities.[23] Fibromyalgia is a disease that affects the musculoskeletal system as well as a disorder in which emotion regulation is impaired. In addition to being unable to express emotions, patients experience an inability to manage emotions and show an exaggerated reaction to stimuli and psychostressors. It is seen that rejection sensitivity is experienced in the form of difficulties in emotion regulation, sensitivity in interpersonal relationships, and exaggerated affection. Patients have difficulty in both expressing their emotions and managing their relationship. Sensitivity, irritability, decreased frustration threshold, and exaggerated reactions can be observed in interpersonal relationships. Studies have shown that patients' musculoskeletal symptoms increase in proportion to their emotional symptom.[24-26] Likewise, in our study, rejection sensitivity was found to be higher in the patient group. There are very few studies in the literature examining the rejection sensitivity of fibromyalgia patients. However, when rejection sensitivity is considered with the difficulties in management of emotions and in the

form of regulation of interpersonal relationships, higher rejection sensitivity in fibromyalgia patients is an expected finding. Again in another study, alexithymia and attachment problems were higher in fibromyalgia patients.[27] Lack of a safe attachment in childhood accompanies many mental diseases in adulthood. It has been thought that traumatic childhood experiences may produce difficulty in expressing emotions, and pain threshold may be decreased in subsequent years.[28] In a study by Goldberg et al.,[29] the incidence of traumatic experiences in childhood was higher in patients with chronic pain. There are numerous studies reporting that individuals who have experienced childhood abuse, emotional neglect, and attachment issues have more intense chronic pain syndromes. Negative experiences in childhood prevent the development of problem-solving skills in adulthood. These individuals may experience more pain symptoms as individuals who are more introverted have more difficulty in social relations and cannot express their emotions verbally. In these patients, pain can be an outward symptom of psychiatric disorders.[30] There are studies conducted on personal traits of fibromyalgia patients. It has been observed that patients with fibromyalgia exhibit harm-avoidance, are more insecure, cautious, careful, and passive, and can experience negative effects. In avoidant attachment style, individuals experience more relationship problems and emotional difficulty in adulthood.[31] Similarly, studies have reported that coping strategies were lower and avoidant personal traits were higher in fibromyalgia patients.[32] Likewise, avoidant and anxious attachment rates were higher in these patients. Although there was a significant difference in the avoidant and anxious attachment scores between the groups, the effect size of the difference in the avoidant attachment ratio was higher. This is compatible with difficulty in expressing emotions and rejection sensitivity. When all findings are evaluated, it is thought that fibromyalgia symptoms are also a part of emotional expression.

Fibromyalgia is a clinical diagnosis. Although the diagnosis is made by rheumatology and physical therapy and rehabilitation specialists, the treatment process requires a multidisciplinary approach. Antidepressants, physical therapy, cognitive behavioral therapy, and psychoeducation have an important place in the treatment. Therefore, treatment of fibromyalgia, which is a psychosomatic disorder, requires a multidisciplinary approach.[33] Although there are studies in the literature on expressing emotions, such as alexithymia, attachment and rejection sensitivity have been less studied. We believe that the data provided in this study will also be helpful in the treatment approach.

There are some limitations to this study. The study was conducted in a single center with a relatively small sample size, and the relationship between symptom severity and scale scores could not be studied. Nevertheless, our study contributes to the relevant literature in terms of investigating attachment and rejection sensitivity in fibromyalgia since studies on this topic are limited. Further studies are needed to examine the relationship between the severity of the symptoms of the patients and the findings and evaluate the changes in their emotional awareness after the treatment.

In conclusion, fibromyalgia patients have lower scores on the expressing emotions scale and higher scores on the Rejection Sensitivity Scale. In addition, avoidant and anxiety attachment levels were higher in the patient group than in the healthy control group. Fibromyalgia patients may have difficulty expressing their emotions, may have more problems in interpersonal relationships, and may be more at risk for mental illness. In this case, if the underlying mental illness is overlooked, the treatment of the patients becomes more difficult. Most often, the first admission clinics of fibromyalgia patients are physical therapy clinics. Therefore, the psychosomatic aspect of the disease should not be ignored and should be treated with a multidisciplinary approach. Patient's pain symptoms should be assessed in a multidirectional way. Further studies are needed on this topic.

Ethics Committee Approval: The study protocol was approved by the Recep Tayyip Erdogan University Non-Interventional Research Ethics Committee (date: 21.02.2022, no: 2022/38). The study was conducted in accordance with the principles of the Declaration of Helsinki.

Patient Consent for Publication: A written informed consent was obtained from each patient.

Data Sharing Statement: The data that support the findings of this study are available from the corresponding author upon reasonable request.

Author Contributions: Idea/concept, design, writing the article, literature review: M.P., Ç.H.; Data collection and/or processing, analysis and/or interpretation, materials: M.P., M.S.T; Critical review, references and fundings, control/supervision: M.P., Ç.H., M.Y.

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