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ORIGINAL ARTICLE

Coronaphobia in patients with fibromyalgia

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ABSTRACT

Objectives: This study aims to evaluate the level of coronaphobia caused by the novel coronavirus disease 2019 (COVID-19) pandemic in patients with fibromyalgia syndrome (FMS) and to compare the results in patients without FMS.

Patients and methods: Between August 2020 and October 2020, a total of 61 patients who were admitted to our outpatient clinic were included. The patients were divided into two groups as Group 1 (n=30; 2 males, 28 females; mean age: 43.2±9.3 years; range, 21 to 61 years) consisting of patients who were newly diagnosed or under follow-up for FMS and Group 2, the control group, (n=31; 4 males, 27 females; mean age: 49±10.7 years; range, 25 to 66 years) consisting patients who presented with any locomotor system complaint and were not diagnosed with FMS. Sociodemographic data of the patients and comorbidities were recorded. All the patients in both groups completed the COVID-19 Phobia Scale (C19P-S).

Results: The C19P-S total score and psychological, psychosomatic, social, and economic subscale scores were statistically significantly higher in the FMS group than the control group ($p<0.05$).

Conclusion: Our study results suggest that FMS patients have more concerns in this extraordinary global pandemic situation. Early detection of coronaphobia and timely psychological support are critical for individuals prone to psychological disorders, such as FMS.

Keywords: Coronaphobia, COVID-19, fibromyalgia, pandemic, specific phobia.

The novel coronavirus disease 2019 (COVID-19), started in Wuhan, China in December 2019 and spread rapidly across the world, was declared a global pandemic on March 11th, 2020 by the World Health Organization (WHO).[1] Throughout the world, the COVID-19 pandemic has a significant effect on human health and daily life. Long-term social isolation, quarantine, fear of the disease, financial problems, and uncertainty about the future have led to negative psychosocial and economic impacts stresses, beyond physical diseases. Constant exposure to news of COVID-19 in print, visual, and social media with the continuing increase in COVID-19 deaths and the fact that the virus is still not under control has increased the level of concern and fear among individuals.[2]

It is well known that such outbreaks can cause different psychological difficulties including fear and panic in society. Fear and anxiety disorders have been reported to have increased in previous similar pandemics such as H1N1, severe acute respiratory syndrome (SARS), Middle East respiratory syndrome (MERS), Ebola, and Zika.[3-5] There are recent data in the literature showing that the COVID-19 pandemic has increased mental health problems such as anxiety disorders, depression, and acute stress disorder.[6-9] Phobias are specific anxiety disorders defined as an

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excessive and continuous fear of an object or situation.[10,11] Coronaphobia is defined as a specific phobia of the new coronavirus in the COVID-19 pandemic, and a scale, the COVID-19 Phobia Scale (C19P-S), has been developed to measure this specific phobia.[12]

Fibromyalgia syndrome (FMS) is a chronic disease characterized by symptoms such as widespread musculoskeletal system pain, fatigue, sleep disorder, cognitive problems, depression, and anxiety.[13] It is one of the most frequent musculoskeletal system disorders, which is seen more often in females than males with an estimated prevalence of 2 to 4% in the general population.[14] In general, FMS patients may have accompanying anxiety, anxiety disorders, and depression at varying degrees between 20 and 80%.[13] Furthermore, the emergence of new challenges in accessing treatment due to the COVID-19 pandemic can increase pre-existing anxiety for individuals struggling with chronic pain.

In the present study, we aimed to evaluate the level of coronaphobia caused by the COVID-19 pandemic in FMS patients and to compare the results in patients without FMS.

PATIENTS AND METHODS

This single center, cross-sectional, controlled study was conducted at Bursa City Hospital, Department of Physical Medicine and Rehabilitation between August 2020 and October 2020. A total of 61 patients who were admitted to our outpatient clinic were included. The patients were divided into two groups as Group 1 (n=30; 2 males, 28 females; mean age: 43.2±9.3 years; range, 21 to 61 years) consisting of patients who were newly diagnosed or under follow-up for FMS according to the 2016 American College of Rheumatology (ACR) criteria and Group 2, the control group, (n=31; 4 males, 27 females; mean age: 49±10.7 years; range, 25 to 66 years) consisting patients who presented with any locomotor system complaint and were not diagnosed with FMS. All patients included were aged >18 years and completed at least five years of compulsory primary education. Patients were excluded from the study, if they had any severe systemic disease, a malignancy, acute infection, pregnancy, or breastfeeding, or if they had a history of psychiatric or neurological disease.

Sociodemographic data (age, sex, height, weight, education, occupation, and marital status) of all the patients and comorbidities were recorded. All patients in both groups were asked to complete the CP19-S to measure their level of fear related to COVID-19. The items of the scale were formed on the basis of an extensive review of existing scales of fear, specialist evaluations, and the opinions of participants. The validity and reliability of the CP19-S for a Turkish population was examined, and the scale items were seen to have high differentiation and high reliability values.[15] The scale is evaluated with a five-point Likert type scale where 1 indicates "Completely disagree" and 5 indicates "Completely agree".

Table 1. Demographic data of participants

	FMS group (n=30)			Control group (n=31)			
	n	%	Mean±SD	n	%	Mean±SD	*p**
Age (year)			43.2±9.3			49±10.7	0.082
Sex							0.417
Female	28	93.3		27	87.1		
Male	2	6.7		4	12.9		
Height (cm)			162±3.4			164.9±7.3	0.137
Weight (kg)			71.1±13.5			71.1±13.8	0.874
Marital status							0.180
Married	22	73.3		27	87.1		
Single	8	26.7		4	12.9		

FMS: Fibromyalgia syndrome; SD: Standard deviation; * Mann-Whitney U test.

The scale is evaluated in psychosomatic, social, and economic subscales. The total scale points, ranging from 20 to 100, are obtained as the total of the subscale points, with higher scores indicating a greater level of fear of COVID-19.

Table 2. Professions of participants

	FMS group		Control group	
Professions	n	%	n	%
Housewife	16	53.3	15	48.4
Student	-	-	1	3.2
Worker	6	20	5	16.1
Retired	2	6.7	4	12.9
Secretary	-	-	1	3.2
Operator	-	-	3	9.7
Sales consultant	-	-	2	6.4
Technician	1	3.3	-	-
Farmer	1	3.3	-	-
Accountant	1	3.3	-	-
Security guard	1	3.3	-	-
Teacher	1	3.3	-	-
Nurse	1	3.3	-	-
Total	30	100	31	100

FMS: Fibromyalgia syndrome.

Table 3. Education status of participants

	FMS group		Control group	
Education status	n	%	n	%
Primary school	15	50	12	38.7
High school	11	36.7	11	35.5
Bachelor's degree	4	13.4	8	25.8
Total	30	100	31	100

FMS: Fibromyalgia syndrome.

Table 4. Comparison of C19P-S Scores of participants

	FMS group (n=30)	Control group (n=31)	
C19P-S Score†	Mean±SD	Mean±SD	*p**
Psychological	23.2±5.0	16.3±6.5	<0.001
Psychosomatic	10.9±4.4	7.1±2.9	<0.001
Social	18.4±4.5	12.1±5.4	<0.001
Economic	10.5±3.3	6.5±3.4	<0.001
Total	63.3±12.7	41.7±15.9	<0.001

FMS: Fibromyalgia syndrome; C19P-S: COVID-19 Phobia Scale; SD: Standard deviation; † Independent samples t-test; * Significant at p<0.05.

Statistical analysis

Statistical analysis was performed using the IBM SPSS version 20.0 software (IBM Corp., Armonk, NY, USA). Descriptive data were expressed in mean ± standard deviation (SD), median (min-max) or number and frequency. For the comparison of the C19P-S results between the groups, the independent samples t-test was used. The Mann-Whitney U test was used to compare the differences between two independent groups. A *p* value of <0.05 was considered statistically significant.

RESULTS

Demographic characteristics of the patients are shown in Table 1. There was no significant difference between the FMS patients and the control group in terms of age, sex, height, weight, and marital status (p>0.05).

Professions and educational status of the study group are given in Table 2 and 3. Accordingly, 53.3% and 48.4% of the FMS and control groups were housewives, respectively. In addition, 50% and 38.7% of the FMS and control groups completed five-year primary school education, respectively. Four (13.4%) patients in the FMS group and eight (25.8%) patients in the control group had a bachelor degree.

The results of the C19P-S are shown in Table 4. Accordingly, the C19P-S total score and psychological, psychosomatic, social, and economic subscale scores were statistically significantly higher in the FMS group than the control group (p<0.001).

DISCUSSION

In the present study, we compared the level of coronaphobia caused by the COVID-19 pandemic in patients with and without FMS. The study results showed that coronaphobia was statistically significantly more common among the FMS patients than the control group. To the best of our knowledge, the present study

is the first to examine coronaphobia in FMS patients.

In the literature, the association of FMS with anxiety disorders has been well documented. Previous studies have shown that FMS patients are affected more than healthy individuals by concerns and anxiety triggered by stress factors.[16] Several studies have demonstrated that the majority of patients with FMS have various psychosocial problems and psychiatric disorders including depression, anxiety, somatization, and phobias.[13,14,16-18] About 19.4 to 34.8% of FMS patients have emotional disorders, and 11.6 to 32.2% of them have anxiety and anxiety disorders.[13,14] Uğuz et al.[18] reported that specific phobias were seen more frequently in FMS patients, although there are insufficient data investigating specific phobia types in FMS. In addition to the physical threat and destruction, COVID-19 leads to stress reaction and trauma caused by what has been experienced related to the disease.[19] Besides to environmental conditions, specific phobias may emerge associated with the existing psychological status, diseases, temperament, genetic, and physiological precursors.[10] It is thought that the psychological status, temperament, and personal characteristics of FMS patients facilitate the development of specific phobias.[20-23] The difficulties experienced by FMS patients due to the COVID-19 pandemic in many activities, exercise, and accessing regular medical treatment are considered to increase anxiety and phobic reactions. In a study by Haktanir et al.,[24] there was no significant difference between patients with and without chronic disease in respect of fear of COVID-19. In this study, the Fear of COVID-19 Scale was used in the evaluation of the fear of COVID-19; however, the patients previously diagnosed with anxiety were excluded from the study. Therefore, it cannot be suggested that these results represent the general population. In the current study, however, we demonstrated that the presence of FMS as a chronic disease increased the risk of coronaphobia.

It has been reported from several countries that the COVID-19 pandemic has significant negative psychological, social, and economic impacts. The negative psychological effects of COVID-19 started to be investigated first in China where the pandemic first emerged and, then, in countries such as Italy and Spain where severe effects of the pandemic were seen.[25-27] In a study including 7,143 university students in China after the COVID-19 outbreak, symptoms of anxiety were experienced at an intense level in 0.9%, at a moderate level, in 2.7%, and at a mild level in 21.3% of the students.[25] Similarly in another study in China of 1,210 individuals, the psychological effects of the pandemic were examined, and 16.5% of the participants showed symptoms of depression from a moderate-to-severe level, 28.8% had moderate-to-severe anxiety symptoms, and 8.1% showed moderate-to-severe stress symptoms.[28] A study of 3,550 adults conducted over the internet in Spain revealed anxiety disorder in 32.4%, depression in 44.1%, and stress disorder in 37% of the respondents.[29] To examine the effect of the pandemic and quarantine period on psychological health, Rossi et al.,[27] conducted an online questionnaire with 18,147 respondents in Italy and reported that post-traumatic stress symptoms were seen in 37%, anxiety symptoms in 20.8%, depression symptoms in 17.3%, sleep problems in 7.3%, and perceived high levels of stress in 21.8%.[27] In the current study, a significant difference was found in the psychological and psychosomatic phobia subscales among the FMS patients. Anxiety and fear caused by the nature of the pandemic can also affect interpersonal relationships in daily life. To illustrate, more than half of individuals who were quarantined with the suspicion that they were in contact with a SARS-infected person reported that, weeks later, they attempted to self-isolate themselves from anybody who sneezed or coughed, 26% stayed away from crowded or indoor places, and 21% avoided all areas open to the public.[30,31] In the current study, the social phobia variables were found to be high in the FMS patient group. The economic variables in the current study were also found to be higher in the FMS patients due to many reasons such as having to continue with existing work, not going to work due to social isolation, being made redundant, and difficulties in finding a new job.

For the evaluation of specific phobias, it is recommended to use evaluation questionnaires specific to that fear. Thus, a need has arisen for the evaluation of the fear of COVID-19, and

different scales have been developed for this purpose.[32] In the current study, the C19P-S questionnaire was used, which was originally developed to evaluate coronaphobia. The C19P-S was previously tested for validity and reliability in the Turkish population.[15] A previous review showed that the C19P-S was one of the few scales to comprehensively evaluate mental health problems related to COVID-19.[33] In a study by Toprak Celenay et al.[34] using the C19P-S, the levels of coronaphobia were compared in individuals who stayed at home during the pandemic and those who continued to work. However, apart from those with severe psychological problems, other health problems were not taken into consideration in this study. It is possible that the presence of additional diseases has an effect on coronaphobia. A substantial amount of evidence has shown that the COVID-19 pandemic has deep psychological and social effects. The psychological sequelae of the pandemic would probably continue for months and years in the future.[35] Therefore, in this extraordinary situation in which we find ourselves, it is of utmost importance to identify individuals with a predisposition to psychological disorders from different groups, and with the implementation of appropriate psychological strategies, techniques and interventions, the mental health of the general population can be protected and improved.[36] Identification of COVID-19 phobia and the provision of timely psychological support are also critical.[37]

The main limitations of this study are its cross-sectional design and small sample size. Therefore, it is not possible to provide information about why coronaphobia is seen more often in FMS patients or what causes the development of coronaphobia in FMS. Further large-scale, long-term, prospective studies are needed to gain a better understanding of the cause-and-effect relationships.

In conclusion, our study results suggest that FMS patients have more concerns in this extraordinary global pandemic situation. Early detection of COVID-19 phobia and providing timely psychological support are important in individuals prone to psychological disorders such as FMS. We believe that this study is valuable as it provides contribution to the literature regarding the presence of coronaphobia in FMS patients.

Ethics Committee Approval: The study protocol was approved by the Bursa City Hospital Clinical Research Ethics Committee (Date-no: 2019-KAEK-140). The study was conducted in accordance with the principles of the Helsinki Declaration.

Patient Consent for Publication: All patients were informed about the nature of the study and a written informed consent was obtained on a voluntary basis.

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

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