



ORIGINAL ARTICLE

Comparison of the diagnoses, the outpatient clinics they visited, and the number of visits of patients with and without a diagnosis of fibromyalgia syndrome: Do patients with fibromyalgia syndrome come to the hospital more often?

Fibromiyalji sendromu tanısı olan ve olmayan hastaların başvurdukları poliklinik bölümleri, başvuru sayıları ve aldıkları tanıların karşılaştırılması: Fibromiyalji sendromu tanısı olan hastalar, hastaneye daha mı sık geliyor?

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Summary

Objectives: Fibromyalgia syndrome (FMS) has a wide spectrum of symptoms that includes all body parts. So FMS is a great imitator. This brings to mind the possibility that fibromyalgia patients visit outpatient clinics in many departments more than non-fibromyalgia patients. However, there is not enough data on this subject. This study aims to compare the number of outpatient visits of patients with FMS with those without a diagnosis of FMS and to examine their diagnoses.

Methods: The diagnoses of 140 patients (70 with fibromyalgia and 70 controls), and departments of the outpatient clinics they visited were analyzed retrospectively. In the control group, patients who visited the same outpatient clinic with the complaint of knee pain, but who did not have FMS and who had never been diagnosed with FMS before, were recruited as age- and gender-matched.

Results: The total number of outpatient clinic visits, as well as the number of visits to physical medicine and rehabilitation, obstetrics and gynecology, general surgery, internal medicine, and psychiatry departments, were significantly higher in fibromyalgia group patients compared to the control group. In addition, the number of diagnoses in the 5th chapter (mental, behavioral, and neurodevelopmental disorders, F01-F99) of International Classification of Diseases-10 was significantly higher in the fibromyalgia group.

Conclusion: It should be kept in mind that patients with FMS visit more hospitals and outpatient clinics than other patients. Physicians and patients should be informed about this issue to reduce unnecessary health costs.

Keywords: Fibromyalgia; outpatient clinic visit; the economic burden.

Özet

Amaç: Fibromiyalji sendromu tüm vücut bölgelerini içeren çok geniş bir semptom spektrumuna sahiptir. Dolayısıyla fibromiyalji sendromu büyük bir taklit edicidir. Bu durum fibromiyalji sendromu olan hastaların, birçok bölüm polikliniğine, fibromiyalji sendromu olmayan hastalara göre daha fazla başvuruyor olma ihtimalini aklı getirmektedir. Fakat bu konuda yeterli veri yoktur. Bu çalışmanın amacı, fibromiyalji sendromu olan hastaların poliklinik başvuru sayılarını fibromiyalji sendromu tanısı olmayanlarla karşılaştırmak ve aldıkları tanıları incelemektir.

Gereç ve Yöntem: Bu çalışmada, 140 hastanın (70'i fibromiyalji sendromu olan hasta, 70'i kontrol) son bir yıl içinde başvurduğu poliklinik bölümleri, poliklinik başvuru sayıları ve aldıkları tanıları retrospektif olarak incelendi. Kontrol grubu olarak aynı polikliniğe diz ağrısı şikayetiyle başvuran ancak kendisinde fibromiyalji bulunmayan daha önce de hiç fibromiyalji sendromu tanısı almamış olan hastalar, yaş ve cinsiyet eşleştirilmiş olacak şekilde alındı.

Bulgular: Fibromiyalji sendromu olan hastaların kontrol grubuna göre toplam poliklinik başvuru sayısı; fiziksel tıp ve rehabilitasyon, kadın hastalıkları ve doğum, genel cerrahi, dahiliye ve psikiyatri bölümlerine olan başvuru sayısı anlamlı olarak daha yüksekti. Ayrıca, Uluslararası Hastalık Sınıflandırması-10 sisteminin beşinci bölümünde (zihinsel, davranışsal ve nörogelişimsel bozukluklar, F01-F99) yer alan tanı sayısı da fibromiyalji grubunda anlamlı olarak daha yüksekti.

Sonuç: Fibromiyalji sendromu olan hastaların diğer hastalara göre daha fazla hastane ve poliklinik ziyareti yaptığı akıld tutulmalıdır. Gereksiz sağlık masraflarını azaltmak için hekimler ve hastalar bu konuda bilgilendirilmelidir.

Anahtar sözcükler: Fibromiyalji; poliklinik başvurusu; ekonomik yük.

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Submitted (Başvuru) 28.03.2022 Revised (Revizyon) 17.05.2022 Accepted (Kabul) 15.06.2022 Available online (Online yayımlanma) 17.07.2023

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Introduction

Fibromyalgia syndrome (FMS) is a common condition characterized by sleep disturbances, chronic widespread pain, fatigue, and many symptoms that impair quality of life.^[1] Its prevalence has been reported as 0.2–6.6%. This rate rises to 2.4–6.8% in women.^[2]

The pathogenesis and pathophysiology of FMS have not been fully clarified. Increased pain sensitivity in central and peripheral pathways is the most popular theory.^[3] It has been reported that the pain symptoms of FMS may result from changes in the central processing of sensory input together with abnormalities in the endogenous inhibition of pain.^[4] FMS has been defined as an affective spectrum disorder.^[4] Risk factors such as exposure to physical or psychosocial stressors, genetic predisposition, and poor sleep have been reported.^[3,4]

Exercise intolerance, headaches, paresthesias, morning stiffness, fatigue, sleep disturbance, widespread pain, and tenderness are the common symptoms. In addition, FMS has a wide spectrum of symptoms involving almost all parts of the body. Cognitive and neurological symptoms such as depression, anxiety, learning and memory problems, headache, muscle weakness, dizziness, seizures, and insomnia can be seen in FMS. Gastroenterological symptoms such as irritable bowel syndrome and diarrhea, urological symptoms such as bladder spasms and painful urination, and dermatological symptoms such as sun sensitivity and itching can be observed. Various symptoms such as hearing difficulties, loss of appetite, shortness of breath, dry eyes, loss of/change in taste, ringing in ears, hives/welts, Raynaud's phenomenon, wheezing, dry mouth, fever, blurred vision, and chest pain may also occur.^[5–7] The wide spectrum and extreme symptom presentation in FMS patients, the complexity of the nature of FMS, and the low level of FMS knowledge among physicians can lead to various overdiagnoses in FMS patients.^[8–11] This situation leads to unnecessary diagnosis and treatment, as well as to higher costs of FMS, which already has a great economic burden.^[12,13] Having such a wide spectrum of symptoms in FMS and the frequent occurrence of somatization in FMS probably suggests the possibility of an excessive outpatient clinic visits

in patients with FMS compared to other people.^[14] However, we could not find any study in the literature examining the diagnoses and departments visited by patients with FMS or comparing the number of outpatient clinic visits with those without FMS.

This study aims to examine the departments visited by patients with FMS, the number of outpatient clinic visits, and the diagnoses they received.

Material and Methods

The protocol was performed in accordance with the ethical standards laid down in the 1975 Declaration of Helsinki and approved by Kırşehir Ahi Evran University Medical Faculty Clinical Research Ethics Committee (date: June 24 2020, no: 2020–09/67).

Patients diagnosed with FMS who visited the Physical Medicine and Rehabilitation Department outpatient clinic of Kırşehir Ahi Evran University Medical Faculty Hospital in the last 6 months were included in the study. As the control group, patients who visited the same outpatient clinic with knee pain in the last 6 months but had never been diagnosed with FMS were recruited consecutively, age and gender-matched. Patients with a history of malignancy, active infection, and severe trauma were excluded. Outpatient visits and diagnoses of all participants in the last year were recorded from the hospital information system and the national health registry system which provides access to all diagnoses of the patients. In addition, diagnoses of all participants in Chapter 13 (Diseases of the musculoskeletal system and connective tissue, M00-M99) and Chapter 5 (Mental, Behavioural and Neurodevelopmental disorders, F01-F99) were determined according to the International Classification of Diseases-10 (ICD-10) code system.^[15–17] These two chapters were examined because the symptoms related to the mental, behavioral and musculoskeletal systems are more prominent in FMS.^[5–7]

Statistical Analysis

Statistical analyzes of the study were performed using Statistical Package for Social Sciences version 21.0 software for Windows (IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp., USA). Normality assumption was tested with the Kolmogorov-Smirnov test. According to the nor-

Table 1. General characteristics of the study participants

	FMS (n=70) (%)		Control (n=70) (%)		p
	n	%	n	%	
Age (mean±SD)	46.19±9.254		47.70±10.574		0.369 ^a
Gender					0.796 ^b
Male	8	11	9	13	
Female	62	89	61	87	

SD: Standard deviation; FMS: Fibromyalgia syndrome; a: Independent samples t-test; b: Chi-square test.

normality assumption, the explanatory statistics of the variables are summarized as mean±standard deviation and frequencies n(%). Group comparisons were made using the independent samples t-test and the Chi-square. All statistical comparisons were tested in two ways, and cases with a p-value below 0.05 were interpreted as statistically significant.

The sample size could not be calculated before the study because there was no similar study before. Post hoc power analysis was performed after the patient was included in the study. The G. Power 3.1.9.7 program was used for the post hoc power analysis of the study. According to this program, the power of the study was calculated as 91.89%, with $\alpha=0.05$ and effect size $d=0.516$.

Results

Seventy FMS patients and seventy controls were included in the study. Both groups were similar in terms of age and gender (Table 1).

The total number of outpatient visits in the FMS group was significantly higher than in the control group. In addition, the number of visits to the outpatient clinics of Physical Medicine and Rehabilitation, Obstetrics and Gynaecology, Internal Medicine, Psychiatry, and General Surgery departments of patients with FMS was significantly higher than the control group. In many other departments, FMS patients had a higher number of admissions compared to the control group, but this difference was not statistically significant. In addition, the number of diagnoses in the 5th Chapter of ICD-10 (Mental, Behavioral and Neurodevelopmental disorders, F01-F99) was significantly higher in the FMS group (Table 2).

Discussion

To the best of our knowledge, this is the first study to show that patients diagnosed with FMS visit outpatient clinics more often than other patients and to examine the departments they visit. In this study, the total number of outpatient visits of patients with FMS, as well as the number of visits to the outpatient clinics of Obstetrics and Gynaecology, Psychiatry, Physical Therapy and Rehabilitation, General Surgery, and Internal Medicine were significantly higher than those of patients without FMS. Probably some of these visits are due to symptoms (abdominal pain, pelvic pain, etc.) of FMS that mimic many diseases. Because FMS patients have a wide spectrum of symptoms that concern almost all body parts and all medical departments. This situation causes FMS to be a great imitator.^[5-7]

The fact that patients with FMS visit the outpatient clinic more than other patients may lead to additional economic burden, and unnecessary diagnosis and treatment.^[12,18] FMS is the most common rheumatic disease after low back pain and osteoarthritis.^[18] Sicras-Mainar et al.^[19] found an incrementally adjusted annual total cost per patient of €5,010 on average in patients with FMS compared to patients without FMS. In Spain, FMS has been reported to have an economic cost of more than 12,993 million Euros.^[20] Ghavidel-Parsa et al.^[21] reported that the expenses incurred for the diagnosis and treatment of FMS are the tip of the iceberg for the total economic burden of FMS, and the additional costs of disability and lack of physician information and additional symptoms increase this burden. They reported that better informing patients and physicians about FMS could reduce this burden. Some studies have shown that physicians have a low level of knowledge about FMS. In the study of Kaki et al.,^[9] in which they investigated the level of knowledge of physicians about FMS, the level of knowledge of physicians about FMS was quite low and approximately 50% of physicians did not know which specialist to refer patients to. In addition, Kumbhare et al.^[22] determined that physicians did not have homogeneous and sufficient knowledge about the diagnostic criteria of FMS, and that about half of the physicians did not comply with the criteria. Knowing FMS well by all branch physicians will reduce excessive examinations and treatments. In addition, adequately informing FMS patients about the nature and symptoms of their disease will reduce excessive outpatient visits. In Türkiye, the country where the study

Table 2. Comparison of the number of outpatient visits of FMS patients and the control group, and the number of diagnoses they received from the diagnoses in the Fifth and Thirteenth Chapter of the ICD-10 groups

	FMS Mean±SD	Control Mean±SD	p
Thirteenth Chapter of ICD-10 (Diseases of the musculoskeletal system and connective tissue, M00-M99)	3.44±3.34	2.89±2.22	0.253
Fifth Chapter of ICD-10 (Mental, Behavioral and Neurodevelopmental disorders, F01-F99)	0.23±0.66	0.04±0.20	0.028
Total number of outpatient visits	11.01±8.06	7.60±4.70	0.003
Physical Medicine and Rehabilitation	2.49±1.59	1.76±1.04	0.002
Internal medicine	1.26±1.75	0.64±0.95	0.011
Obstetrics and gynecology	0.46±1.05	0.17±0.51	0.042
Orthopedics and traumatology	0.49±1.31	0.49±1.00	1.000
Psychiatry	0.23±0.66	0.04±0.20	0.028
Emergency department	2.08±2.27	1.79±2.32	0.441
Chest diseases	0.34±0.83	0.29±0.62	0.645
Neurosurgery	0.41±0.86	0.49±1.09	0.667
Neurology	0.54±1.02	0.37±0.84	0.278
General surgery	0.70±1.22	0.14±0.52	0.001
Urology	0.27±0.93	0.20±0.58	0.587
Otorhinolaryngology	0.50±1.00	0.29±0.68	0.142
Dermatology	0.50±0.90	0.26±0.70	0.076
Cardiology	0.14±0.49	0.21±0.74	0.114
Infectious diseases	0.29±0.51	0.16±0.44	0.502
Ophthalmology	0.37±1.00	0.27±0.54	0.461
Cardiovascular surgery	0.03±0.17	0.04±0.20	0.652

SD: Standard deviation; ICD: International classification of diseases; FMS: Fibromyalgia syndrome; a: Independent samples t-test.

was conducted, patients can visit any outpatient clinic without the need for a primary care referral. An effective referral chain can contribute to reducing unnecessary and excessive outpatient visits.

In addition, patients with FMS had significantly more diagnoses in the 5 Chapter of ICD-10 (Mental, Behavioral and Neurodevelopmental disorders, F01-F99). This may be due to the nature of FMS, which is in the group of psychosomatic diseases, which often accompanies psychiatric disorders.^[23–26]

The limitations of this study were that it was retrospective and the number of patients was relatively small. The other limitations of this study were that the health expenses, disease activities, and functional status of the patients were not evaluated, and the chapters and their subsections other than ICD-10 code 5th and 13th Chapters were not examined. In addition, since this study was retrospective, the diagnostic criteria used by

physicians who diagnosed patients with fibromyalgia could not be determined and standardized. Although the patients in the control group were selected from patients with no fibromyalgia diagnosis, the fact that the patients in the control group were not evaluated in detail for fibromyalgia is one of the limitations of this study. However, since it is the first study to compare the departments visited by patients with FMS and the number of visits compared to those without FMS, this study may shed light on studies on this subject.

Conclusion

In conclusion, both the total number of outpatient visits and the number of visits to the Physical Medicine and Rehabilitation, General Surgery, Internal Medicine, Obstetrics and Gynaecology, and Psychiatry outpatient clinics were found to be higher than those of the patients without FMS. In order to reduce unnecessary health costs, patients and all physicians should be informed about this issue.

Peer-review: Externally peer-reviewed.

Ethics Committee Approval: The Kırşehir Ahi Evran University Clinical Research Ethics Committee granted approval for this study (date: 24.06.2020, number: 2020-09/67).

Conflict-of-interest issues regarding the authorship or article: None declared.

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