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Clinical characteristics of female patients with fibromyalgia syndrome

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Ethics Committee Approval
This study was approved by the Clinical Research Ethics Committee of Istanbul Medeniyet University Göztepe Training and Research Hospital, June 30, 2021, decision no: 2021/0357. All procedures in this study involving human participants were performed in accordance with the 1964 Helsinki Declaration and its later amendments.

Conflict of Interest
No conflict of interest was declared by the authors.

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Abstract

Background/Aim: Fibromyalgia syndrome (FMS) is a chronic condition that places a significant financial and social burden on both patients and society. Delayed diagnosis and the presence of comorbidities exacerbate these challenges. While awareness of FMS is increasing, there is a lack of studies focusing on specific patient demographics and the gaps in healthcare services, particularly in local settings. This study aimed to investigate the clinical characteristics of female FMS patients attending our clinic, with the goal of identifying healthcare-related issues and potential areas for improvement.

Methods: The study included female patients admitted to the Physical Medicine and Rehabilitation outpatient clinic of Göztepe Prof. Dr. Süleyman Yalçın City Hospital between December 1 and December 31, 2023, who were diagnosed with FMS according to the 2013 American College of Rheumatology alternative diagnostic criteria. Demographic characteristics of the patients were recorded, including height, weight, educational status, marital status, occupation, habits, comorbidities, and medications. All patients completed the Fibromyalgia Impact Questionnaire (FIQ) and Beck Depression Inventory (BDI). Ethics committee approval was obtained.

Results: A total of 44 female FMS patients were included in the study. The patients were aged between 26 and 64 years (mean: 46.65 [7.63]). Body mass index (BMI) ranged from 16.65 to 45.72 (mean: 28.8 [6.11]). While 20.5% of the patients had normal BMI, 75% were in the overweight or obese category. The majority of the participants were primary school graduates (50%), married (84.1%), and housewives (59.1%). In total, 34% of the patients were active smokers, and 52.3% had a chronic comorbidity. When asked about the presence of chronic diseases such as chronic obstructive pulmonary disease, diabetes mellitus, coronary artery disease, or hypertension, the most common comorbidities were diabetes mellitus and hypertension, reported by 25% and 18.2% of patients, respectively. Most of the patients (95.5%) were fully independent in activities of daily living and ambulated without assistance. According to the FIQ results, 23.6% of the patients were severely affected by fibromyalgia and 45.5% were moderately affected. According to the BDI results, 22.7% of the patients had severe depression and 36.4% had moderate depression.

Conclusion: This study emphasizes the need for comprehensive care for fibromyalgia patients, particularly addressing comorbidities such as depression and obesity. Our findings also highlight the impact of social factors, including educational limitations, on patient outcomes. By focusing on these areas, we contribute valuable insights to the literature and underscore the importance of a multidisciplinary approach to improve the care and management of fibromyalgia patients.

Keywords: comorbidities, demographic characteristics, depression, fibromyalgia syndrome (FMS), fibromyalgia impact questionnaire (FIQ)

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Introduction

Fibromyalgia syndrome (FMS) is a rheumatic disease of unknown etiology characterized by widespread pain and specific tender points in various parts of the body [1,2]. In addition to pain, it is associated with various somatic and psychological symptoms, including fatigue, morning stiffness, depression, and sleep problems [2]. With an annual prevalence of 2–4%, this disease usually affects women aged 40–55 years [1,3]. Studies show that neuroendocrine, autonomic, and immunological systems play a role in FMS and that genetic predisposition combined with environmental, physiological, and psychological factors contribute to the development of the disease [1,2,4]. At its core is a somatosensory disorder leading to hypersensitivity to pain (allodynia and hyperalgesia) [5].

FMS has long been recognized as a psychological condition, with mood disorders and sleep problems often accompanying pain [6]. Psychological factors are particularly recognized as an element of chronic pain and can interact with each other to increase pain [7]. Previous research shows that mood disorders such as depression and anxiety are more common in patients with FMS compared to the general population [8]. Quality of life is a concept related to how individuals perceive and evaluate their own lives, and it varies depending on cultural and value systems [9]. There are many studies showing that quality of life is negatively affected in patients with FMS [10]. Pain, fatigue, sleep disorders, and psychiatric symptoms may negatively affect quality of life. The treatment goal for the disease is to reduce pain and improve quality of life [11].

FMS patients use a variety of methods and medications to alleviate their symptoms, and they have frequent healthcare visits, both of which increase the financial burden of the disease [12]. The economic burden of chronic diseases on society is also important [13]. Previous studies have reported that delayed diagnosis of patients, performing a wide variety of tests, conducting multiple doctor visits, and medical and non-medical treatments after diagnosis create a financial burden [14]. In addition, the loss of workforce of FMS patients due to the disease is also important for society [15]. It is important to diagnose the disease early on and to treat patients with related problems [16]. Moreover, it is very important to know disease-specific demographic data for diagnosis and treatment [17].

The aim of this study was to investigate the clinical characteristics of patients with FMS admitted to our clinic and to identify problems in health services and other areas that can be solved.

Materials and methods

Between December 1 and December 31, 2023, patients admitted to the Physical Medicine and Rehabilitation outpatient clinic of Göztepe Prof. Dr. Süleyman Yalçın City Hospital were included in the study. The sample included female patients aged 18–65 years who were diagnosed with FMS according to the 2013 American College of Rheumatology (ACR) alternative diagnostic criteria. Participants with neurological disorders or cognitive impairments that would hinder their ability to respond to questions were excluded from the study.

Demographic characteristics of the patients including height, weight, educational status, marital status, occupation, smoking and alcohol habits, comorbidities, and medications were recorded. In addition to answering demographic questions, all participating patients completed the Fibromyalgia Impact Questionnaire (FIQ) and Beck Depression Inventory (BDI) [18].

The following criteria were employed to establish a diagnosis of fibromyalgia:

1. Symptoms and pain locations had been persistent for at least the last 3 months
2. Pain location score ≥17
3. Symptom Impact Questionnaire (SIQR) symptom score ≥21

Pain Location Score: A pain location score was calculated based on the number of areas with persistent pain over the past week. This score ranged from 0 to 28, encompassing areas such as shoulders, arms, wrists, hands, hips, thighs, knees, ankles, feet, jaws, chest, back, and neck.

Symptom Impact Questionnaire (SIQR): Participants completed a 10-item SIQR assessing the intensity of various symptoms experienced in the past week. Each symptom (pain, energy, stiffness, sleep, depression, memory problems, anxiety, tenderness to touch, balance problems, and sensitivity to environmental stimuli) was rated on a scale from 0 (no symptoms) to 10 (severe symptoms). The SIQR score was computed as the sum of individual symptom scores, yielding a total score between 0 and 100, which was then divided by 2 for analysis [19].

The presence of other pain disorders or related symptoms did not rule out a diagnosis of fibromyalgia.

Patients' body mass index (BMI) was calculated as body weight divided by the square of height (kg/m²). BMI values were divided into intervals and named as follows: 18.5 and below was classified as underweight, 18.5 to 24.9 as normal, 25 to 29.9 as overweight, 30 to 34.9 as class I obesity, 35 to 39.9 as class II obesity, and 40 and over as class III obesity. Patients were classified as normal, overweight, or obese according to these criteria.

Depression Evaluation

The presence and severity of depression were assessed using the BDI. This scale consists of 21 items, each one consisting of four sentences. These sentences are ranked from neutral (0 points) to the most severe (3 points). In our study, patients were asked to choose the most appropriate sentence in the scale, which was organized as a questionnaire. A total score of 0–16 was considered minimal depression, 16–28 moderate depression, and 29–63 severe depression.

Functional Assessment and Quality of Life

In our study, the FIQ was used to assess quality of life and functional status in patients with FMS [18]. This scale measures 10 characteristics, including physical function, feeling well, inability to go to work, difficulty at work, pain, fatigue, morning fatigue, stiffness, anxiety, and depression. With the exception of well-being, lower scores indicate improvement or being less affected by the disease. The FIQ is completed by the patients themselves. The maximum score is 100. In this study, a score of 0–50 was considered mildly affected, 50–70 moderately affected, and above 70 severely affected.

Statistical analysis

For data analysis, SPSS 25 was used to summarize the demographic and clinical characteristics of the participants.

Univariate analysis was conducted. For categorical data, frequency and percentages were calculated. For numerical data, descriptive statistics such as mean, median, mode, standard deviation, and minimum and maximum values were used to better understand the distribution.

Ethical Considerations

All participants received detailed information about FMS and the purpose of the study. They were informed about the data collection process, potential risks and benefits, and how their data would be used in the research. Participants were assured that their names and identities would remain confidential throughout the study. Informed consent was obtained in writing from all patients, ensuring they understood their rights to withdraw from the study at any time without any consequences. The research was conducted in accordance with the principles of the Declaration of Helsinki and was approved by the Clinical Research Ethics Committee of Istanbul Medeniyet University Göztepe Training and Research Hospital (decision no: 2021/0357).

Results

A total of 44 female FMS patients were included in the study. Our patients were between 26 and 64 years old (mean: 46.65 [7.63]). BMI ranged from 16.65 to 45.72 (mean: 28.82 [6.11]). While 20.5% of the patients had normal BMI, 75% were in the overweight or obese category (Table 1). The majority of the participants were primary school graduates (50%), married (84.1%), and housewives (59.1%) (Table 2 and 3). A total of 34% of the patients were active smokers, and 52.3% had a chronic comorbidity. When asked about the presence of chronic diseases such as chronic obstructive pulmonary disease, diabetes mellitus, coronary artery disease, and hypertension, the most common comorbidities were diabetes mellitus and hypertension, reported by 25% and 18.2% of patients, respectively. Most of the patients (95.5%) were fully independent in activities of daily living and ambulated without assistance. According to the FIQ results, 23.6% of the patients were severely affected and 45.5% were moderately affected (Table 4). According to the BDI results, 22.7% of the patients had severe depression and 36.4% had moderate depression (Table 5).

Table 1: Statistics

		Age	Height	Weight	BMI	FIQ	Depression
n	Accurate	44	44	44	44	44	44
	Lost	0	0	0	0	0	0
Mean		46.65	159.47	73.27	28.82	52.00	20.50
Median		45.50	159.50	73.50	27.97	54	18
Mod		41.00a	158a	62a	31.60	25a	15
Standard Deviation		7.63	5.76	15.78	6.115	18.19	10.21
Minimum		26	147	45	16.65	22	4
Maximum		64	170	120	45.72	93	45

a In case of multiple modes, the mode with the smallest value is taken.

Table 2: Occupation

	Frequency (n)	Percent(%)
Civil Servant	6	13.6
Worker	6	13.6
Housewife	26	59.1
Retired	3	6.8
Other	3	6.8
Total	44	100

Table 3: Education Status

	Frequency (n)	Percent (%)
Illiterate	2	4.5
Primary school/secondary school	22	50.0
High school	10	22.7
University	10	22.7
Total	44	100

Table 4: FMS Impact

	Frequency (n)	Percent (%)
Slightly Affected	18	40.9
Affected	20	45.5
Severely Affected	6	23.6
Total	44	100

Table 5: Depression

	Frequency (n)	Percent (%)
Mild	18	40.9
Moderate	16	36.4
Severe	10	22.7
Total	44	100

Discussion

Özcan et al. [11] analyzed demographic data from 100 female patients diagnosed with FMS based on the 1990 ACR criteria. In their study, 88% were married, 53% were primary school graduates, and 26% exhibited severe FIQ scores, with 47% showing moderate to severe depression. The mean BMI was reported as 27.6 (4.7), but without classification into normal, overweight, or obese categories. Our study, conducted over a decade later, included a similar demographic profile, with a mean age of 46.65 (7.63) years, compared to 42.2 (9.4) years in Özcan et al.'s study. Educational attainment was comparable, with 50% primary school graduates in our cohort versus 53% in theirs. Marital status also showed slight differences, with 84.1% of our patients being married versus 88% in the previous study.

Interestingly, despite the passage of over 10 years and potential variations in socioeconomic factors, the demographic characteristics of patients have remained largely unchanged. The prevalence of depression across both studies underscores the necessity of a multidisciplinary treatment approach, particularly for managing mental health issues alongside fibromyalgia.

In a pilot study conducted in Turkey by Dernek [20] between 2017 and 2018, 254 FMS patients were evaluated, revealing that 49.6% were housewives. In our study, 59.1% of patients were housewives, indicating a consistent trend in patient demographics across different studies.

Wolfe et al. [21] assessed the prevalence of fibromyalgia in the general population, linking low educational attainment and economic status with increased incidence. In their findings, 53% of the patients were married, aligning with our results. However, the higher divorce rates noted in their study compared to the general population warrant further investigation. Our study did not include a control group, limiting the ability to statistically assess the relationship between fibromyalgia and these demographic factors.

Cacace et al. [22] examined FIQ scores among FMS patients and found significant differences when compared to healthy controls, establishing a cut-off value of 66.85. In our study, we utilized a slightly higher cut-off of 70, which could reflect differing patient populations or study methodologies.

A study conducted by Aparicio et al. [23] in Spain included 127 women with FMS. The majority of participants were married (73%), with an average age of 51.3 (7.3) years. Notably, 8% of the sample did not complete their education, while 42% completed primary school, 21% completed secondary school, and 29% graduated from university. Additionally, 60% of participants were housewives. They reported a mean FIQ total score of 66.8 (14.0) and a mean BMI of 28.4 (5.6). A HADS-depression score ≥8 was associated with severe fibromyalgia (OR=4.95; 95% CI:

2.02–12.10). Despite being conducted in a different country, the findings align with ours, highlighting the prevalence of low educational levels and the high percentage of housewives among FMS patients, reinforcing the need for comprehensive management of both physical and psychological aspects of the condition.

Limitations

Our study has several limitations. The small sample size limited our ability to demonstrate statistically significant relationships between various factors. Additionally, while correlating demographic data with the disease, it is crucial to consider the demographics of a healthy control group from the same population; the absence of such a control group restricts our findings.

Moreover, the selection of patients solely from an outpatient clinic introduces potential selection bias. Although we anticipated a greater bias related to socioeconomic status and educational level due to ease of communication, our findings indicated that 50% of participants were primary school graduates. This suggests that our sample may still reflect a broader demographic, thereby mitigating some selection bias.

Overall, addressing these limitations in future research will be essential for enhancing the robustness of findings related to fibromyalgia.

Conclusion

In conclusion, this study suggests that patients with fibromyalgia require comprehensive care that goes beyond pain management to address comorbid conditions, particularly depression and weight management issues. A multidisciplinary approach, involving psychiatrists and dietitians, can enhance treatment effectiveness and improve patient outcomes.

Importantly, our findings provide valuable insights into the social aspects of fibromyalgia, highlighting the significant prevalence of depression and educational limitations among patients. This study adds to the literature by suggesting that these social factors may play a critical role in the management of fibromyalgia. Given that a significant portion of our participants were married and had only primary education, future research should explore the social challenges that may accompany fibromyalgia. It is imperative for healthcare professionals to recognize the complexity of fibromyalgia and adopt a holistic, multidisciplinary management strategy to optimize patient care.

References

1. Bellato E, Marini E, Castoldi F, Barbasetti N, Mattei L, Bonasia DE, et al. Fibromyalgia syndrome: etiology, pathogenesis, diagnosis, and treatment. Pain Res Treat. 2012;2012:426130. doi: 10.1155/2012/426130.
2. Clauw DJ. Fibromyalgia: an overview. Am J Med. 2009;122(12 Suppl):S3-S13. doi: 10.1016/j.amjmed.2009.09.006.
3. Pagano T, Matsutani LA, Ferreira EA, Marques AP, Pereira CA. Assessment of anxiety and quality of life in fibromyalgia patients. Sao Paulo Med J. 2004;122(6):252-8. doi: 10.1590/s1516-31802004000600005.
4. Price DD, Staud R. Neurobiology of fibromyalgia syndrome. J Rheumatol Suppl. 2005;75:22-8. PMID: 16078357.
5. Petersel DL, Dror V, Cheung R. Central amplification and fibromyalgia: disorder of pain processing. J Neurosci Res.2011;89(1):29-34. doi: 10.1002/jnr.22512.
6. Häuser W, Burgmer M, Köllner V, Schaefert R, Eich W, Hausteiner-Wiehle C, et al. [Fibromyalgia syndrome as a psychosomatic disorder - diagnosis and therapy according to current evidence-based guidelines]. Z Psychosom Med Psychother. 2013;59(2):132-52. doi: 10.13109/zptm.2013.59.2.132.
7. Abeles AM, Pillinger MH, Solitar BM, Abeles M. Narrative review: the pathophysiology of fibromyalgia. Ann Intern Med. 2007;146(10):726-34. doi: 10.7326/0003-4819-146-10-200705150-00006.
8. Epstein SA, Kay G, Clauw D, Heaton R, Klein D, Krupp L, et al. Psychiatric disorders in patients with fibromyalgia. A multicenter investigation. Psychosomatics. 1999;40(1):57-63. doi: 10.1016/s0033-3182(99)71272-7.
9. The World Health Organization Quality of Life assessment (WHOQOL): position paper from the World Health Organization. Soc Sci Med. 1995;41(10):1403-9. doi: 10.1016/0277-9536(95)00112-k.
10. Campos RP, Vázquez MIR. Health-related quality of life in women with fibromyalgia: clinical and psychological factors associated. Clin Rheumatol. 2012;31:347-55. doi: 10.1007/s10067-011-1870-7.
11. Sezgin Özcan D, Aras M, Köseoğlu BF, Şentürk Güven Ş. Quality of life and associated conditions in women with fibromyalgia syndrome. Osteoporoz. 2013;19:0-0. doi: 10.4274/tod.38258
12. Vincent A, Lahr BD, Wolfe F, Clauw DJ, Whipple MO, Oh TH, et al. Prevalence of fibromyalgia: a population-based study in Olmsted County, Minnesota, utilizing the Rochester Epidemiology Project. Arthritis Care Res (Hoboken).2013;65(5):786-92. doi: 10.1002/acr.21896.
13. Berger A, Dukes E, Martin S, Edelsberg J, Oster G. Characteristics and healthcare costs of patients with fibromyalgia syndrome. Int J Clin Pract. 2007;61(9):1498-508. doi: 10.1111/j.1742-1241.2007.01480.x.
14. Lamotte M, Maugars Y, Le Lay K, Taïeb C. Health economic evaluation of outpatient management of fibromyalgia patients and the costs avoided by diagnosing fibromyalgia in France. Clin Exp Rheumatol. 2010;28(6 Suppl):S64-S70.
15. Grodman I, Buskila D, Arnson Y, Altaman A, Amital D, Amital H. Understanding fibromyalgia and its resultant disability. IMAJ-Israel Med Assoc J. 2011;13(12):769. PMID: 22332450.
16. D'Onghia M, Ciaffi J, Ruscitti P, Cipriani P, Giacomelli R, Ablin JN, Ursini F. The economic burden of fibromyalgia: A systematic literature review. Semin Arthritis Rheum. 2022;56:152060. doi: 10.1016/j.semarthrit.2022.152060.
17. Nguyen VC, Park J. Relationships between demographic factors and chronic conditions with disease severities. Int J Environ Res Public Health. 2021;18(21):11469. doi: 10.3390/ijerph182111469.
18. Sarmer S, Ergin S, Yavuzer G. The validity and reliability of the Turkish version of the Fibromyalgia Impact Questionnaire. Rheumatol Int. 2000;20(1):9-12. doi: 10.1007/s002960000077.
19. Bennett RM, Friend R, Marcus D, Bernstein C, Han BK, Yachoui R, et al. Criteria for the diagnosis of fibromyalgia: validation of the modified 2010 preliminary American College of Rheumatology criteria and the development of alternative criteria. Arthritis Care Res (Hoboken). 2014;66:1364-73. doi: 10.1002/acr.22301.
20. Dernek B. Fibromiyalji Sendromu Hastalarının İşlevsellik, Yetiyitimi ve Sağlığın Uluslararası Sınıflandırılması ICF Kapsamında Değerlendirilmesi: Pilot Çalışma. Acıbadem Univ Health Sci J. 2020;1:160-6.
21. 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.
22. Cacace E, Ruggiero V, Anedda C, Denotti A, Minerba L, Perpignano G. Quality of life and associated clinical distress in fibromyalgia. Reumatismo. 2006/09/30;58. doi: 10.4081/reumatismo.2006.226.
23. Aparicio VA, Ortega FB, Carbonell-Baeza A, Cuevas AM, Delgado-Fernández M, Jonatan R. Anxiety, depression and fibromyalgia pain and severity. Behav Psychol. 2013;21:381.