

# Clinical and demographic characteristics and functional status of the patients with fibromyalgia syndrome

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## ABSTRACT

**OBJECTIVE:** To investigate the clinical and demographic characteristics and functional status of the patients with fibromyalgia syndrome (FMS).

**METHODS:** Ninety-four patients with the diagnosis of FMS were included in the study. All patients were evaluated with short form 36 for quality of life (SF-36), pain, depression, benign joint hypermobility syndrome (BJHS), myofascial pain syndrome (MPS), and demographic characteristics. End-point measurements were SF-36 for quality of life, visual analogue scale, Beck Depression Index, anamnesis, and physical examination.

**RESULTS:** The majority of the patients were women who were suffering from generalised pain with a median age of 40.4. Mostly depression and sleep disorders were accompanying the syndrome. Physical examination revealed MPS and BJHS in most of the patients.

**CONCLUSION:** BJHS and MPS must also be investigated in patients with the diagnosis of FMS.

*Key words: Depression; fibromyalgia; joint hypermobility; myofascial pain; pain; sleep disorder.*

Fibromyalgia syndrome (FMS) is a syndrome with a complex symptomatology which does not demonstrate apparent morphological characteristics [1]. Since central sensitivity involves in the pathogenesis of FMS, occasionally physicians can find it difficult to establish a diagnosis of FMS. FMS is the second most frequently established diagnosis made by the physicians specialized in the musculoskeletal

system diseases. Each one of 10 patients is diagnosed as FMS among musculoskeletal physicians. Its incidence in the population has been reported as 8-15 percent. It is seen 4-8 times more frequently in women than men. FMS can be seen within age range of 18, and 55 years, however it is more prevalent among women of the childbearing age.

Clinical symptoms are more frequently associ-



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**TABLE 1.** Myofascial pain syndrome (MPS) diagnostic criteria

## Major Criteria

1. Localized spontaneous pain
2. Spontaneous pain or alteration of perception along the pathway of the trigger point
3. Palpable taut band of the involved muscle group
4. Hypersensitivity of one tender point along the taut band
5. Restricted range of motion

## Minor Criteria

1. When pressed on the trigger point, emergence of spontaneously perceived pain, and altered sensations
2. Emergence of local twitchings of local muscle fibers when trigger point pricked or palpated
3. Alleviation of pain when the involved muscle is stretched or an analgesic was injected into the trigger point.

For the establishment of the diagnosis of MPS, 5 major, and at least one minor criteria should be detected.

**TABLE 2.** Beighton criterias

## Major Criteria

1. Beighton scores  $\geq 4/9$  (+)
2. presence of arthralgia in  $\geq 4$  joints lasting for more than 3 months

## Minor Criteria

1. Beighton score 1,2 or 3/9 (if aged 50+ then 0,1,2 or 3 /9)
2. Arthralgia detected in one of three affected joints or back pain or spondylosis, spondylolisthesis
3. Dislocation/sublocation of more than one joint
4.  $\geq 3$  soft tissue pathologies (bursitis, tenosynovitis, epicondylitis)
5. Marfanoid appearance, and habitus (tallness, long arms, upper/lower extremity  $<0.89$ , arachnodactyly)
6. Cutaneous striae, hyperextensibility, thin skin, abnormal scarring
7. Ophthalmological signs: Prolapsus of the eyelid or myopia or antimongoloid slant
8. Varicose veins or hernia or uterine /rectal prolapsus

For the establishment of diagnosis presence of 2 major or 1 major + 2 minor or 4 minor criteria or in 1st degree relatives 2 minor criteria should be revealed.

## Beighton Criteria

	Right	Left
90° dorsiflexion of the metocarpal joint	1	1
Passive apposition of the thumb to the flexor aspect of the forearm	1	1
Ability to hyperextend the arm more than 10°	1	1
Ability to hyperextend the knee more than 10°	1	1
Touching the palm of the hand on the ground while the foot, and the knee in extension	1	1
<b>Total</b>	<b>9</b>	

For the establishment of diagnosis at least 4/9 (+) criteria should be present. Since this scoring system evaluated some certain regions of the body, and it did not demonstrate the degree of hypermobility, its routine use had been severely criticized, and it was revised in 1998 so as to construct Beighton criteria.

ated with pain. Pain is generalized or regional, and it is described on the right or left side of the body, below or above the waist or along the axial skeleton. Pain persisting for at least 3 months is observed. However at the beginning, complaints of pain are related to only one region. Because of presence of neuroendocrine dysfunction playing a role in the pathology of FMS, myofascial pain syndrome, restless leg syndrome, migraine, irritable bowel syndrome, and chronic fatigue syndrome can accompany the clinical picture. Indeed, these syndromes are associated with similar pathogenetic mechanisms [2, 3]. Symptoms seen in most of the patients are associated with these syndromes.

Psychological problems are also widely observed in FMS patients. Especially symptoms of depression or anxiety are encountered among them [4].

In the majority of the patients, sleep disorders can be seen. Therefore, complaints of fatigueness develop, and especially morning fatigueness be-

**TABLE 3.** Demographic data, and other concomitant conditions

Parametres (n:94)		Concomitant conditions	
Age	40.4	MPS	75.2%
BMI	24.4	BJHS	78.9%
Gender (female)	89.5%	Sleep disorder	71.3%
Marital status (married)	68%	Depression	63.5%
Education (university)	48%		
Profession (housewife)	38.8%		

comes predominant. Patients frequently complain of problems in falling asleep, especially sound sleep, and frequent arousals from their sleep at night [5].

The aim of this study is to analyze potentially concomitant diseases, clinical, demographic findings, and functional state of the patients in order not to overlook FMS in the differential diagnosis.

## MATERIAL AND METHOD

A total of 94 volunteered patients who met inclusion criteria of the study and diagnosed as FMS, and consulted to the outpatient clinic because of widespread bodily pains, and complaints of poorly localized chronic pain enrolled in the study. Patients with complaints of radicular pain, neurological deficit, discal herniation, fractures, infection, malignancy, serious systemic disease, and pains secondary to established diagnosis of psychotic disorders were not included in the study. From every study population informed consent forms were obtained.

General demographic information of the patients were obtained, and then sleep disorder was interrogated. Depressive state of the patients was evaluated using Beck's depression scale (BDS) [6]. Pain perception of the patients was questioned, and scored between 0, and 10 points using visual analogue scale (VAS). For the evaluation of general health state, physical function, physical strength, pain, general health, energy (vitality), social function, emotional power, and mental health, short form-36 (SF-36) was used [7]. As a chronic pain

syndrome, presence of myofascial pain syndrome (MPS) (Table 1) was inquired, and benign joint hypermobility syndrome (BJHS) was evaluated using Beighton diagnostic criteria (Table 2).

## RESULTS

For statistical analysis, SPSS (Statistical Package for Social Science) Windows statistics program version 11.0. was used. As statistical methods frequencies, and descriptive methods were employed. Age range of the patients varied between 16, and 75 years (median, 40.4 years), and mean body mass index (BMI) was 24.44 kg/m<sup>2</sup>. Study group consisted of female (89.5%), and male (10.5%) individuals. Most of the patients were married (68%), and university graduates (48%). MPS, and BJHS were detected in 75.2, and 78.9% of the patients with diagnosis of FMS. Sleep disorders were detected in 71.3% of the patients, and using BDS, depression was disclosed in 63.5% of the patients (Table 3). Mobility VAS scores ranged between 4, and 9 points (median, 6.55 pts), and resting VAS scores varied between 0, and 9 points (median 5.98 pts) (Table 4). Mostly, lower physical role, pain, and energy scores were detected in SF-36 health screening of the patients (Table 5).

## DISCUSSION

FMS is seen 4 to 8-fold more frequently in women, than men [8]. FMS can be seen at every age, however it is especially more prevalent in women of the

**TABLE 4.** Evaluation of pain using VAS

Parametres (n:94)	0-10	mean±SD
VAS (mobility)	4-9	6.55±1.614
VAS (resting)	0-9	5.98±3.651

**TABLE 5.** Evaluation of general health state using SF-36

SF-36 subgroups (n:94)	minimum	maximum	mean±SD
Physical function	15.00	100.00	69.687±21.128
Physical role	.00	100.00	38.437±37.724
Pain	12.00	90.00	35.812±17.535
General health	5.00	92.00	49.859±22.057
Energy	.00	85.00	38.812±20.908
Social	12.50	100.00	62.812±22.587
Emotional	.00	100.00	51.666±40.007
Mental	16.00	100.00	52.100±18.046

childbearing age. It is generally seen within the age range of 18, and 55 years. In various studies, median age of the patients was reported as 31 (27-46 yrs) years [9, 10, 11]. In our study, age range was 16-75 (mean, 40.4 yrs) years which was similar to those found in other studies.

Goldman observed joint laxity in patients with FMS, and fibrositis [12]. Hudson N. et al. encountered soft - tissue rheumatic disorders (FMS, bursitis, and tendinitis) in 67% of BJHS patients, and 25% of the control group, and demonstrated a statistically significant increase in soft- tissue disorders in BJHS [13]. In our study, detection of BJHS in 78.9% of FMS patients supports the outcomes of other studies.

Granges et al. encountered MPS in 68.3% of their 60 FMS patients [14]. However Gerwin et al. made diagnoses of FMS (n=18/96) and MPS (n=25/96) in 18.7%, and 26% of the patients who consulted to their outpatient clinics, respectively. Since MPS was detected in most (75.2%) of our

patients, our results were deemed to be comparable with the results of other studies [15].

Sleep disorders can be seen in patients because of generalized pain which also worsens quality of life of the patients. MPS, and FMS are associated with sleep disorders, and interventions aiming at increasing sleep quality, also alleviate patients' pain [16]. Still in our study, a close correlation was observed between MPS, and sleep disorders.

Previous studies also demonstrated lower quality of life in patients with FMS [17]. In a study where functional state, and quality of life of FMS patients were compared with healthy controls, quality of life scores of FMS patients were found to be significantly lower than those of the healthy controls [18]. In our study, in all SF-36 subgroups which evaluated disability, poor scores were obtained especially in physical role, energy, and pain subgroups similar to those seen in other studies.

Frequently depression accompanies FMS [19, 20]. Various studies demonstrated the presence of

neuroendocrine dysfunction in FMS [21]. Neuroendocrine dysfunction aggravates stress, adverse psychosocial factors, and pain. In these patients, higher rates of depression, and somatization symptoms relative to those without history of generalized pain were encountered. Depressive symptoms were detected in 63.5% of our patients.

In FMS chronic, moderate-severe episodes of pain are observed [21]. Similarly in our study, based on VAS scores, moderate pain which aggravated with movements was detected.

Kohl et al. investigated mental reconstruction of hot-cold tolerance, and depth of pain, and could not detect any difference between FMS patients, and control subjects as for process of cognitive reconstruction of hot-cold tolerance [22]. Flodin et al. reported that interaction, and communication between cerebral regions involving in the perception of painful stimuli, and sensorimotor regions is disrupted which resulted in defective regulation of painful stimuli [23].

Kleinman et al. investigated sleep disorders in FMS patients, and strongly evidenced that sleep disorders are seen in FMS patients. They also reported that most of the disorders seen in these patients triggered insomnia, and problems in falling asleep which worsened symptoms because of inadequate resting periods [24]. We also found a significant correlation between FMS, and sleep disorders.

Gonzalez et al. investigated the association between personal dispositions, previous traumatic events, and psychopathologies and onset of FMS, and found that personal characteristics were very closely linked with FMS, and contrary to common assumptions, previous traumatic events did not exert a strong impact on the onset of the disease [25]. In our study, personal disposition of the women in their childbearing age was associated with the onset of FMS.

Cassisi et al. emphasized the association between FMS, and central nervous system anomalies, MPS, BJHS, and temporomandibular joint disorders, and indicated the necessity of a multidisciplinary approach so as to relieve symptoms of pain, and restricted mobility suffered by these patients [26].

Fitzcharles et al. reported that FMS patients with low socioeconomic status experienced worse functional disability, and more severe symptoms compared with other FSM patients despite the same levels of pain, anxiety, and depression due to the differences in the perception of the disease state [27]. We also revealed the necessity of investigating additional pathologies, and supportive treatment in addition to pharmacological, and non-pharmacological treatment modalities applied for FMS patients.

## CONCLUSION

In this study, we have observed that most of the patients with FMS are middle-aged women with complaints of generalized pain, and sleep disorders. This study has also revealed that these patients suffer from painful episodes while resting being more severe with movements. In some patients presence of depression was detected. In patients with established diagnosis of FMS, criteria of MPS, and BJHS should be absolutely evaluated. Moreover, it has been detected that majority of the patients experience considerable decreases especially in physical role, energy (vitality), and pain scores which necessitate multidisciplinary approach to the treatment of FMS patients.

### Clinical message

In patients with established diagnosis of FMS, concomitant pathologies as MPS, and BJHS should be also investigated.

It should not be forgotten that patients with diagnosis of FMS require multidisciplinary approach.

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