JBACHS
Journal of Basic and Clinical Health Sciences

J Basic Clin Health Sci 2020; 4:280-287
https://doi.org/10.30621/jbachs.2020.1175

Original investigation

Effects of Pain, Depression and Quality of Life on Bone Mineral Density in Patients with Fibromyalgia

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Received: 219.03.2020; **Accepted:** 22.07.2020; **Available Online Date:** 15.10.2020

Cite this article as: Demirbas N, Kutlu R, Ecesoy H. Effects of Pain, Depression and Quality of Life on Bone Mineral Density in Patients with Fibromyalgia. J Basic Clin Health Sci 2020; 4:280-287.

ABSTRACT

Objective: In this study, we aimed to assess the effects of bone mineral density with fibromyalgia on pain, depression and quality of life.

Methods: In this case-control study, 100 women who were diagnosed as FMS and 100 women who were not diagnosed as FMS were included. Visual Analog Scala (VAS), Fibromyalgia Impact Questionnaire (FIQ) and Hospital Anxiety and Depression Scala (HADS) were used for the patients. Bone mineral density (BMD) of the participants was measured with dual energy x ray absorptiometry (DXA) method.

Results: The number of the tender points of the women with fibromyalgia and VAS, FIQ, HAD-A and HAD-D scores were found significantly higher than of the control group ($p<0.001$). Of the patients with fibromyalgia, 64.3% had anxiety and 59.9% of them had depression. No statistically significant difference was found when the averages of bone mineral density and T-Z scores were compared in two groups ($p>0.05$). When BMD measurements and HAD-A and HAD-D scores of the fibromyalgia patients were compared; in the L1-L4 region of the patients with anxiety and depression; BMD (mass, T score and Z score) were found respectively lower than of those without anxiety and depression ($p=0.011$) ($p=0.040$).

Conclusions: The FIQ scores of the patients with low L1-L4 T scores were found higher than of the patients with normal T scores. The L1-L4 region of the patients with anxiety and depression; BMD (mass, T score and Z score) were found respectively lower than of those without anxiety and depression. This study confirmed the concept that FMS is a risk factor for osteoporosis.

Keywords: fibromyalgia syndrome, bone mineral density, pain, depression

INTRODUCTION

Fibromyalgia Syndrome (FMS) is a non-articular rheumatic disease which is characterised by general body pain of unknown etiology, sensitivity in some specific body points, sleep disorders, reduction in pain threshold, fatigue and mental stress. The disease is accompanied by the results and complaints such as headache, morning stiffness, vertigo, dysmenorrhea, irritable intestinal diseases, chest and abdominal pain, sicca symptoms, Raynaud's phenomenon, reticular colour variegation, hypermobility syndrome, paresthaesia, swollen feeling in hands (1). It is regarded as the second most frequent rheumatic disease in society. In a study performed by comparing 1990, 2010 and modified 2011 criteria of American Collage of Rheumatology (ACR), FMS prevalence was found 1.7%, 1.2%, 5.4% respectively and male/female ratio was found 13.7, 4.8, 2.3 respectively (2).

Quality of life means the evaluation of the situations of individuals in life within the context of the set of values and the cultural structure they are included in. The illnesses that cause chronic pains affect the quality of life negatively and reduce the ability of the individual to cope with life. Various studies have shown that quality of life of the patients with FMS is affected negatively. Pain, somnipathy, psychiatric symptoms and fatigue cause a bad quality of life. The primary objective to treat the disease, which causes labour loss and high health expenditures, is to reduce the pain and increase the quality of life. Determining the problems that affect quality of life in FMS seems to be important to direct the treatment of the disease (3). The psychological result that accompanies fibromyalgia most is depression; and anxiety, obsessive compulsive disorder and panic attack can also be observed (4).

There is an increase in prevalence of osteoporosis in fibromyalgia patients due to depression, fatigue, insomnia, physical inability and sedentary life style (5). A meta-analysis, they observe that bone mineral density (BMD) at lumbar spine is decreased in FMS

compared with normal individuals. Patients with FMS should be assessed for risk of osteoporosis (OP) (6, 7). OP is a systemic skeletal disease characterized by low bone mass and micro-architectural deterioration of bone tissue with correspondingly increased bone fragility. In recent years, there has been a dramatic increase in the number of studies investigating chronic rheumatic diseases as a cause of OP (6). Depression, decreased physical activity and decreased muscle condition have been shown as risk factors for the development of OP (7). The few studies investigating the relationship between FMS and OP and the risk of OP development in patients with FMS have reported contradictory results (5–8).

In this study, we aimed to assess the effects of pain, depression and quality of life on bone mineral density in women with and without fibromyalgia.

MATERIAL and METHOD

Study Design

This case-control analytical study was conducted at between 01.05.2014 and 01.07.2015. In the studies performed in our country before, fibromyalgia prevalence in women was found 3.6–4.9% (8). In our research, the number of the subjects that had to be included in the study was calculated by using $n=t^2.\ p.\ q/d^2$ formula because the number of the individuals in the universe was not known. In accordance with this calculation, 100 patients diagnosed with FMS according to the criteria of ACR 1990 in the Physical Therapy and Rehabilitation Outpatient Clinic and 100 healthy women, were included in our study.

Ethical Authorisation of the study

Before the study was started, an approval numbered 2014/40 was received from Necmettin Erbakan University, Meram Faculty of Medicine, Clinical Studies Ethic Committee on the date of 08.01.2014. The patients were informed about the objective of the study, oral and written consents were received from those accepting to participate.

Clinical Measures

A questionnaire form which was created by the researchers in accordance with the literature and which determined sociodemographic features such as age, marital status, occupation and level of income and 10 cm scale Visual Analog Scale (VAS), Fibromyalgia Impact Questionnaire (FIQ), Hospital Anxiety and Depression Scale (HADS) were used to collect the data about the patients. Besides, menstrual characteristics and parity of the patients, breast-feeding duration, clothing style, skin colour, sun exposure time, consumption amount of milk and milk products and their exercise capacities were asked. The surveys were completed by the researcher using face to face interview technique. T and Z scores of 100 patients with FMS and 100 healthy women were measured by dual energy x ray absorptiometer (DXA) method from lumbar region and right femur.

Exclusion criteria

Those with metabolic, systemic, endocrine, infectious, neurological and a psychiatric disease were excluded from the study. Cancer, those taking a medicine affecting serum vitamin D, Ca, PTH levels, pregnant women and the patients who did not give any written consents to participate in the study were not included.

Visual Analog Skala

Visual Analog Skala (VAS) is a scale developed by Price et al. (1983) and it measures the pain level of the patient. Validity and reliability of the scale was tested and it was 10 cm long. Two points of the scale were named differently on vertical or horizontal line (0=no pain, 10=the most intense pain). The patients were asked to mark their pains on a 10 cm line with respect to these explanations.

Fibromyalgia Impact Questionnaire

It was developed by Burchardt et al. to measure functional situation on FMS patients and its validity and reliability study special to our country was performed by Sarmer et al. (2000) (9, 10). This scale basically measures 10 separate features as physical function, absence from work, feeling well, fatigue, difficulty at work, pain, stillness, morning fatigue, anxiety and depression. Apart from feeling well, low scores indicate recovery or being slightly affected by the disease. The maximum score of each sub heading is 10 and total score is 100. FIQ score was evaluated as being slightly affected under 50 points, moderately affected between 50–69 and heavily affected at 70 and more.

Hospital Anxiety Depression Scale

It was used to determine anxiety and depression of the patients. The scale was developed for self-rating by Zigmoid and Snaith (1983) so as to determine the risk of anxiety and depression in patients and to measure the level. Validity and reliability studies of the scale was carried out by Aydemir et al. (11, 12) It is not used to diagnose those with physical illnsesses or who applied for primary healthcare but used to define anxiety and depression in a short time and determine the risk group. The scale contains 14 questions in total and odd numbers measure anxiety and even numbers measure depression. The replies are graded between 0–3 in quadruplet likert type. The lowest score that the patients can get from each subscale is 0 and the highest score is 21. The break points of Turkish form of HADS is determined as 10/11 for anxiety subscale and as 7/8 for depression subscale.

Bone Mineral Density Measurement

Bone mineral densities of all participants were measured by dual energy x ray absorptiometry (DXA) method. In the context of the research, lumbar vertebrae (L1-L3 and L2-L4) and proximal femur (femur total, femur trochanter and Ward's triangle) BMD were measured as anteroposterior by DXA method by using GE Lunar device (MDL DPX Prodigy-tech. 150070, Madison, USA). Scanning voltage was 67 kv, 1500 mA current, 20.0 µGy dose; scanning time was nearly 3 minutes. The results were evaluated considering mass (g/cm^2), T and Z scores of both areas.

World Health Organisation did not make BMD classification for osteoporosis with respect to healthy premenopausal women, it was stated that the diagnosis of osteoporosis should not be made according to the results of measurements only. International Clinical Densitometry Society prefers using Z score instead of T

score for premenopausal women over 20, due to the fact that T score and Z score are so similar in premenopausal women. In our study, BMD measurements of the individuals were evaluated in terms of mass, T and Z scores (13).

Statistical Analysis

Statistics package program (Windows 20.00 program) was used while evaluating the data obtained in the study. Descriptive statistics for continuous variables were summarised in terms of average and standard deviation and descriptive statistics for categorical data were summarized in terms of frequency and percentage in a tabular form. To compare quantitative data in binary groups; Student-t test was used if they corresponded normal distribution hypothesis and Mann-Whitney U test was used if they did not correspond normal distribution hypothesis. One-way Anova test was used to compare quantitative data in triad in the parameters that showed normal distribution. Homogeneity of the variances was evaluated by Levene test. Tukey test was used for homogeneous variances and Tamhane's T2 test was used for inhomogeneous variances. Chi square test was used to compare categorical data and Kruskal-Wallis test was used in triad that did not show normal distribution. Pearson correlation analysis was made for correlation between parameters. Correlation coefficient (r) was evaluated as weak between 0.00–0.24; moderate between 0.25–0.49; strong between 0.50–0.74 and very strong between 0.75–1.00. Linear regression analysis was performed between the two variables and the regression coefficient was calculated. The results were evaluated at 95% confidence interval and significance was $p<0.05$.

RESULTS

The mean age of fibromyalgia patients participating in the study was 43.06±7.5 year (min: 23 - max: 55) and average of control group was 40.49±9.09 (min: 20 - max: 56). BMI average of the patients with FMS was 28.16±5.2 kg/m^2 and BMI average of the control group was 26.46±5.1 kg/m^2.No statistically significant difference was found between the groups in terms of age and weight. The patients with FMS were shorter than the control group, their BMIs were more and this difference was statistically significant (p=0.003) (p=0.021). Sociodemographic characteristics of patient and control group and comparison of some parameters are shown in Table 1.

Duration of diagnosis of fibromyalgia patients was 6.9±5.3 (min: 0.5 - max: 30) year in average. The average number of pain points of the patients was 15.19±3.0, VAS score was 6.7±1.4 cm and the total score of Fibromyalgia Impact Questionnaire was found to be 58.40±10.85. FIQ score of 24% of FMS patients was found to be slightly affected under 50 points, 62% of them were moderately affected between 50–69 and 14% of them were found to be heavily affected at 70 points and more.

According to HADS survey, 64.3% of FMS patients had anxiety and 59.9% of them had depression. 35.7% of the control group had anxiety and 40.1% of them had depression. This difference between two groups was found to be statistically significant for both anxiety and depression (p=0.038 and p<0.001) (Table 2).

Table 1. Sociodemographic characteristics of patient and control group

Groups / Sociodemographic characteristics		FMS		Control Group			
		n	%	n	%	χ^2	p
Marital Status	Married	67	48.2	72	51.8	0.590	0.443
	Unmarried	33	54.1	28	45.9		
Education Status	Secondary Education	70	65.4	37	34.6	**21.887**	**<0.001**
	High School	30	32.3	63	67.7		
Employment	Non-Working	71	59.2	49	40.8	**10.083**	**0.001**
	Working	29	36.2	51	63.7		
Economic Situation	Less income	13	86.7	2	13.3	**7.207**	**0.007**
	Good income	87	47.0	98	53.0		
Smoking Status	Smoker	20	46.5	23	53.5	0.267	0.606
	Non-smoker	80	51.0	77	49.0		
Clothing style	Veiled	79	57.2	59	42.8	**9.350**	**0.002**
	Open	21	33.9	41	66.1		
Skin color	Open	26	41.9	36	58.1	5.743	0.057
	Medium	37	46.8	42	53.2		
	Dark	37	62,7	22	37,3		
Sun Exposure/ a day	<30 min	36	78.3	10	21.7	**25.812**	**0.001**
	30-60 min	50	49.0	52	51.0		
	>60 min	14	26.9	38	73.1		
Milk/ milk products consumption							
Not drink/less than 1 cup		76	56.3	59	43.7	6.587	**0.010**
Drinking/more than 1 cup		24	36.9	41	63.1		
Exercise status	Do	32	44.4	40	55.6	1.389	0.239
	Not do	68	53.1	60	46.9		

***FMS:** Fibromyalgia Syndrome

Table 2. Clinical characteristics of FMS and the control groups

	FMS*	Control Group		
	Median (min-max)	Median (min-max)	Z	p
Number of painful points	16.0 (7-18)	3.0 (0-10)	-12.258	**<0.001**
VAS*	67.0 (32-96)	12.0 (0-45)	-12.105	**<0.001**
HADS*- Anxiety	8.0 (2-19)	6.0 (2-16)	-2.071	**0.038**
HADS- Depression	12.0 (2-19)	8.5 (1-21)	-6.085	**<0.001**

***VAS:** Visual Analog Scale
***FMS:** Fibromyalgia Syndrome
***HADS:** Hospital Anxiety Depression Scale

Table 3. Comparison of BMD values in FM and control groups

	FMS	Control group		
g/cm^2	Mean±SD	Mean±SD	t	p
L1-L4	1.125±0.16	1.160±0.16	-1.624	0.106
Left femur total	0.990±0.15	1.010±0.15	-0.374	0.709
Ward's triangle	0.862±0.19	0.864±0.17	-0.112	0.911
Trochanter	0.815±0.15	0.802±0.12	0.656	0.512
Femoral neck	0.956±0.15	0.980±0.14	-1.122	0.263
(T score)				
L1-L4	-0.178±1.34	0.139±1.27	-1.705	0.090
Left femur total	-0.119±1.23	0.055±1.14	-1.031	0.304
Ward's triangle	-0.393±1.44	-0.314±1.36	-0.398	0.691
Trochanter	0.054±1.03	0.056±1.01	-0.014	0.989
Femoral neck	-0.098±1.22	0.098±1.15	-1.160	0.247
(Z score)				
L1-L4	-0.170±1.20	0.030±1.17	-1.186	0.237
Left femur total	-0.063±1.07	0.059±1.03	-0.817	0.415
Ward's triangle	0.014±1.24	-0.038±1.24	0.295	0.768
Trochanter	-0.041±0.91	0.054±0.91	-0.232	0.817
Femoral neck	0.054±1.11	0.189±1.04	-0.882	0.379

***FMS:** Fibromyalgia Syndrome
* **BMD:** Bone Mineral Density

Table 4. Comparison of clinical characteristics of patients with FMS according to T score

	Femur total T score			
	Osteoporosis (a) < -2,5	Osteopenia (b) (-2,5)-(-1,0)	Normal(c) >-1,0	
	n=8	n=32	n=60	
	Median (min-max)	Median (min-max)	Median (min-max)	p
Duration of diagnosis (year)	10.0 (5-15)	6.0 (0.5-30)	5.0 (0.5-20)	**0.025**[ac]
Number of painful points	17 (10-18)	14 (7-18)	16 (8-18)	0.237
VAS	69 (53-83)	67 (44-92)	66 (32-96)	0.752
FIQ	70.1 (52.1-78.1)	59.7 (46.3-74.6)	55.8(30.0-77.8)	**0.012**[ac]
HADS- Anxiety	11 (8-15)	9,5 (4-19)	8 (2-16)	**0.014**[ac]
HADS- Depression	15 (10-18)	14(6-18)	11 (2-19)	**0.010**[ac]

***VAS:** Visual Analog Scale
***FIQ:** Fibromyalgia Impact Questionnaire
***HADS:** Hospital Anxiety Depression Scale

In BMD measurements of women with FMS and control group; when T and Z score were compared in two groups for L1-L4 lumbar vertebrae, left femur total, Ward's triangle, trochanter and bone mass in the femoral neck (g/cm^2), no statistically significant difference was found (p>0.05) (Table 3).

When BMD measurements of fibromyalgia patients were classified in terms of femoral total T scores, time of diagnosis of fibromyalgia, FIQ, HAD-A and HAD-D scores in osteoporosis patients were found to be statistically higher than those with normal T score (Table 4).

When the correlation between VAS, HADS-A, HADS-D and FIQ scores of FMS patients were investigated, a strong positive correlation was found between them (r=0.643, p<0.001). When linear regression analysis was performed, 41.3% of the increase

Table 5. Correlation of some parameters of fibromyalgia patients

		1	2	3	4	5	6	7	8
1. Year	r	1							
	p								
2.BMI	r	**0,363****	1						
	p	**0,001**							
3.VAS	r	0,147	**0,207***	1					
	p	0,144	**0,039**						
4.FIQ	r	0,170	0,140	**0,643****	1				
	p	0,091	0,164	**0,001**					
5.HADS- Anxiety	r	-0,027	-0,164	**0,373****	**0,521****	1			
	p	0,788	0,104	**0,001**	**0,001**				
6.HADS- Depression	r	0,199*	-0,005	**0,382****	**0,485****	**0,488****	1		
	p	0,047	0,964	**0,001**	**0,001**	**0,001**			
7.L1-L4 T Score	r	**-0,352****	-0,018	-0,116	**-0,275****	**-0,220****	**-0,307****	1	
	p	**0,001**	0,860	0,252	**0,006**	**0,027**	**0,002**		
8.Femur Total T Score	r	**-0,276****	0,148	0,077	-0,096	-0,105	-0,186	**0,660****	1
	p	**0,005**	0,142	0,446	0,340	0,300	0,064	**0,001**	

***VAS:** Visual Analog Scale
***FIQ:** Fibromyalgia Impact Questionnaire
***HADS:** Hospital Anxiety Depression Scale

Table 6. Factors affecting osteoporosis in patients with fibromyalgia

Parameters	OR	95% confidence interval		p
		Lower limit	Upper limit	
Number of painful points	1,186	1,012	1,390	**0,035**
VAS	10,57	1,006	1,111	**0,027**
FIQ	0,912	0,850	0,978	**0,010**
HADS- Depression	8,007	0,693	0,941	**0,006**

Backward lojistik regresyon analysis
***VAS:** Visual Analog Scale
***FIQ:** Fibromyalgia Impact Questionnaire
***HADS:** Hospital Anxiety Depression Scale

in VAS was attributed to fibromyalgia impact score (Figure 1). When the correlation between L1-L4 T Score and FIQ scores of FMS patients were investigated, a medium negative correlation was found between them (r=0.275, p<0.006) (Table 5).

Factors affecting osteoporosis in patients with fibromyalgia are shown in Table 6.

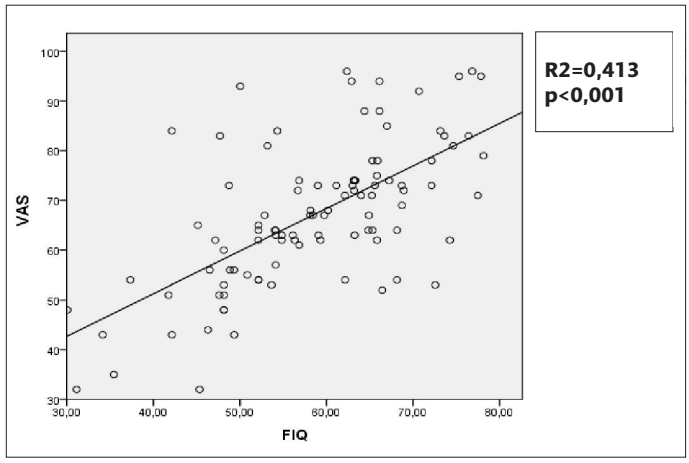

Figure 1. Regression between FIQ and VAS in FMS patients

DISCUSSION

Fibromyalgia is also associated with sleep disturbances, cognitive or memory problems, and symptoms of psychological distress such as anxiety and depression. These lead to poor overall health and mental disorders, which subsequently cause low level of physical activity and exercise. Depression, decreased physical activity, and irritable bowel syndrome can then lead to decreased muscle strength, low calcium intake, decreased sun exposure, and low vitamin D levels, which are also well-known risk factors for low BMD or osteoporosis. Patients with FMS should be assessed for risk of osteoporosis.

Age average of 100 women diagnosed as FMS was 43.06±7.57 (23–55) and average of the control group was found to be 40.49±9.09 years. Wolfe et al., found out that middle adulthood, low income and low educational level were risk factors for FMS as well as female gender (14). In a study performed by Çobankara et al. on 655 textile workers; age, genders, marital status, level of income, educational background, smoking habits and body mass index were searched and it was discovered that FMS prevalence

was higher in women, in the elderly and in those with low annual income (15). In a study conducted by Björkegren et al., 138 FMS patients were compared to 401 healthy control groups matched in terms of age, gender and place of residence and it was determined that FMS patients had lower education and level of income, they were generally unemployed and they did not receive a pension (16). And in our study, FMS patients were shorter than the control group, they were not well-educated, their income was lower than expenses and they were generally housewives or retired.

Average FIQ score of the patients who were diagnosed with FMS was 58.40±10.85. In some several studies, average FIQ scores were found to be 59.49±14.25 score and 63.24±9.8 score (17, 18). In a study performed by Ubago et al., the relation between FIQ scores and gender, level of income, age, marital status, living space (rural/urban), education level, the number of the children and employment status were investigated and a relation was found between high number of children, advanced age, low educational level and quality of life (19). In our study, a relation was found between poor quality of life, low education level and comorbidities.

Main symptom of FMS is widespread musculoskeletal pain. Measurement of pain level is important to determine the severity and follow up of the disease. In our study, average VAS scores of FMS patients was detected as 6.7±1.4 cm. This value was significantly higher than in the control group. In another studies in the literature, VAS average was found to be 7.17±1.28 cm, 8.0±1.3 cm, 7.02±1.74 cm (16–18).

Quality of life is significantly affected by depression due to the fact that it increases sense of pain and functional disability, reduces the energy, the interest in free time activities and motivation and spoils the interpersonal communication. Emotional variations such as depression, anxiety, posttraumatic stress disorder and panic attack are the factors that trigger the symptoms in fibromyalgia syndrome which is insufficient to cope with the difficulties. Depression is one of the most frequent psychiatric diseases in FMS patients and its prevalence varies between 28.6% and 70% in various studies (20). In another study, 105 women aged 30–55 years diagnosed with fibromyalgia completed a neuropsychological assessment, which included measures of attention and executive functions. Eighty-four percent of the patients reported subjective cognitive complaints (21). Güven et al. evaluated their patients with Beck Depression Scale (BDS) and they detected mild depression in 50%, moderate depression in 38% and major depression in 2% of them (22). In our study, according to HADS survey applied to the participants, 64.3% of FMS patients had anxiety and 59.9% of them had depression. In control group, by the way, 35.7% anxiety and 40.1% depression were detected. In our study, the levels of anxiety and depression were found in accordance with the literature.

Sedentary lifestyle, reduced physical activity, and the presence of depression in patients with FMS have indicated that bone mineral density needs to be measured, given the risk of osteoporosis (23). In another study, 116 premenopausal FMS women and 141 premenopausal women of control group were compared with calcaneus USG method and it was seen that BMD was lower in FMS group (24). In a study performed by Cabello in 2015 by means of Bone mass of women with fibromyalgia may be more susceptible to changes in physical fitness than that of the women without fibromyalgia (25). In a study of Tander et al. on 50 FMS and 40 healthy premenopausal women in 2010, T score in L2-L4 region was found significantly lower in FMS group. According to BMD values, FMS group had 8% osteoporosis and 32% osteopenia and control group had only 17.5% osteopenia and no osteoporosis (18). In a study performed by Türkyılmaz et al., lumbar vertebrae and proximal femur T and Z scores were detected in normal limits in FMS patients and in control group (26). In BMD measurements of premenopausal FMS women and control group, we detected that there was no statistically difference when L1-L4 lumbar vertebrae and left femur total bone mass (g/cm^2) were compared to T and Z scores. According to L1-L4 T scores, 3% of FMS patients had osteoporosis and 29% of them had osteopenia but T score was in normal limits in 68% of them. In a study performed by Onat et al. to determine fibromyalgia frequency and related risk factors in postmenopausal osteoporotic women, 19% of postmenopausal women diagnosed as osteoporotic had fibromyalgia. According to logistic regression analysis, a statistically significant difference was found between advanced age, being married, high number of major osteoporosis risk factor and the decrease of bone mineral density in femur and lumbar region (27).

Olama et al. performed the measurements of femur neck and lumbosacral region with DXA and they determined depression level with Beck Depression Scale (BDS) on 50 FMS women and 50 healthy control group. They found the lumbar BMD inversely correlated with VAS of pain (p=0.013) and Beck score for depression scores (28). In a study performed on 31 FMS women and 40 healthy women, Jensen et al. evaluated pain with VAS scale and evaluated quality of life and physical activities with FIQ; they could not find a difference in both regions in terms of BMD but they found a negative correlation with lumbar region measurement between the pain and FIQ score in premenopausal FMS women (29). In our study, in accordance with the literature, g/cm^2-T and Z scores were found lower in L1-L4 regions of the patients with anxiety and depression than in those without anxiety and depression. A negative correlation was found in FMS patients between VAS and L1-L4, left femur neck T scores. It was detected that as the pain of the patient increased there was a decrease in BMD.

CONCLUSION

In BMD measurements performed on FMS women and control group; when lumbar vertebrae, left femur, Wards, trochanter and femur neck bone mass (g/cm^2), the average of T and Z score were compared in two groups, no statistically significant difference was found between them. FIQ point of the patients with low L1-L4 T scores was found higher than those with normal T score. The quality of life of fibromyalgia patients with low T score was affected more. When BMD measurements of FMS patients were

compared to HAD-A and HAD-D scores; g/cm^2, T score and Z score were found lower in L1-L4 regions of the patients with anxiety and depression than in those without anxiety and depression.

Recommendations

Fibromyalgia syndrome is a diseases characterised by chronic widespread pain, depression and somnipathy. It has common risk factors with osteoporosis. Our data suggest that optimal nutrition with sufficient intake of calcium and vitamin D, appropriate exercise, and medical treatment need to be considered in FM patients as a means of preventing low BMD and osteoporosis development. FMS patients should be evaluated early for osteoporosis and necessary nutritional supplement (calcium, vitamin D), suitable exercise programs and medical treatment should be applied if needed.

In the treatment of chronic pain syndromes, it is aimed to decrease pain level and increase quality of life. Accordingly, the evaluation of psychiatric disorders accompanying the disease and treatment of them if necessary affect the prognosis and compliance to the treatment in a positive way. Family physicians working in the primary health care centres are faced with yet undifferentiated patients. While we provide primary care as family physicians, we have to perform our preventive medicine duties. We should evaluate the risks according to the characteristics of the patients and apply appropriate personal follow-up and treatment programs. In this context, we carried out our study on this common health problem together with the physical therapy and rehabilitation department.

The fact that the number of our patients is limited and it contains female population only and especially the evaluation of the relation between socio-demographic data and quality of life have limited our study.

Acknowledgments

We wish to thank the Necmettin Erbakan University Scientific Research Coordination Center for the financial support to this study. We thank to all of the participants.

Informed Consent: Informed consent was obtained from all individual participants in the study.

Compliance with Ethical Standards: Written permission was received from the Ethics Committee of Necmettin Erbakan Üniversitesi, Meram Tıp Fakültesi (Approval number: 2014/40).

Peer-review: Externally peer-reviewed.

Author Contributions: Concept - ND, HE; Design - ND, RK, HE; Supervision - ND, RK; Fundings - ND; Materials - ND, HE; Data Collection and/or Processing - ND, HE; Analysis and/or Interpretation - ND, RK; Literature Search - ND; Writing Manuscript - ND, RK; Critical Review - RK, HE

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

Financial Disclosure: Financial support was received for this study from Necmettin Erbakan University Scientific Research Coordination Center.

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