

Mental Health Status in Patients with Fibromyalgia

Sousan Kolahi^{1,*}, Ali Fakhari², Mehrzad Hajaliloo¹, Alireza Khabbazi¹,
Sahar Hassanzadeh Dizaj³ and Mahdi Hemati³

¹Connective Tissue Diseases Research Center, Tabriz University of Medical Sciences, Iran

²Faculty of Medicine, Tabriz University of Medical Sciences, Iran

³Tabriz University of Medical Sciences, Iran

Abstract: *Background:* It has long been shown that chronic conditions are usually accompanied by psychosocial disorders. Fibromyalgia (FM) is not an exception in this regard. The aim of this study is to evaluate the mental health in FM patients.

Methods: In an analytic-descriptive setting, patients with diagnosis of FM were inquired according to general health questionnaire-28 (GHQ-28) and severity of pain was inquired based on visual analogue scale (VAS). Somatic symptoms, anxiety/insomnia, social dysfunction and severe depression were assessed.

Results: One hundred female patients with mean age of 44.66±11.34 years were enrolled. According to GHQ-28, 55% of the patients with FM have suffered from psychological abnormalities. The prevalence of suspected psychological disorders, were 68 % in "somatic symptoms", 18% in "depression" and "anxiety and insomnia" and 53% in "social dysfunction". There were a significant positive correlation between VAS and level of somatic symptoms, social dysfunction and severe depression.

Conclusion: This study showed that a considerable portion of patients with FM may suffer concurrently from psychological disorders. The probability of these diseases increases with the severity of pain, hence effective pain reducing policies may be useful in providing a better quality of life.

Keywords: Fibromyalgia, Depression, Anxiety, Psychological Disorders, Mental Health.

INTRODUCTION

Fibromyalgia (FM) is a common cause for chronic musculoskeletal pain. It is a condition with connective tissue involvement which affects muscles, tendons and ligaments. There is not any inflammation and etiology of pain still remains unknown. This disease is very common but there is controversial about etiology of disease. Patients appear to be good with no obvious abnormalities on physical examination and laboratory and radiologic evaluation. Thus, the role of organic etiology is questioned in this regard, making it classified as a mental or psychosomatic condition [1-3]. It's prevalence in the U.S. population is about 3 to 5 percent in females and 0.5-1.6% in males [4, 5]. Furthermore FM and depression are very similar in terms of physiological, biological and other causal factors, as 22 to 45 percent of patients with FM are concomitantly suffering from depression (6). In these individuals, symptoms for depression are accompanied by severe muscle pain, muscle tenderness, fatigue and sleep disorders [5, 6]. Psychological disorders, including anxiety and depression, extend the severity of disease and pain, giving rise to an increase in

functional disability [7]. In recent 15 years several studies have shown the relationship between FM and depression, yet, some others have not approved it [4, 8, 9]. According to the fact that there is not any similar study evaluating the relationship between mental health status and FM, and given that the personal experiences in this regard show a high rate of mental disturbances in FM patients, we intended to study the scientific basis of this claim. Plus, it is believed that mental health may influence the treatment outcome, so pain scaling and eventual pain reducing measurements might lead to an improvement in the community's overall mental health status.

PATIENTS AND METHODS

During January 2007 to January 2008, about two hundred people were referred to our clinics (the rheumatology clinics of Tabriz University of Medical Sciences), only 150 patients fulfilled the criteria and finally 100 patients were enrolled in this descriptive study. We selected our patients with simple random sampling. We enrolled patients according American College Of rheumatology (ACR) criteria for diagnosis for fibromyalgia [9]. These patients were all women and did not have a history of acute or chronic disorders such as renal failure, heart failure, or other connective tissue disorders or any established psychological disorders. The rheumatologist diagnosed patients and

*Address correspondence to these authors at the Connective Tissue Diseases Research Center, Tabriz University of Medical Sciences, Iran; Tel: 98 413 3371217; E-mail: susan.kolahi@gmail.com, kolahis@tbzmed.ac.ir

assessed the tender points. FM is more prevalent in women, so we chose only women for our study. Severity of pain was inquired using visual analogue scale (VAS) and mental health status was assessed by a Persian translation for GHQ-28 (General Health Questionnaire-28).

Validity and reliability of the translated version of the questionnaire has already been approved. The GHQ, which was arranged by Goldberg and Hillier in 1972, is a self-administered questionnaire that focuses on identifying the individuals with a psychiatric disorder in a clinical setting. The purpose of this questionnaire is not to achieve a specific diagnosis of mental illness but to differentiate between individuals with and without psychiatric disturbances. In this study, the 28-question format of this questionnaire was used in a Likert scoring method with 4 sub-scales (0-3). In Likert scoring, the wording of the items mean that they can all be scored in the same direction (no need to reverse score), so the higher the score, the more severe the condition. Each sub-scale contains 7 questions investigating 4 types of psychological aspects: somatic symptoms, anxiety/insomnia, social dysfunction and depression. Each single sub-scale does not necessarily determine a specific psychological diagnosis, but determines aspects of semiology. An overall score of 4 sub-scales is obtained ranging between 0 and 84. While scores ≤ 6 are considered normal, scores ranging from 7 to 13 and from 14 to 21 are considered as moderate and severe disorder, respectively [10]. Based on the obtained scores the prevalence of psychological discomfort was assessed and analyzed and the subjects with moderate and severe disorders were referred to a psychiatrist [5, 11].

Ethical Considerations

Questionnaire was fulfilled with respect to the participants' informed consent ensuring patients' anonymity and preservation of patient information. This study has been approved by the Ethical Committee of Tabriz Medical University, Tabriz, Iran.

Statistical Analysis

Data analysis was performed using SPSS 15 (IBM, New York, USA). The data is shown as Mean \pm SD with 95% confidence interval, frequency and percentage. Quantitative and qualitative variables were compared using Student's t-test and Chi-square test, respectively. Association between pain score and psychological disorder were determined by Pearson correlation. P value ≤ 0.05 was considered statistically significant.

RESULTS

With regard to questionnaire cut off point, 55% of patients were suffering from a psychological disorder. Subjects' mean age was 44.66 ± 11.34 years. Mean pain score in patients with and without psychological disorder was 7.14 ± 2.25 and 5.42 ± 2.36 , respectively, with a significant statistical difference ($p < 0.001$). Data results for somatic symptoms, anxiety and insomnia, social dysfunction and depression are provided in Table 1. There was no statistically significant difference between patients with and without psychological disorder in terms of age and education level ($p = 0.786$ and $p = 0.54$, respectively).

Mean score in terms of somatic symptoms, anxiety/insomnia, social dysfunction and depression was 7.83, 6.88, 5.03 and 4.7 respectively. The relevant value for mental health status was 26.35 ± 10.47 .

Not a meaningful correlation between patients' age and mean GHQ-28 scores or pain level was seen. A positive correlation was detected between mean GHQ-28 scores and its sub-scales with pain level, Table 2. Unlikely, there was not a meaningful correlation between patient education and mean GHQ-28 scores ($r = -0.065$, $p = 0.523$).

DISCUSSION

In this study, 55% of subjects were found to have abnormality in mental health status. Fifteen percent of

Table 1: Frequency of GHQ 28 in Patient with Fibromyalgia

Mental health status	GHQ parameters			
	Depression	Social Activity	Anxiety and Insomnia	Somatic Symptoms
Severe symptoms (%)	82	47	45	32
Moderate Symptoms (%)	15	45	44	63
Without Symptoms (%)	3	8	11	5

GHQ-28= General Health Questionnaire-28.

Table 2: Correlation Between the GHQ Score and Pain

GHQ score	GHQ Parameters			
	Depression	Social Activity	Anxiety and Insomnia	Somatic Symptoms
R	0.535	0.341	- 0.192	0.451
P value	0.001	0.001	0.057	0.001

GHQ-28= General Health Questionnaire-28.

participants were suffering from a moderate to severe depression and 55% from anxiety/insomnia problems. Previous studies have demonstrated that the prevalence of major depressive disorder and anxiety disorders among subjects with FM range from 20 to 80 and 13 to 63.8%, respectively [5, 12-17]. As it is obvious, several studies have indicated a broad range of variation concerning prevalence of mental disorders among FM patients. Various explanations have been suggested in this regard. Differences in sample size and geographical differences as well as the high prevalence of depressive disorders in western countries [18], might be the responsible factors for this. Also, the instrument used for diagnosis is another involved factor. Other studies, on the other hand, have not distinguished between chronic widespread pain and FM [17]. While, some distinctions have been made in terms of prevalence of mental disorders between patients with chronic widespread pain and FM [19]. Raphael *et al.* in a study conducted in the United States, evaluated the rate of FM and concomitant psychological disorders among women living in an urban area. In this study the prevalence and risk of depressive and anxiety disorders were significantly higher in patients with FM in comparison with the normal population [4]. Malt *et al.* study showed similar results regarding the occurrence of depression in FM patients' life [20]. Since the patients with two simultaneous disorders (FM and mental disorders) might seek for therapy more than the patients with just one disorder [21, 22], one of the major limitations of the current study, like some other studies, is the evaluation of patients referring to the clinics which might lead to a selection or Berkson's bias. In other words, limiting the study to people with FM referring to medical centers might give rise to an exaggeration in estimation of prevalence of the individuals with concomitant mental disorder. Two studies conducted by Bradley and Aaron indicated that patients with FM syndrome, relative to patients with FM but not seeking for healthcare and healthy controls, are characterized by a significantly greater number of lifetime psychiatric diagnoses, while,

patients not seeking for healthcare did not differ from controls in psychiatric diagnoses [23, 24]. Despite this potential bias, it should be noted that in the present study, because of limited resources and facilities, screening and sampling in a larger scale was not feasible. Anyway this study and many other similar studies have demonstrated that the need for psychological evaluation by a psychiatrist in health care-seeking FM patients must be taken into consideration. However, majority of patients who need psychiatric evaluation are not willing to continue this trend. Fear of the disease stigma is mentioned as one of the crucial causes of patient reluctance to diagnostic or therapeutic follow up [25]. Therefore, cultural activities and direct consultation with the patient and his family in this field is of considerable importance. Most importantly, relatives' support has a major role in the prevention of psychiatric disorders in patients with FM [26]. The fact that psychiatric disorders have proven themselves to be one of the vital causes of disturbance in social behaviors, economic losses, increasing variety of disabilities, feeling of being useless and consequently rise in suicide rate, makes this study to be of great importance [27-30]. Moreover, the diagnosis of these concomitant mental disorders, especially when the severity is low, is very difficult. Because there is a complicated combination of psychological symptoms originated from both mental disorder and the chronic illnesses such as FM which might be ignored by the individual patient [31-33]. The results of our study showed that in FM patients there is a positive correlation between pain severity and severity of mental disorders ($p < 0.001$, $r = 0.451$). Macfarlane *et al.* McBeth *et al.* and Tander *et al.* in separate studies have drawn a similar conclusion [34-36].

CONCLUSION

This study showed that a considerable portion of patients with FM may suffer concurrently from psychological disorders. The probability of these

diseases increases with the severity of pain, hence effective pain reducing policies may be useful in providing a better quality of life.

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