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Original Article

Alexithymia in Fibromyalgia Patients and Its Impact on the Quality of Life

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Abstract

Objective: Alexithymia, a personal trait characterized by difficulty in identifying feelings, is common among chronic pain patients. In our study, we aimed to assess alexithymia in patients with fibromyalgia (FM), to determine its association with clinical parameters and depression, and to analyze its impact on the quality of life.

Methods: A total of 70 patients with FM and 40 age- and sex-matched healthy controls were included in the study. Alexithymia was assessed using the 20-item Toronto Alexithymia Scale (TAS-20). The Fibromyalgia Impact Questionnaire (FIQ) was used for measuring disease severity. The quality of life was evaluated using the Nottingham Health Profile (NHP) and depression by the Beck Depression Scale (BDS). The Visual Analog Scale (VAS) was used for determining pain severity.

Results: The prevalence of alexithymia was 24.29% in FM patients and 7.5% in controls. It was higher in patients with FM than in controls [Odds ratio (OR)=3.96, confidence interval (CI) 95% (1.08–14.48)] (p=0.028). FM patients scored significantly higher in TAS-20 than the controls (p<0.01). TAS-20 was found to be correlated with FIQ, BDS, and pain, sleep, social isolation, and emotional reaction subgroups of NHP (r: 0.257, 0.503, 0.276, 0.260, 0.649, and 0.303 respectively) (p<0.05).

Conclusion: Alexithymia is common among FM patients and associated with disease severity, depression, and poor quality of life with respect to pain, sleep, and emotional and social functions. The assessment of the presence of alexithymia will help us find new treatment strategies in FM patients who are nonresponsive to conventional therapies.

Keywords: Alexithymia, fibromyalgia, pain, quality of life

Introduction

Fibromyalgia (FM) is a common disorder characterized by widespread musculoskeletal pain, accompanied by lack of energy, sleep disturbance, poor concentration and memory loss, and psychological problems (1). An altered processing of pain arising from neuroendocrine, neurotransmitter, and sleep physiology disturbances has been thought to have a role in the pathogenesis of FM (2, 3).

Alexithymia is a personal quality characterized by problems in identifying and representing emotions and an externally oriented way of thinking (4). It is thought to induce a limited capacity to regulate feelings because of deficits in cognitive processing (5). Alexithymia is associated with somatization. Alexithymic individuals' feelings, which are not identified, may occur as symptoms of physical illness (6). The prevalence of alexithymia has been reported as 12.8% in men and 8.2% in women in a previous study (7). Its frequency increases in various psychosomatic, psychiatric, and medical disorders, including FM. Recent epidemiologic surveys have reported the prevalence of alexithymia in FM patients as 15%–20% (8, 9).

The main objectives of this cross-sectional study were to assess alexithymia in patients with FM, to determine the association of alexithymia with disease severity and severity of pain and depression, as well as to analyze the impact of alexithymia on the quality of life (QoL).

Methods

A total of 70 patients with FM (aged 20–50 years) who were admitted to the outpatient physical medicine and rehabilitation clinics of two hospitals between April and June 2015 were consecutively enrolled. FM was diagnosed based on the 1990 American College of Rheumatology (ACR) diagnostic criteria (10): 1) chronic generalized pain in both sides of the body, both axial and peripheral, below and above the waist and 2) the presence of at least 11 of 18 tender points on digital palpation with a pressure of approximately 4 kg/cm^2. Tender point count (TPC) was measured by the same physician. The control group included 40 age- and sex-matched non-FM subjects. Patients and controls having rheumatic diseases such as rheumatoid arthritis and ankylosing spondylitis and endocrine diseases such as diabetes mellitus and thyroid and parathyroid disorders were excluded. The Fibromyalgia Impact Questionnaire (FIQ) (11) was used for determining disease severity. QoL was assessed using the Nottingham Health Profile (NHP) (12) and depression by the Beck Depression Scale (BDS) (13).

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The 10-cm Visual Analog Scale (VAS)-pain was used for measuring pain severity (14).

Assessment of alexithymia

Alexithymia was assessed using the Turkish version of 20-item Toronto Alexithymia Scale (TAS-20) (15). It was developed by Bagby et al. (16, 17) in 1994 to be used in clinical practice and trials for evaluating alexithymia. It consists of 20 items. Each item is scored between 1 and 5. The individual scores from each item are summed for calculating the final score which ranges between 20 and 100. Scores ≥62 indicate the presence of alexithymia.

The study protocol was approved by the Medical Research Ethics Committee of the medical faculty. The study conforms to the provisions of the World Medical Association's Declaration of Helsinki. Written informed consent was obtained from all the participants.

Statistical analysis

Demographics and clinical parameters were assessed using descriptive statistics [mean, median, standard deviation (SD), minimum, maximum, and frequencies]. Differences between FM patients and controls were determined using independent samples t-test. The chi-square test was used to compare groups for categorical variables. Analysis of correlation was performed using Pearson's correlation coefficient. A value of $p<0.05$ was accepted to be statistically signicant. The Statistical Package for the Social Sciences (SPSS) for Windows, version 21.0 (IBM; Armonk, New York, USA) was used for analyses.

Results

A total of 70 patients (58 women, 12 men) and 40 controls (32 women, 8 men) were included in the study. The mean age was 32.07±6.69 (22–49) years in the patient group and 34.50±7.82 (20–50) years in the control group. Age did not significantly differ among the groups ($p=0.088$). The scores of TPC, FIQ, TAS-20, BDS, and subgroups of NHP and demographics and clinical data are summarized in Table 1.

Fibromyalgia patients scored significantly higher in TAS-20 than the controls ($p<0.01$) (Table 2). According to TAS-20, the prevalence of alexithymia was 24.29% in FM patients and 7.5% in controls. The prevalence of alexithymia was higher in patients with FM than in controls [Odds ratio (OR)=3.96, confidence interval (CI) 95% (1.08–14.48)] ($p=0.028$) (Table 3).

TAS-20 was found to be correlated with FIQ, BDS, and pain, sleep, social isolation, and emotional reaction subgroups of NHP (r: 0.257, 0.503, 0.276, 0.260, 0.649, and 0.303 respectively) ($p<0.05$). The analyses of correlation coefficients revealed that the strongest relation of TAS-20 was with NHP-social isolation, followed by BDS and NHP-emotional reactions (Table 4).

Discussion

Fibromyalgia is a multi-complex disorder in which numerous factors play a role in its beginning and continuation. Psychological characteristics are among the main aspects that contribute to disability caused by this pathology. Alexithymia is an emotional dysregulation trait, mostly seen in psychosomatic disorders, which may play a crucial role in FM. Alexithymic individuals are incapable of accurately representing physical perceptions such as the somatic manifestations of feelings and may lead to misinterpreting their emotional arousal as signs of disease (18).

In the present study, patients with FM showed higher levels of alexithymia than healthy controls. This finding was reported in previous studies. Brosschot and Aarsee (19) found higher TAS-20 scores in FM patients than in controls. They suggested that FM symptoms are the consequence of restricted processing of negative emotional experiences. Similarly, Sayar et al. (6) reported a significant difference in TAS-20 scores between Turkish FM patients and healthy controls. On the other hand, in another study from Turkey (20), it was reported that patients with FM were more alexithymic than healthy controls. In contrast to these studies, Malt et al. (21) reported no difference in alexithymia scores between FM patients and healthy subjects.

In our study, we found the rate of alexithymia in FM patients as 24.29%. Our rate was compatible with previous research in the

Table 1. Demographic and clinical data of patients and controls

	Patients (n=70) Mean±SD (min-max)	Controls (n=40) Mean±SD (min-max)
Age (years)	32.07±6.69 (22–49)	34.50±7.82 (20–50)
VAS-pain	6.86±1.58 (4–10)	1.80±2.62 (0–8)
TPC	13.84±2.49 (11–18)	1.42±2.78 (0–10)
FIQ	73.77±14.84 (49–100)	10.08±10.84 (0–26)
TAS-20	41.60±18.63 (20–86)	31.50±13.33 (20–80)
BDS	30.76±18.61 (0–63)	10.80± 6.83 (0–80)
NHP-pain	75.09±16.61 (0–100)	9.28±14.66 (0–57.14)
NHP-physical mobility	16.96±20.96 (0–100)	8.43±11.45 (0–50)
NHP-energy	39.43±40.61 (0–100)	25.00±33.97 (0–100)
NHP-sleep	72.98±15.38 (40–100)	12.50±17.94 (0–80)
NHP-social isolation	24.85±36.24 (0–100)	15.50±20.50 (0–80)
NHP-emotional reactions	65.00±24.96 (0–100)	13.43±21.81 (0–75)

VAS-pain: Visual Analog Scale-pain; TPC: tender point count; FIQ: Fibromyalgia Impact Questionnaire; TAS-20: Toronto Alexithymia Scale-20 item; BDS: Beck Depression Scale; NHP: Nottingham Health Profile; SD: standart deviation

Table 2. The comparison of alexithymia between the patients and the control group

	FM group (n=70) Mean±SD	Control group (n=40) Mean±SD	p value
TAS-20	41.60±18.63	31.50±13.33	0.003**

FM: fibromyalgia; TAS-20: Toronto Alexithymia Scale-20 item

*p<0.05 (significant)

**p<0.01 (highly significant)

Table 3. Prevalence of alexithymia in patients with FM and controls

	Number	%	Difference (95% CI)	p
FM patients (n=70)	17	24.29	3.96 (1.08–14.48)	0.028*
Controls (n=40)	3	7.5		

FM: fibromyalgia; CI: confidence interval

*p<0.05 (significant)

Table 4. The relation of alexithymia with disease severity, pain, depression, and quality of life in FM patients

		FIQ	VAS-pain	BDS	NHP-pain	NHP-physical mobility	NHP-energy	NHP-sleep	NHP-social isolation	NHP-emotional reactions
TAS-20	r	0.25*	0.231	0.503**	0.276*	0.181	-0.083	0.26*	0.649**	0.303*
	p	0.032	0.054	<0.00001	0.021	0.133	0.494	0.03	<0.00001	0.011

FM: fibromyalgia; TAS-20: Toronto Alexithymia Scale-20 item; FIQ: Fibromyalgia Impact Questionnaire; VAS-pain: Visual Analog Scale-pain; BDS: Beck Depression Scale; NHP: Nottingham Health Profile

*p<0.05 (significant)

**p<0.01 (highly significant)

literature. In a previous study by Castelli et al. (9) conducted in Italy, the prevalence of alexithymia was found as 20% in patients with FM. Similarly, Pedrosa et al. (22) reported this rate as 15% in 40 German people in their study where alexithymia was assessed using TAS-26. Steinweg et al. (23) reported a higher rate (44%) than the preceding studies. We found the frequency of alexithymia as 7.5% in healthy controls. Similarly, Posse et al. (24) found this rate as 7.9% in a Sweden female population where TAS-20 was used for determining the presence of alexithymia.

In the present study, TAS-20 was found to be correlated with FIQ. Our findings were consistent with previous research in the literature. Semiz et al. (25) determined a similar association between TAS-20 and FIQ scores in their study conducted in 55 Turkish FM patients. Also, Atagun et al. (26) reported that TAS-20 scores were significantly correlated with FIQ scores in FM patients, confirming our data.

Our results were in concordance with the concept that alexithymia is associated with depression in FM patients. We found a strong link between alexithymia and depression. Steinweg et al. (23) found the same correlation in their study in which participants were evaluated using TAS-20 and BDS. On the other hand, Di Tella et al. (27) reported a correlation between TAS-20 and the depression domain of the Hospital Anxiety and Depression Scale, confirming our data. In contrast to these studies, Kaya et al. (28) determined no relation between TAS-26 and BDS scores in FM patients; however, these scores were significantly correlated in healthy controls.

We also examined the impact of alexithymia on QoL domains in terms of pain, physical mobility, sleep, vitality, and social and emotional functions. We found that alexithymia scores are strongly correlated with the social isolation subgroup of NHP and moderately correlated with emotional reactions and pain and sleep subgroups. Castelli et al. (9) demonstrated that alexithymia has no direct effect on the physical, emotional, and social aspects of QoL; however, they reported its indirect effect on QoL, partially mediated by psychological stress distress.

In our study, we preferred the 1990 ACR FM diagnostic criteria because these criteria include the assessment of physical examination and tender points. The 2010 ACR FM diagnostic criteria do not include physical or tender point examination, resulting in difficulty in the differential diagnosis of FM and other pain syndromes [e.g., myofascial pain syndrome (MPS)]. MPS is a pain syndrome with distinctions from FM, the most prominent being response to treatment. Although the inactivation of myofascial trigger points by injection or other physical therapies reduce pain in patients with MPS, these applications may aggravate pain in individuals with pure FM (29).

There are several limitations in our study. Firstly, our study sample is relatively small. Secondly, the cross-sectional design of our study limited the detection of cause-and-effect relationships. Finally, we assessed alexithymia using the screening test, which may contribute to high prevalence rates.

Conclusion

Alexithymia is common among FM patients. Alexithymic individuals do not speak about their sufferings; thus, they cannot relax and consequently reflect their distress as symptoms of FM. Alexithymia is associated with disease severity and depression and has a negative impact on QoL in terms of pain, sleep, emotional reactions, and social interactions. The assessment of the presence of alexithymia will help us find new treatment strategies in FM patients who are nonresponsive to conventional therapies.

Ethics Committee Approval: Ethics committee approval was received for this study.

Informed Consent: Written informed consent was obtained from all of the participants.

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