ORIGINAL ARTICLE

Anxiety associated to sociodemographic and clinical factors of females with fibromyalgia syndrome*

Ansiedade associada a fatores sociodemográficos e clínicos de mulheres com síndrome da fibromialgia

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ABSTRACT

BACKGROUND AND OBJECTIVES: To characterize anxiety of females with fibromyalgia syndrome (FMS) and to observe the association of trait and state anxiety with pain and non-restorative sleep.

METHODS: Participated in the study 61 females with clinical diagnosis of FMS, living in Greater Florianópolis. Socio-Demographic and Clinical Questionnaire (SDCQ) and Trait-State Anxiety Inventory (TSAI) were used as research tools.

RESULTS: Mean age of participants was 49 ± 9.2 years. Widespread pain was present in 88.5% (n = 54) of participants and non-restorative sleep was present in 54 females (88.5%). State anxiety showed moderate level of anxiety in 57.4% of participants (n = 35); in trait anxiety, the level of moderate anxiety was present in 85.2% of females (n = 52). There has been significant correlation between non-restorative sleep and trait anxiety (p = 0.03). There has been no correlation between widespread pain and trait anxiety (p = 0.53), widespread pain (p = 0.98) and non-restorative sleep (p = 0.10) and state anxiety.

CONCLUSION: Moderate level of anxiety has predominated in this population of females with FMS both for state and trait anxiety. No worsening of pain has been observed in all groups; however there has been correlation between females with trait anxiety and non-restorative sleep.

Keywords: Anxiety, Fibromyalgia syndrome, Pain, Sleep.

RESUMO

JUSTIFICATIVA E OBJETIVOS: Caracterizar a ansiedade de mulheres com síndrome da fibromialgia e verificar a associação dos níveis de ansiedade traço e estado com dor e sono não restaurador.

MÉTODOS: Participaram do estudo 61 mulheres com diagnóstico clínico de síndrome da fibromialgia, residentes na Grande Florianópolis. Foram usados, como instrumentos de pesquisa, o Questionário Sociodemográfico e Clínico (QSDC) e o Inventário de Ansiedade Traço-Estado (IDATE).

RESULTADOS: A média de idade das pacientes do estudo foi de 49 ± 9,2 anos. A dor generalizada predominou em 88,5% (n = 54) das participantes, assim como o sono não restaurador estava presente em 54 mulheres (88,5%). No perfil de ansiedade estado, observou-se o nível de ansiedade média em 57,4% das participantes (n = 35). Já no perfil de ansiedade traço, o nível de ansiedade média ocorreu em 85,2% das mulheres (n = 52). Houve correlação significante entre o sono não restaurador e ansiedade traço (p = 0,03). Não houve correlação entre as variáveis dor generalizada e ansiedade traço (p = 0,53), dor generalizada (p = 0,98) e sono não restaurador (p = 0,10) e ansiedade estado.

CONCLUSÃO: Nesta população de mulheres com síndrome da fibromialgia, houve o predomínio do nível médio de ansiedade tanto para o estado quanto para o traço de ansiedade. Não foi observada correlação da dor com ansiedade traço nem estado, entretanto, foi observada uma correlação entre mulheres com ansiedade traço e sono não restaurador.

Descritores: Ansiedade, Dor, Síndrome da fibromialgia, Sono.

INTRODUCTION

Fibromyalgia syndrome (FMS) diagnostic criteria were established in 1990 by the American College of Rheumatology (ACR). They include diffuse and chronic pain for at least three months and the presence of 11 out of 18 tender points, painful at pressure of approximately 4 kgf[1]. The association of FMS with other functional syndromes is common, among them anxiety[2], which negatively influences FMS patients and is frequently associated to chronic pain symptoms[3].

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Anxiety is defined as an emotional state with psychological and physiological components which are part of normal human experiences, being a performance driver. It becomes pathological when disproportional to the triggering situation, or when there is no specific object to which it is directed[4]. Anxiety is often identified as "trait" and "state".

Trait anxiety refers to relatively stable individual aspects with regard to anxiety, that is, difference in the likelihood of reacting to threatening situations, with high anxiety intensity, while state anxiety is characterized as a transient emotional state prone to disagreeable feelings of tension and apprehension, not being constant to a person[4].

The prevalence of anxiety disorders is reported as higher in FMS individuals as compared to general population[5]. A study reports that in FMS, anxiety is in general referred by most patients, and authors have found 87.5% of FMS patients with concomitant anxiety[6].

When FMS patients were compared to healthy individuals, authors have observed that FMS patients had higher levels of state and trait anxiety[7]. A different study[8] has shown that FMS patients had higher levels of anxiety as compared to neuropathic pain patients[9].

A different study has observed that individuals with severe pain are susceptible to have high levels of anxiety, being in general anxiety associated to pain intensity and duration[10]. A study with healthy individuals[11] has observed that 15% of individuals with higher levels of anxiety would also refer pain and sleep disorders.

This study aimed at characterizing anxiety in FMS females and at checking the association of levels of trait and state anxiety with pain and non-restorative sleep.

METHODS

This is a descriptive study carried out according to resolution 196/96 of the Ministry of Health and in compliance with ethical standards required by the Declaration of Helsinki.

Participants were selected in a non-probabilistic intentional way, being females with clinical diagnosis of FMS, living in Greater Florianópolis, with mean age of 49 ± 9.2 years. The number of participants was 61 females, who answered to trait and state anxiety questionnaires from March to November 2011.

Research tools were: Socio-Demographic and Clinical Questionnaire (SDCQ) and Trait-State Anxiety Inventory (TSAI)[12]. TSAI evaluates specific anxiety aspects present in different situations. It is made up of two different scales developed to measure state anxiety and also trait anxiety. Each scale has 20 statements and for each one, individuals attribute scores from 1 to 4, with a final score which may vary from 20 to 80 points. To evaluate results, the following referential is considered: 20 to 40 points = low level of anxiety; 41 to 60 points = moderate level of anxiety; 61 to 80 point = high level of anxiety.

Data for this research were collected by a university extension program assisting FMS patients. Participants were informed about research objectives and procedures and agreed to participate by signing the Free and Informed Consent Term (FICT). Each participant has answered SDCQ and TSAI questionnaires in a separate room, without the interference of third parties to be more comfortable in providing their answers.

Data were tabulated and analyzed by the program Statistic Package for Social Sciences – SPSS, version 17.0. Frequency distribution, percentages and analyses of mean and standard deviation were used for descriptive statistics. Chi-square test was used for inferential statistics to verify the association of levels of trait and state anxiety with widespread pain and non-restorative sleep. Alpha value of 0.05 was the significance level ($p < 0.05$).

This study was approved by the Ethics Committee for Research with Human Beings, University of the State of Santa Catarina, protocol 18/2009.

RESULTS

Mean age of 61 participants was 49 ± 9.2 years, predominantly with complete basic education (n = 27 / 44.3%) and living with a partner (n = 39 / 63.9%). Widespread pain and non-restorative sleep were equally observed in 88.5% (n = 54) of participants (Table 1).

With regard to state anxiety, the following were the primary results: moderate anxiety has predominated in 57.4% of participants (n = 35). From these, 31 patients have referred widespread pain and 29 have complained of non-restorative sleep (Table 2).

In trait anxiety, there has been moderate anxiety in 85.2% of participants (n = 52). From these, 47 patients have reported widespread pain and 48 non-restorative sleep (Table 3).

There has been significant correlation between non-restorative sleep and trait anxiety ($p = 0.03$). There has been no correlation between widespread pain and trait anxiety ($p = 0.53$), widespread pain ($p = 0.98$) and non-restorative sleep ($p = 0.10$) and state anxiety (Table 4).

Table 1 – Socio-demographic and clinical characteristics of fibromyalgia syndrome patients (n = 61).

Variables	Profile
Age (mean and standard deviation)	49 ± 9.2
Education level (n; %)	
Incomplete basic education	10 (16.4)
Complete basic education	27 (44.3)
Complete high school	16 (26.2)
Complete college	8 (13.1)
Marital status (n; %)	
With partner	39 (63.9)
W/o partner	22 (36.1)
Widespread pain (n; %)	
Yes	54 (88.5)
No	7 (11.5)
Non-restorative sleep (n; %)	
Yes	54 (88.5)
No	7 (11.5)

Table 2 – Socio-demographic and clinical characteristics of fibromyalgia syndrome patients with regard to state anxiety (n = 61).

Variables	State Anxiety	
	Low level (20 to 40 Points) n (%)	Moderate level (42 to 60 points) n (%)
Number of patients	26 (42.6)	35 (57.4)
Age (years) mean ± SD	51.3 ± 7.29	48.9 ±10.4
Education level (n; %)		
Incomplete basic education	2 (20)	8 (80)
Complete basic education	13 (48.1)	14 (51.9)
Complete high school	6 (37.5)	10 (62.5)
Complete college	5 (62.5)	3 (37.5)
Marital status (n; %)		
With partner	19 (48.7)	20 (51.3)
W/o partner	7 (31.8)	15 (68.2)
Widespread pain (n; %)		
Yes	23 (42.6)	31 (57.4)
No	3 (42.9)	4 (57.1)
Non-restorative sleep (n; %)		
Yes	25 (46.3)	29 (53.7)
No	1 (14.3)	6 (85.7)

Table 3 – Socio-demographic and clinical characteristics of fibromyalgia syndrome patients with regard to total trait anxiety (n = 61).

Variables	Trait Anxiety		
	Low level (20 to 40 Points) n (%)	Moderate level (41 to 60 Points) n (%)	High level (61 to 80 Points) n (%)
Number of patients	5 (8.2)	52 (85.2%)	4 (6.6)
Age (years) mean ± SD	60 ± 6.63	49.3 ± 0.06	45 ± 6.37
Education level (n; %)			
Incomplete basic education	1 (10)	9 (90)	0 (0)
Complete basic education	4 (14.8)	21 (77.8)	2 (7.4)
Complete high school	0 (0)	14 (87.5)	2 (12.5)
Complete college	0 (0)	8 (100)	0 (0)
Marital status (n; %)			
With partner	2 (5.1)	35 (89.7)	2 (5.1)
W/o partner	3 (13.6)	17 (77.3)	2 (9.1)
Widespread pain			
Yes	4 (7.4)	47 (87)	3 (5.6)
No	1 (14.3)	5 (71.4)	1 (14.3)
Non-restorative sleep (n; %)			
Yes	4 (7.4)	48 (88.9)	2 (3.7)
No	1 (14.3)	4 (57.1)	2 (28.6)

Table 4 – Relationship of generalized pain and non-restorative sleep with trait and state anxiety

Relationship	Value	p
Widespread pain x TA	1.25	0.53
Widespread pain x SA	0.00	0.98
Non-restorative sleep x TA	6.93	0.03*
Non-restorative sleep x SA	2.59	0.10

* $p < 0.05$. TA = trait anxiety. SA = state anxiety.

DISCUSSION

Demographic data of our study were similar to those reported by a recent Brazilian study with FMS patients[13].

Widespread pain was present in 88.5% of participants, which is close to a study[9] carried out with 125 FMS patients which has shown that diffuse pain was present in all patients, and confirming that this type of pain is a core element of FMS patients complaints.

With regard to anxiety profile, our study has shown predominance of moderate anxiety levels, both for state and trait anxiety, with higher expression of the latter. In a different study[6], anxiety was referred by 105 patients (87.5%), and Pagano et al.[7] have shown that FMS patients have higher levels of state and trait anxiety, with higher levels of tension, nervousness, concern and apprehension as compared to neuropathic pain patients, stressing that FMS may increase the levels of anxiety[8].

There has been significant correlation only for non-restorative sleep and trait anxiety, with no correlation with widespread pain and trait anxiety, widespread pain and non-restorative sleep and state anxiety. It is known that FMS patients in general have their sleep impaired[13] and this may interfere with the level of anxiety causing a relationship between poor sleep and level of anxiety, as it was observed in our study with trait anxiety.

Non-restorative sleep has predominated in 88.5% of patients. Comparing with the literature, authors have observed that sleep disorders were reported by 106 FMS patients (88.3%) seen in the city of Salvador[6]. A different study with healthy individuals has observed that 15% of them reported frequent symptoms of anxiety, and those with higher levels of anxiety have referred pain and sleep disorders[11].

Our study has not found correlation with variables pain and anxiety, although widespread pain in FMS females was predominant in moderate state anxiety levels (57.4%) and in moderate trait anxiety levels (87%) and has also predominated in 88.5% of studied females. Literature emphasizes that anxiety is associated to pain intensity and duration[10]. A study with chronic pain patients has observed that anxiety was present in 35% of cases as compared to 18% of general population[14]. Anxiety is often associated to pain, very often associated to individual psychological factors. Situations of anxiety and interpersonal tension contribute for chronic pain onset or worsening[15].

In our study, this non-significant correlation may have been caused by the division of participants on levels of anxiety. Other factor which could have changed the result of the correlation pain and anxiety would be data collection with a more specific tool for pain, such as visual analog scale or pressure algometer, instead of just one question. So, our data are related to a clinical scenario and not to an experiment, and using different tools we could reinforce or discuss presented data.

CONCLUSION

This population of females has shown a moderate level of state and trait anxiety, with significant correlation between non-

restorative sleep and trait anxiety. Although widespread pain was present in most participants, there has been no correlation with anxiety.

Further studies are suggested relating anxiety and widespread pain with a larger number of participants and using a more specific tool for the variable pain.

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