An evaluation of anxiety and depression symptoms in fibromyalgia

AVALIAÇÃO DOS SINTOMAS DE ANSIEDADE E DEPRESSÃO EM FIBROMIÁLGICOS

EVALUACIÓN DE LOS SÍNTOMAS DE ANSIEDAD Y DEPRESIÓN EN FIBROMIÁLGICOS

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ABSTRACT

The objective of this study was to identify the frequency of anxiety and depression symptoms by verifying the association between anxiety traits, current depression and anxiety symptoms in fibromyalgia patients. Interviews were performed with 60 subjects diagnosed with fibromyalgia at the Rheumatology Outpatient Clinic at Universidade Federal de Sergipe between August 2007 and March 2008, in which two questionnaires were administered: the Hospital Anxiety and Depression Scale (HADS) and the State-Trait Anxiety Inventory (STAI). The frequency of anxiety and depression symptoms was, respectively, 50% and 86% for individuals with fibromyalgia, and the mean trait-anxiety score was 59.38. An association was observed between trait and state anxiety. Anxiety and depression were frequent symptoms among patients with fibromyalgia. However, anxiety appeared as a secondary symptom to depression, appearing in a more severe form, and, therefore, this comorbidity should be more valued and studied.

DESCRIPTORS
Fibromyalgia
Anxiety
Depression
Nursing care

RESUMO

Este estudo teve como objetivo identificar a frequência de sintomas ansiosos e depressivos verificando a associação entre a ansiedade-traço, sintomas atuais de depressão e ansiedade nos fibromiálgicos. Foram entrevistados 60 sujeitos com diagnóstico de fibromialgia no Ambulatório de Reumatologia da Universidade Federal de Sergipe, entre agosto de 2007 a março de 2008, sendo aplicados dois questionários: Escala Hospitalar de Ansiedade e Depressão (EHAD) e o Inventário de Ansiedade Traço-Estado (IDATE-T). A frequência de sintomas depressivos e ansiosos foi, respectivamente, de 50% e 86% para os fibromiálgicos e a média do escore do traço ansioso foi de 59,38. Detectou-se associação entre a ansiedade-traço e estado. A ansiedade e a depressão foram sintomas frequentes nos pacientes com fibromialgia. Entretanto, a ansiedade revelou-se um sintoma secundário mais frequente que a depressão, apresentando-se uma forma mais grave, sendo uma comorbidade que deve ser melhor valorizada e estudada.

DESCRITORES
Fibromialgia
Ansiedade
Depressão
Cuidados de enfermagem

RESUMEN

Se objetivó identificar la frecuencia de síntomas de ansiedad y depresión y verificar la asociación entre ansiedad-rasgo y síntomas actuales de depresión y ansiedad en fibromiálgicos. Fueron entrevistados 60 sujetos con diagnóstico de fibromialgia en Ambulatorio de Reumatología de Universidad Federal de Sergipe, de agosto 2007 a marzo 2008. Se aplicaron dos cuestionarios: Escala Hospitalaria de Ansiedad y Depresión (EHAD) e Inventario de Ansiedad Rasgo-Estado (IDATE-T). La frecuencia de síntomas depresivos y ansiosos fue, respectivamente, 50% y 86% para los fibromiálgicos y el promedio de puntaje del rasgo ansioso fue de 59,38. Se observó asociación entre ansiedad-rasgo y estado. La ansiedad y la depresión fueron síntomas frecuentes en pacientes con fibromialgia. Entretanto, la ansiedad fue un síntoma secundario más frecuente que la depresión y se presentó de forma más grave, resultando una comorbilidad que necesita ser más valorizada y estudiada.

DESCRIPTORES
Fibromialgia
Ansiedad
Depresión
Atención de enfermería

INTRODUCTION

Fibromyalgia (FM) is a rheumatic syndrome of unknown origin, characterized by diffuse and chronic musculoskeletal pain. According to the criteria of the American College of Rheumatology (ACR), it is defined as diffuse pain for at least 3 months, besides the presence of sensitivity in 11 or more out of 18 points that are painful to finger palpation, called tender points[1].

Fibromyalgia mainly affects women between 40 and 55 years old[1]. In many industrialized countries, its prevalence ranges between 1 and 4% in the general population. It is the second most common rheumatological disorder, following on osteoarthritis[2].

Fibromyalgia is constantly associated with other functional syndromes. The disease can appear in isolation or associated with other syndromes, such as chronic headache, thyroid dysfunction, irritable colon syndrome, depression and anxiety[1].

Chronic pain increases the risk of a comorbidity like anxiety and depression disorder[3]. The frequency of anxious and depressive symptoms in this population also increases. Studies appoint a close relation between fibromyalgia, anxiety and depression[4-6], which one third of patients report[5].

Anxiety is considered a common secondary symptom, which is frequently severe in fibromyalgia cases[5]. The prevalence of these symptoms among patients ranges between 13% and 71%[7-9]. Anxious symptoms can compromise the course of the disease. The presence of anxiety in fibromyalgia patients is related to a larger number of physical symptoms and stronger pain intensity[10], thus increasing the severity of the disease.

Depression is similar to anxiety in fibromyalgia cases. Patients with fibromyalgia reveal higher prevalence levels of depressive symptoms when compared with inflammatory and non-inflammatory rheumatic disease patients[11-12]. The prevalence rate of depressive symptoms ranges between 20% and 80% in fibromyalgia patients[7-9].

Like anxiety, depression also interferes in the presentation of the disease. The worsening of physical conditioning, social and emotional functionality, pain and general health perception is associated with depression levels in fibromyalgia patients[13].

Although many international studies exist among the frequency of anxious and depressive symptoms among fibromyalgia patients, sociocultural and care differences among populations entail variations in the frequency of these symptoms, demanding a Brazilian study. Thus, the aim of this study was to identify the frequency of anxious and depressive symptoms and to verify the association between trait-anxiety and current depression and anxiety symptoms in fibromyalgia patients.

METHOD

This is an exploratory and cross-sectional study with a quantitative approach. The study population comprised 124 subjects diagnosed with fibromyalgia who were under follow-up at the Rheumatology Outpatient Clinic of *Universidade Federal de Sergipe*-UFS (Aracaju, SE, Brazil). In this group, 60 subjects were interviewed who attended the monthly consultation between August/2007 and March/2008 at the rheumatology outpatient clinic. To be selected, the subjects should be over 18 and comply with the fibromyalgia diagnostic criteria of the American College of Rheumatology[1], as determined by a rheumatologist. This study received approval from the Ethics Committee for Research Involving Human Beings – UFS (No. 0045.0.107.000/2007) and all participants signed the informed consent term. After signing the term, the research instrument was applied, through an interview with the researcher.

The research instrument comprised two sections. The first section referred to socio-demographic data (gender, age range, marital status and education) and general health perception (categorized into precarious, reasonable, good, very good, excellent), measured with the help of a standardized questionnaire. The second section referred to the assessment of depressive and anxious symptoms through the Hospital Anxiety and Depression Scale (HADS) and of trait-anxiety using the State-Trait Anxiety Inventory (STAI).

The Hospital Anxiety and Depression Scale (HADS), translated and validated in Brazil[14], was used in this study to check for anxiety and depression symptoms in the sample. This scale consists of a self-completed instrument with 14 multiple-choice questions in two alternating sub-scales: one for state-anxiety (7 questions) and the other for state-depression (7 questions). HADS scores range from 0 to 21 points, subjects scoring < 7 are considered as having no significant clinical symptoms for anxiety and/or depression, scores ≥ 8 and ≤ 10 as mild symptoms, scores ≥ 11 and ≤ 14 as moderate symptoms and scores ≥ 15 and ≤ 21 as severe anxiety and/or depression symptoms.

The State-Trait Anxiety Inventory (STAI), then, translated and validated in Brazil[15], was used to verify the fibromyalgia patients' trait-anxiety. This instrument comprises 40 assertions, divided in two sub-scales. The first assessed state-anxiety (20 questions) and refers to a transitory emotional state, characterized by subjective feelings of tension whose intensity can vary over time. The second sub-scale, then, assesses trait-anxiety (20 questions) and refers to a relatively stable personal inclination to react to stressful situations and to perceive a larger number of situations as threatening. It also assesses the subject's trend to react to the situations of life anxiously (trait-anxiety).

> The worsening of physical conditioning, social and emotional functionality, pain and general health perception is associated with depression levels in fibromyalgia patients

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In this study, the choice was made to use only the trait-anxiety sub-scale, as the HADS already assesses state-anxiety. The trait-anxiety sub-scale consists of 20 assertions describing personal feelings, with a total score ranging between 20 and 80 points, in which higher scores indicate greater anxiety levels.

The collected data were typed in a worksheet, using the double-entry validation technique, in MS Excel XP. Next, the data were imported in SPSS (Statistical Package for the Social Science) for Windows version 15.0. Descriptive statistics were used for all variables, including central trend (means) and dispersion (standard deviation) measures for quantitative variables. The possible correlation between STAI and HADS scores was analyzed using Pearson's Correlation Coefficient, with significance set at 5%.

RESULTS

Among the 60 interviewed subjects, the majority was female (87%), with a mean age (minimum and maximum) of 49.2 ± 13.8 (18 to 82) years. The predominant education level was basic (67%) and the predominant marital status married (60%). Sociodemographic data and the perceived health status are described in Table 1.

Table 1- Distribution of fibromyalgia patients according to socio--demographic characteristics and perceived general health status – Rheumatology Outpatient Clinic, Universidade Federal de Sergipe – Aracaju, SE – 2007/2008

| Variable	N (%)
Age Range	
< 42	15 (25%)
42 - 57	32 (53%)
> 57	13 (22%)
Gender	
Male	8 (13%)
Female	52 (87%)
Education	
Illiterate	3 (5%)
Primary education	40 (67%)
Secondary education	15 (25%)
Higher education	2 (3%)
Marital status	
Single	13 (22%)
Married	36 (60%)
Separated	5 (8%)
Widowed	6 (10%)
Perceived health	
Precarious	20 (33%)
Reasonable	30 (50%)
Good	7 (12%)
Very Good	3 (5%)
Excellent	-

Obs.: from August 2007 till March 2008

In Table 2, the frequency of depressive and anxious symptoms in displayed. It is observed that 50% of fibromyalgia patients present depressive symptoms, 33% of moderate to severe intensity. On the opposite, 88% of patients presented anxiety symptoms, 43% of severe intensity.

Table 2 – Distribution of fibromyalgia patients according to depressive and anxious symptoms – Rheumatology Outpatient Clinic, Universidade Federal de Sergipe – Aracaju, SE – 2007/2008

Scale Score	N (%)
Depression (HADS)	
< 7	30 (50%)
≥8 and ≤ 10	10 (17%)
≥11 and ≤ 14	15 (25%)
≥15 and ≤ 21	5 (8%)
Anxiety (HADS)	
< 7	7 (12%)
≥8 and ≤ 10	7 (12%)
≥11 and ≤ 14	20 (33%)
≥15 and ≤ 21	26 (43%)

Obs.: from August 2007 till March 2008
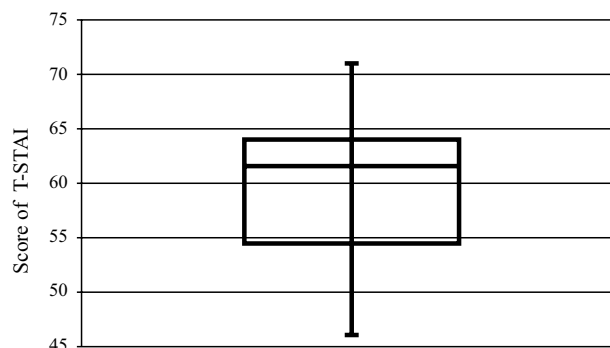
Figure 1 - Boxplot of trait-anxiety (T-STAI) score among fibromyalgia patients – Rheumatology Outpatient Clinic, Universidade Federal de Sergipe – Aracaju, SE – 2007/2008

Figure 1 displays the distribution of Trait-STAI scores. The trait-anxiety score in the sample ranged between 46 and 71, with a mean 59.38 and standard deviation 6.58. More than 75% of the patients scored higher than 60, demonstrating high levels of trait-anxiety.

Concerning the correlations between Trait-STAI and HADS scores, state-depression revealed a positive but not significant correlation with trait-anxiety (r =0.11 and p = 0.39). For state-anxiety, then, the correlation with trait-anxiety was positive and moderate (r =0.48 and p = 0.0009), suggesting that the anxious profile is associated with high anxiety levels.

DISCUSSION

Anxiety and depression symptoms are commonly observed in patients suffering from chronic pain[3]. Therefore, it is suggested that psychological aspects of fibromyalgia and chronic pain patients are similar.

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The prevalence of psychological abnormalities, particularly depression, is high among fibromyalgia patients[7,16]. Depression prevalence rates range between 20% and 80%[7-9]. In this study, 50% of fibromyalgia patients presented depressive symptoms, differing from findings in a study[9] that used the Hospital Anxiety and Depression Scale (HADS) as a depression assessment instrument and found depressive symptoms in 35.96%[9] of fibromyalgia patients. In studies developed in Salvador (Brazil)[17] and Mexico[11], the frequencies of depressive symptoms also diverged from the present study, with 39.2% and 78.38%, respectively. On the opposite, our findings supported the study[8] that, using the Hospital Anxiety and Depression Scale (HADS) as a depression assessment instrument and found that 30% of fibromyalgia patients presented moderate to severe depressive symptoms.

Possible explanations for the great variation in depression prevalence rates among studies include the different methods used for its assessment (scale of severity scores, self-assessment scale, self-report, diagnostic scales), different definitions adopted for depression and the sampling bias (patients taking anti-depressive drugs), or even a combination of all of these factors.

Despite the divergence among studies, the prevalence of depressive symptoms in fibromyalgia patients is actually high and becomes even more concerning when we compare it with the general population. In a Brazilian population-based study, researchers[18] found a prevalence rate of 29.4% among adults in the South of the country. This rate is lower than all rates found in fibromyalgia studies[8-9,11,17], suggesting that these patients experience more depressive symptoms than the general population. Although it was not the depression diagnosis, but the presence of depressive symptoms that was assessed in this study, that does not decrease its clinical importance, as the limit between clinical depression and normal mood fluctuations is not clear. Thus, individuals who do not comply with diagnostic criteria for depression may present depressive symptoms, but that does not means that the symptoms presented are not disabling.

The relation between fibromyalgia and depression has been proved in different studies[4-6]. What can explain this relation is the relation between depression and pain, as the fibromyalgia syndrome is characterized by the obligatory presence of diffuse and chronic pain. At least three theoretical branches exist to explain the relation between pain and depression: 1. Pain provokes depression, due to the stressful consequences it causes; 2. Depression and pain share the same pathophysiological roots; 3. Depression provokes pain, due to increased pain sensitivity[19].

In addition, fibromyalgia symptoms may be that intense that they interfere in professional and social activities, negatively affecting not only patients' job performance, but hampering the accomplishment of motor and cognitive tasks, destabilizing family relations and restrict-ing social contact[20]. Thus, fibromyalgia symptoms strongly influence daily life and break with routine. Their consequences tend to continue over time, due to the chronic nature of the disease[20]. The fact that pain is not solved and that its consequences continue works towards the emergence of progressive feelings of hopelessness, powerlessness and despair. This process leads to the appearance of depression. Therefore, it has been suggested that pain and depression go along and that one aggravates the other[21].

Depressive disorders complicate the course of any disease through a range of possible mechanisms: reducing pain tolerance, making treatment adherence impossible and decreasing physical functionality[13]. Besides, the presence of depression is related to the worsening of social and emotional functionality, mental health and general health perceptions[13]. In the present study, 83% of fibromyalgia patients considered their health between precarious and reasonable. Although the correlation between depressive symptoms and perceived health was not analyzed, it is suggested that bad health perception may be due to the high frequency of depressive symptoms in the sample.

Another frequent comorbidity in fibromyalgia patients is anxiety. This is considered a common secondary symptom[5], with prevalence rates ranging between 13% and 71%[7-9]. In this study, 88% of fibromyalgia patients presented anxiety symptoms; 43% severe, suggesting that anxiety takes more severe forms than depression in fibromyalgia cases. This result is in line with a study developed in Salvador, where 87.5% of fibromyalgia patients indicated anxiety[17]. They do differ from previous studies though, which used the Hospital Anxiety and Depression Scale (HADS) to assess anxious symptoms and found frequency levels of 57.93%[9] and 71%[8] for anxious symptoms in fibromyalgia patients.

In the assessment of trait-anxiety, most fibromyalgia patients (75%) scored higher than 60, also suggesting the high frequency of the anxious profile, as scores on the Trait-STAI sub-scale range between 20 and 80 points. In studies developed in São Paulo[22] and Germany[10], using the STAI, mean scores (standard deviation) of 53.18 (12.6)[22] and 28.65 (12.39)[10] were observed for the trait-anxiety sub-scale. These levels are inferior to the present findings, with a mean trait-anxiety score of 59.37 and a standard deviation twice as low. The difference in Trait-STAI scores and anxious symptom frequencies can be due to educational level differences in the samples, different knowledge levels about the disease or the fact that patients are receiving pharmacological or non-pharmacological treatment for anxiety at the time of research.

In the present study, a relation was also observed between the presence of current anxious symptoms, assessed through the Hospital Anxiety and Depression Scale (HADS), and trait-anxiety, assessed through the Trait-STAI.

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Current anxiety symptoms (state-anxiety) refer to a transitory and conscious emotional state that flows over time, associated with unpleasant feelings of tension, nervousness, concern and increased activity of the sympathetic nervous system[15]. Trait-anxiety, then, refers to relatively stable individual differences with regard to anxiety. These are trends to react to situations perceived as threatening which each individual develops based on his/her personal experiences. This also characterizes individuals who are hypersensitive to stimuli and psychologically more reactive. The development of the anxiety trait and its maintenance are directly related with the individual's past experiences, perception of these experiences and the resulting conditioning[15].

The relation found between state and trait-anxiety can be explained by the fact that personality characteristics (trait) frequently interact with the situational and environmental factors people experience. This interaction between the subject's personal characteristics and the answers (s)he needs to give to the environment (s)he is in determines that person's behavior and can mold new trait patterns[15]. In other words, the continuation of an aggressive behavior (state) can lead to the development of an anxious profile. Besides, an individual with a high level of anxious trait normally reacts to a threatening situation by increasing his/her anxious state.

The anxiety reaction is normally present when pain is triggered. As the origin of fibromyalgia is unknown, its cure is uncertain and pain is the main symptom, the disease provokes feelings of ignorance and insecurity in patients[16], which can arouse anxiety.

The presence of anxiety can influence pain perceptions, decreasing the pain threshold[10], and be related with an increased number of physical symptoms associated with fibromyalgia[10], as well as with functional commitment[13]. Hence, due to anxiety, patients' perceptions of their somatic symptoms are more intense and disturbing. The relation between anxiety and physical function, bodily pain, social behavior and lack of correlation with vitality, emotional role and mental health suggest that these patients somatize their anxiety. Thus, fibromyalgia patients present less pain in comparison with osteoarthritis and rheumatoid arthritis patients, but experience more physical dysfunctions. This can explain why these patients frequently present somatic complaints like headache and parestesia[12].

Anxiety disorders have been relatively neglected in chronic pain research in general, although awareness about the strong association between anxiety and chronic pain conditions is growing. Anxiety and depression are important comorbidities of fibromyalgia and demand assessment and treatment. Not only pharmacological, but also non-pharmacological interventions, like behavioral cognitive therapy, are effective to reduce anxiety and depression in fibromyalgia patients[6].

CONCLUSION

Anxiety and depression were frequent symptoms in fibromyalgia patients. Anxiety, however, was a more frequent secondary symptom and took more severe forms. Therefore, the comorbidity should be valued and studied better. The relation observed between trait and state anxiety demonstrates that the anxiety state should be assessed, as it can work towards the appearance of an anxious profile. Due to the impact these psychological disorders can cause on the presentation of the disease, whether through the intensification of pre-existing symptoms or the production of additional ones, an interprofessional approach of anxious and depression symptoms is extremely important, for the assessment as well as the treatment of fibromyalgia patients.

In the context of this interprofessional approach, nurses can intermediate contact between patients and other health professionals as, when screening from anxious and depressive symptoms, they can identify the need for forwarding to other professionals with a view to reaching the diagnosis of these psychological disorders and their adequate treatment. Knowledge about the present study results also contributes to direct nursing care for this population. Nurses can guide action planning for the reduction of depression and anxiety symptoms. Nurses' important role as educators should be highlighted, as clarifying patients' doubts about fibromyalgia can be an effective way to decrease anguish and uncertainty among these patients.

REFERENCES

1. Wolfe F, Smythe HA, Yunus MB, Bennett RM, Bombardier C, Goldenberg DL, et al. The American College of Rheumatology 1990, criteria for the classification of fibromyalgia: report of the Multicenter Criteria Committee. Arthritis Rheum. 1990;33(2):160-72.

2. Wolfe F. The relation between tender points and fibromyalgia symptom variables: evidence that fibromyalgia is not a discrete disorder in the clinic. Ann Rheum Dis. 1997;56(4):268-71.

3. Bair MJ, Robinson RL, Katon W, Kroenke K. Depression and pain comorbidity: a literature review. Arch Intern Med. 2003;163(20):2433-45.

4. Henningsen P, Zimmermann T, Sattel H. Medically unexplained physical symptoms, anxiety, and depression: a meta-analytic review. Psychosom Med. 2003;65(4):528-33.

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5. White KP, Nielson WR, Harth M, Ostbye T, Speechley M. Chronic widespread musculoskeletal pain with or without fibromyalgia: Psychological distress in a representative community adult sample. J Rheumatol. 2002;29(3):588-94.

6. Vázquez-Rivera S, González-Blanch C, Rodríguez-Moya L, Morón D, González-Vives S, Carrasco JL. Brief cognitive-behavioral therapy with fibromyalgia patients in routine care. Compr Psychiatry. 2009;50(6):517-25.

7. Fietta P, Manganelli P. Fibromyalgia and psychiatric disorders. Acta Biomed. 2007;78(2):88-95.

8. Arnold LM, Crofford LJ, Martin SA, Young JP, Sharma U. The effect of anxiety and depression on improvements in pain in a randomized, controlled trial of pregabalin for treatment of fibromyalgia. Pain Med. 2007;8(8):633-8.

9. Boyer AL, Mira MAP, Calatayud NP, Lopez-Roig S, Cantero MCT. Comparing fibromyalgia patients from primary care and rheumatology settings: clinical and psychosocial features. Rheum Int. 2009;29(10):1151-60.

10. Thieme K, Turk DC, Flor H. Comorbid depression and anxiety in fibromyalgia syndrome: relationship to somatic and psychosocial variables. Psychosom Med. 2004;66(6):837-44.

11. Kobayashi-Gutiérrez A, Martinez-Bonilla G, Bernard-Medina AG, Troyo-Sanroman R, González-Díaz V, Castro-Contreras E, et al. Depression and its correlation with in patients pain in the Rheumatology Service of a Mexican teaching hospital. Rheumatol Int. 2009;29(10):1169-75.

12. Ozcetin A, Ataoglu S, Kocer E, Yazycy S, Yildiz O, Ataoglu A, et al. Effects of depression and anxiety on quality of life of patients with rheumatoid arthritis, knee osteoarthritis and fibromyalgia syndrome. West Indian Med J. 2007;56(2):122-9.

13. Berber JSS, Kupek E, Berber SC. Prevalência de depressão e sua relação com a qualidade de vida em pacientes com síndrome da fibromialgia. Rev Bras Reumatol. 2005;45(2):47-54.

14. Botega NJ, Bio MR, Zomignani MA, Garcia JC, Pereira WAB. Transtornos de humor em enfermaria de clínica médica e validação de escala de medida (HAD) de ansiedade e depressão. Rev Saúde Pública. 1995;29(5):355-63.

15. Spielberger CD, Gorsuch RL, Lushene RE. Manual para o Inventário de Ansiedade Traço-Estado (IDATE). Tradução e adaptação de Ângela Biaggio. Rio de Janeiro: Centro Editor de Psicologia Aplicada - CEPA; 1979.

16. Payne TC, Leavitt F, Garron DC, Katz RS, Golden HE, Glickman PB, et al. Fibrositis and psychological disturbance. Arthritis Rheum. 1982;25(2):213-7.

17. Costa SRMR, Pedreira Neto MS, Tavares-Neto J, Kubiak I, Dourado MS, Araújo AC, et al. Características de pacientes com síndrome da fibromialgia atendidos em Hospital de Salvador-BA, Brasil. Rev Bras Reumatol. 2005;45(2):64-70.

18. Rombaldi JA, Silva MC, Gazalle FK, Azevedo MR, Hallal PC. Prevalência e fatores associados a sintomas depressivos em adultos do sul do Brasil: estudo transversal de base populacional. 2010;13(4):620-9.

19. Walter B, Vaitl D, Frank R. Affective distress in fibromyalgia syndrome is associated with pain severity. Z Rheumatol. 1998;57 Suppl 2:101-4.

20. Teixeira J, Figueiró JAB. Dor: epidemiologia, fisiopatologia, avaliação, síndromes dolorosas e tratamento. São Paulo: Grupo Editorial Moreira Jr.; 2001.

21. Pimenta CAM, Koizumi MS, Teixeira MJ. Dor crônica e depressão: estudo em 92 doentes. Rev Esc Enferm USP. 2000;34(1):76-83.

22. Pagano T, Matsutani LA, Ferreira EAG, Marques AP, Pereira CAB. Assessment of anxiety and quality of life in fibromyalgia patients. Sao Paulo Med J. 2004;122(6):252-8.

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