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ORIGINAL ARTICLE

Evaluation of pain and quality of life of fibromyalgia patients

Avaliação de dor e qualidade de vida de pacientes com fibromialgia

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ABSTRACT

BACKGROUND AND OBJECTIVES: It is known that fibromyalgia is a musculoskeletal syndrome characterized by chronic and widespread pain. Considering that pain has direct implications on affected patients' lives, this study aimed at evaluating pain and quality of life of fibromyalgia patients to better understand the correlation between such variables.
METHODS: Cross-sectional study with 45 females aged between 30 and 55 years, in stable treatment in the month previous to selection, being excluded those under physiotherapeutic treatment, using walking aids and/or with autoimmune rheumatologic diseases or relevant uncontrolled comorbidities. Patients were evaluated with interview records, Fibromyalgia Impact Questionnaire, Widespread Pain Index and visual analog scale. Data were analyzed by Pearson Correlation and Student *t* tests, with statistical significance above 95%.
RESULTS: There have been high scores in Fibromyalgia Impact Questionnaire, Widespread Pain Index and visual analog scale, in addition to linear correlation between pain scores and quality of life.
CONCLUSION: Pain is associated to impaired quality of life of fibromyalgia patients.
Keywords: Evaluation, Fibromyalgia, Pain, Quality of life.

RESUMO

JUSTIFICATIVA E OBJETIVOS: Sabe-se que a fibromialgia é uma síndrome musculoesquelética caracterizada por dor crônica e generalizada. Considerando que a dor é um sintoma que traz implicações diretas na vida dos pacientes acometidos, o objetivo deste estudo foi avaliar a dor e a qualidade de vida de pacientes com fibromialgia para melhor compreender a correlação entre essas variáveis.
MÉTODOS: Estudo transversal com 45 mulheres, com idade entre 30 e 55 anos, em tratamento estável no último mês que antecedeu a seleção, sendo excluídas as que estavam em tratamento fisioterapêutico, faziam uso de recursos auxiliares da marcha e/ou tinham doenças reumatológicas autoimunes ou relevantes comorbidades sem controle. A avaliação foi realizada através de ficha de entrevista, Questionário de Impacto da Fibromialgia, Índice de Dor Generalizada e escala analógica visual. Os dados foram analisados através dos testes de Correlação de Pearson e *t* de Student, aceitando-se níveis de significância estatística acima de 95%.
RESULTADOS: foram observados elevados valores no Questionário de Impacto da Fibromialgia, Índice de Dor Generalizada e escala analógica visual além de uma correlação linear entre os índices de dor e qualidade de vida.
CONCLUSÃO: A dor está associada à diminuição da qualidade de vida de fibromiálgicos.
Descritores: Avaliação, Dor, Fibromialgia, Qualidade de vida.

INTRODUCTION

Fibromyalgia (FM) is a musculoskeletal syndrome which, according to the American College of Rheumatology (ACR) diagnostic criteria of 1990, may be identified in individuals with diffuse chronic pain for more than three months and characterized by pain at tender points[1]. It affects approximately 2.5% of the world population, being considered the second more frequent reason for rheumatologic consultations[1,2]. It affects predominantly females, in a proportion of 6-10:1, aged between 30 and 55 years[3,4].

Diagnosis is eminently clinical with normal laboratory or radiological tests. In 2010, ACR has published new diagnostic criteria for FM. The number of tender points is evaluated by the Widespread Pain Index (WPI), which may vary from 0 to 19, in addition to severity of symptoms of fatigue, nonrefreshing sleep and cognitive aspects. Intensity/quantity of somatic symptoms is evaluated by the Symptom Severity (SS) scale score – SS scale score, which results in a score of 0 to 12. According to these criteria, to characterize FM, patients shall have WPI ≥ 7 and SS scale score ≥ 5 or WPI 3 to 6 with SS *scale score* ≥9[2,3].

Among possible physical and mental symptoms, patients may have widespread fatigue, sleep disorders, morning stiffness, sensation of dyspnea, anxiety, depression and changes in cognitive function[5]. Within this context, one should

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highlight pain as a red flag for looking for treatment and considered a limiting factor for the performance of daily life or professional activities[6,7].

According to the International Association for the Study of Pain, pain is defined as an unpleasant sensory and emotional experience, associated to real or potential tissue injury, or described in such terms[8]. Pain control is described as primary objective of interdisciplinary FM management, aiming basically at restructuring functional capacity and improving quality of life (QL)[9].

Because FM etiopathogeny is unknown, the adoption of global strategies to treat patients is often limited. Understanding clinical syndrome characteristics contributes to the development of new pharmacological and non-pharmacological therapies and to the strengthening of existing techniques[9,10].

Measurement tools for the quantification of symptoms should be carefully chosen to provide desired information. Tools should be sensitive to clinically measurable changes, in addition to being highly reliable and valid. It is also important that the tool of choice be applicable, practical and clear[7,11].

Among questionnaires to evaluate FM patients, there are ACR Evaluation Criteria for Fibromyalgia, the Fibromyalgia Impact Questionnaire (FIQ), the Quality of Life Questionnaire SF-36, Beck Depression Scale (BDS), Trait-State Anxiety Scale, Visual Analog Scale (VAS) and McGill Pain Questionnaire, which provide relevant clinical information, are easy to apply and have low cost[7,11,12].

So, realizing the importance of the evaluation, both to monitor the effectiveness of therapeutic approaches and for the development of new studies, this study aimed at evaluating pain and QL in female FM patients treated in a teaching hospital of Recife.

METHODS

This is an analytical cross-sectional study with 45 FM females treated by the Department of Rheumatology of a Teaching Hospital of Recife, aged between 30 and 55 years and in stable treatment in the last month previous to selection. Exclusion criteria were patients under physiotherapeutic treatment and those with associated autoimmune rheumatologic diseases or with uncontrolled relevant comorbidities.

After selection, patients were duly explained about the objective of the study, being invited to sign the Free and Informed Consent Term (FICT) if they agreed to participate. Then, an interview card was filled to collect socio-demographic data and patients were evaluated by the FIQ, the Widespread Pain Index (WPI) and VAS[2,13,14].

FIQ is a specific tool to evaluate QL of FM patients, involving aspects related to functional capacity, professional situation, psychological disorders and physical symptoms. It is made up of 19 questions organized in 10 items. Its score varies from zero to 100 and the higher the score the worse the QL of respondents[13,14].

WPI refers to the count of body tender points, which correspond to jaws, shoulders, arms, forearms, hips, thighs, legs, cervical region, abdomen, dorsal and lumbar regions, in a total of 19 tender points[2,3]. VAS is a tool to evaluate self-perceived pain with scores from zero to 10, where zero means no pain and 10 maximum pain[14].

Statistical analysis

Data were tabulated in Excel spreadsheet and statistically analyzed by the program SPSS 17.0. Categorical data were summarized by means of absolute frequency and relative percentage frequency. Numeric data were summarized by arithmetic mean, standard deviation and minimum and maximum values. To observe the association among variables, Pearson Correlation and Student *t* tests were used, being accepted statistical significance levels above 95%.

This study was approved by the Institutional Research Ethics Committee and registered under CAAE 00701512.7.0000.5208/2012.

RESULTS

Socio-demographic characteristics of the studied population are shown in table 1. It was observed that most volunteers were employed (48.9%), had incomplete basic education (37.8%) or complete high school (37.8%) and were sedentary (80%). Mean age of participants was 46.15 years.

Table 1. Distribution of socio-demographic and clinical characteristics of studied patients (n=45)

Variables	n (%)
Profission	
Employed	22 (48.9)
Unemployed	21 (46.7)
Social security	2 (4.4)
Education	
Illiterate	5 (11.1)
Incomplete basic education	17 (37.8)
Complete basic education	3 (6.7)
Complete high school	17 (37.8)
College	3 (6.7)
Physical activity	
None	36 (80.0)
Walking	6 (13.3)
Water aerobics	1 (2.2)
Fitness	2 (4.4)

Table 2 shows functional limitations evaluated by FIQ as well as Pain Level score of FM patients through VAS and WPI. From 10 domains evaluated by FIQ, 7 had scores above 8, showing poor QL in these aspects. Total FIQ score, which varies from zero to 100, was 75.9, detecting poor QL.

Table 2. Description of major functional limitations and pain level of fibromyalgia patients (n=45)

Variables	Mean±SD	Minimum	Maximum
Functional capacity	4.6 ± 1.8	1.3	8.0
Feeling good	8.6 ± 2.0	1.4	10.0
Absences	3.7 ± 3.5	0	10.0
FIQ work	8.2 ± 2.0	2.0	10.0
FIQ pain	8.7 ± 1.5	4.0	10.0
FIQ fatigue	8.7 ± 1.8	0	10.0
FIQ morning tiredness	8.5 ± 1.8	2.0	10.0
FIQ stiffness	8.0 ± 2.1	0	10.0
FIQ anxiety	8.7 ± 1.9	2.0	10.0
FIQ depression	7.8 ± 2.8	0	10.0
FIQ total score	75.9 ± 14.4	20.4	96.0
Tender points	14.2 ± 3.4	6.0	19.0
Visual analog scale	8.2 ± 1.6	0.6	10.0

FIQ = Fibromyalgia Impact Questionnaire.

Figure 1 shows a linear relationship between VAS and FIQ, indicating that the higher the VAS score the higher the FIQ score. In other words, the more severe the pain reported by patients, the more impaired will be their QL. With regard to tender points count, pain was reported by patients in approximately 14 body segments.

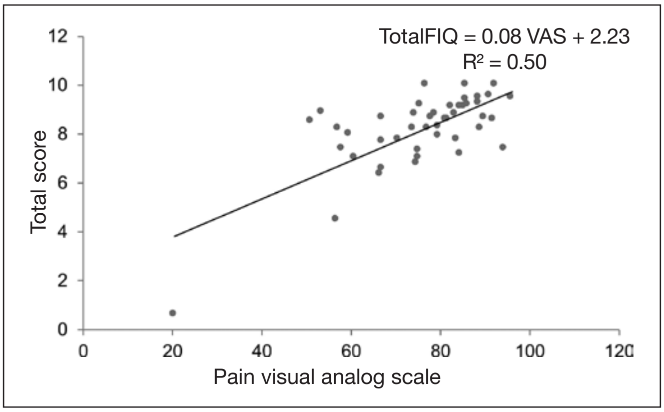

Figure 1. Statistically significant relationship between pain level and quality of life of fibromyalgia patients

FIQ = Fibromyalgia Impact Questionnaire.

DISCUSSION

Socio-demographic data confirm that mean age of evaluated females (46.15 years) corresponds to an economically active age group, as shown by a study by Lorena et al.[15]. Although there is the hypothesis of worsening or even the onset of job-related symptoms, there is no scientific proof that FM has occupational origin[16].

With regard to education level, percentages of the group were heterogeneous. However, studies discuss the lack of association between FM clinical aspect and education level[15,17].

It was observed that most patients (80%) have reported not practicing any physical activity; however the practice of exercises seems to play important role in syndrome modulation. According to Cardoso et al.[18], sedentary life might be a possible triggering factor for FM onset in individuals with genetic probability.

Authors have also reported that physical inactivity of FM patients contributes for the onset of functional limitations. In the study of Aparicio et al.[19], FIQ indicates that physical capacity deterioration might be related to more severe pain, severely worsening QL of females with hypersensitivity to pain. Our study has also shown excessive sensitivity to pain, very close to the maximum score of 10, thus impairing patients' wellbeing.

A comparative study with 16 FM females and 15 healthy females has shown that FM females had negative impact on QL with decreased functional capacity, increased pain and worsening of general health status[18]. Fibromyalgia patients have higher pain levels, which brings functional and physical limitations, less flexibility, muscle fatigue, lack of aerobic fitness and less capacity to perform daily life activities[20,21].

Muscle fatigue, stiffness and continuous and diffuse musculoskeletal pain are often reported by patients, being these disorders the cause, and simultaneously, the consequences of symptoms and working and exercising capacity worsening of FM females[20,21], as observed in our study.

It is worth highlighting that physical activity has already been considered a positive factor for QL of FM patients. In a randomized clinical trial with 42 FM patients, results have confirmed that the long term combination of aerobic, strengthening and flexibility exercises improves psychological health status and QL of such patients[22].

However, FM patients in general need a longer period and further personal effort to adapt to exercise programs and that is why load progression should be slower than normal in muscle strength exercises[23]. Short-lasting exercises have not shown improvement of QL[24], while longer training programs, lasting more than 15 weeks, have improved several aspects, including QL[25,26].

Flexibility exercises and mild or leisure activities, especially when collectively performed, or even reading, listening to music, yoga and other relaxation means, are also associated to improvement of some patients[27]. So, physical exercises may help managing chronic pain[28].

Our study has shown clues of impaired sleep quality by FIQ (data not numerically proven). Authors observe that when sleep quality is benefited, there is also pain and fatigue improvement[29]. Marques et al.[13] suggest improvement of pain of FM patients by improving sleep quality, in line with our study.

It is important to stress that these patients tend to have their symptom worsened when there are associated psychological disorders. A study carried out in Brazil, has shown that 30% of fibromyalgia patients had severe depression, and 34% had moderate depression; this same study has observed that 70% of FM patients had significant anxiety trait and 88% had high anxiety[30].

So, it is up to health professionals assisting these patients to understand pain and functional changes of these patients, with a thorough evaluation contributing to diagnosis and treatment of changes causing discomfort, aiming at improving QL of those people[20].

CONCLUSION

Our study has stressed high pain indices in FM patients and the presence of physical, mental and emotional limitations. As from our findings, we concluded that pain is an important causal factor to worsen QL of fibromyalgia patients.

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