

Impact of the disease, depressive symptoms, and pain on quality of life of women with fibromyalgia

Relações entre sintomas depressivos, dor e impacto da fibromialgia na qualidade de vida em mulheres

Relaciones entre síntomas depresivos, dolor e impacto de la fibromialgia en la calidad de vida en mujeres

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This is a quantitative study conducted from 2015 to 2018, with the aim of investigating the relationship between depressive symptoms, pain intensity, and the impact of fibromyalgia on quality of life in women. Ninety women with fibromyalgia were evaluated using the Visual Analogue Scale, the Beck Depression Scale, and the Fibromyalgia Impact Questionnaire. The visual analog scale result was 6.75 and the Fibromyalgia Impact Questionnaire result was 61.43. As for depressive symptoms, 26.7% had moderate symptoms, 22.2% had mild ones, and 11.1% had severe ones. There was a weak and inverse correlation between age and quality of life, and a moderate correlation between pain and quality of life. The intensity of pain and the impact of fibromyalgia on quality of life were greater in the categories of stronger depression. It was concluded that the intensity of pain is associated with the negative impact on quality of life. Pain and the negative impact of fibromyalgia on quality of life increased the likelihood of depressive symptoms.

Descriptors: Fibromyalgia; Depression; Pain; Quality of life.

Este é um estudo quantitativo realizado de 2015 a 2018, com o objetivo de investigar as relações entre sintomas depressivos, intensidade da dor e impacto da fibromialgia na qualidade de vida em mulheres. Foram avaliadas 90 mulheres com fibromialgia, utilizando a Escala analógica visual, a Escala de Depressão de Beck e o *Fibromyalgia Impact Questionnaire*. A média da escala analógica visual foi de 6,75 e do *Fibromyalgia Impact Questionnaire* de 61,43. Quanto aos sintomas depressivos, 26,7% apresentaram sintomas moderados, 22,2% leves e 11,1% graves. Houve correlação inversa e fraca entre idade e qualidade de vida, e moderada entre dor e qualidade de vida. A intensidade da dor e o impacto da fibromialgia na qualidade de vida foram maiores nas categorias de maior depressão. Concluiu-se que a intensidade da dor está associada ao impacto negativo na qualidade de vida e que a dor e o impacto negativo da fibromialgia na qualidade de vida aumentam a probabilidade de sintomas depressivos.

Descritores: Fibromialgia; Depressão; Dor; Qualidade de vida.

Este es un estudio cuantitativo realizado de 2015 a 2018, con el objetivo de investigar las relaciones entre síntomas depresivos, intensidad del dolor e impacto de la fibromialgia en la calidad de vida en mujeres. Fueron evaluadas 90 mujeres con fibromialgia, utilizando la Escala analógica visual, la Escala de Depresión de Beck y el *Fibromyalgia Impact Questionnaire*. El promedio de la escala analógica visual fue de 6,75 y del *Fibromyalgia Impact Questionnaire* de 61,43. En cuanto a los síntomas depresivos, 26,7% presentaron síntomas moderados, 22,2% leves y 11,1% graves. Hubo correlación inversa y débil entre edad y calidad de vida, y moderada entre dolor y calidad de vida. La intensidad del dolor y el impacto de la fibromialgia en la calidad de vida fueron mayores en las categorías de mayor depresión. Se concluye que la intensidad del dolor está asociada al impacto negativo en la calidad de vida y que el dolor y el impacto negativo de la fibromialgia en la calidad de vida aumentan la probabilidad de síntomas depresivos.

Descritores: Fibromialgia; Depresión; Dolor; Calidad de vida.

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INTRODUCTION

Fibromyalgia (FM) is a rheumatic syndrome of unknown etiopathogenesis, characterized by chronic diffuse pain and the presence of tender points on palpation in specific areas, classified according to criteria defined by the American College of Rheumatology (ACR)¹. Although this classification is still accepted, in 2010 the ACR described a new classification as a diagnostic criterion for FM, that abolished the counting of tender points and emphasized the association of fatigue, sleep disorders, cognitive disorders and somatic symptoms with chronic generalized pain². FM is more common in women, and its prevalence in the general population is between 0.2 and 6.6%³.

Individuals with FM may have reduced functional capacity due to different factors, alone or combined, and may favor the onset and even worsening of symptoms⁴. Chronic pain, depression, fatigue, and non-restorative sleep can impact functioning⁴, increase stress levels, and negatively interfere with the quality of life (QoL) of these people⁵.

In general, a vicious cycle can take place between depression, pain and decreased functional capacity, a cycle of poor physical and mental health⁶. The QoL of individuals with FM can indicate the level of adherence to treatment⁷. Due to its wide diversity of symptoms, FM remains a relatively poorly understood and challenging syndrome in terms of clinical aspects, and as a result, it generates a significant impact on the individual's life⁸. Therefore, the aim of this study was to investigate the relationship between depressive symptoms, pain intensity, and the impact of fibromyalgia on the quality of life of women.

METHOD

This is a cross-sectional study approved by the Research Ethics Committee of the Universidade Federal do Triângulo Mineiro (UFTM), under protocol no. 1864.

Ninety women with FM participated in this research, diagnosed according to the ACR (1990)⁹ criteria. The participants signed, after reading the clarification form, the free consent form to participate in the study. Data collection occurred at the Elderly Care Unit (UAI) during the execution of the extension project "Collective physical therapy care for patients with fibromyalgia — AFICO / UFTM", from February 2015 to August 2018. Women who presented another disease or disorder that led to some type of functional impairment that was not determined by FM were excluded from the sample.

Data was collected using a screening form in which the patient's personal data was recorded, such as: name, age, gender, race, education level, profession, physical activity, progression time of the disease, and medications used. Then, a specific evaluation form, to confirm the patient's inclusion in the project, was applied, with data referring to the physical examination, according to the ACR criteria: presence of generalized pain in the four quadrants of the body, above and below the waist, on the right and left sides, persistent axial skeleton for more than three months and pain on palpation in 11 of the 18 tender points. These procedures took an average of 30 minutes and were read together with the examiner to avoid difficulties in reading, and thus, interfering in the interpretation of the instruments.

To assess the intensity of pain, the Visual Analogue Scale (VAS) was used. It is a 10 cm line used to assess pain intensity, where 0 indicates no pain and 10 indicates the worst possible pain¹⁰. The individual was presented with a straight line, where the left end indicated "no pain" and the right end, the "worst possible pain". The participant was instructed to make a vertical mark at the point corresponding to her pain. To evaluate the intensity of the pain, the examiner placed a 10 cm scale on the line and recorded the corresponding value from 0 to 10 were the participant marked.

To assess the impact of FM on quality of life, the Fibromyalgia Impact Questionnaire (FIQ) was used, which is a questionnaire validated and adapted to Brazilian culture by Marques et al³. This questionnaire contains 19 questions subdivided into 10 items: functional capacity,

whether the patient feels good, absenteeism at work, ability to work, pain, fatigue, morning tiredness, stiffness, anxiety, and depression. The FIQ score has a maximum of 100 points, which represents the greatest possible impact of the disease on the interviewee's QoL.

Depressive symptoms were assessed using the Beck Depression Scale (BDS), translated and validated into Portuguese¹¹. It consists of 21 items, with a score ranging from 0 to 4 (absent, mild, moderate, and severe). It allows the quantification of the intensity of the symptom in four levels: (0 to 12 points), mild (13 to 20 points), moderate (21 to 30 points), and severe (31 or more points).

In the data analysis, averages, standard deviations, and absolute and relative frequencies were calculated in order to characterize the sample. Spearman's correlation test was used to verify the correlation between the quantitative variables, since the sample did not present a normal distribution.

The association between depressive symptoms, pain and quality of life was tested using the Kruskal-Wallis test, which allowed the comparison of medians of pain and quality of life, according to the different degrees of depression. The analyses were performed using the IBM SPSS software, version 22.0, for Windows, considering an alpha of 5%.

RESULTS

The characterization of the sample of women with FM is shown in Table 1. Their mean age was 58.85 years (SD = 8.41), with 43% having incomplete elementary school and 7.8%, college education. As for personal income, 41.1% earned between 1 and 2 minimum wages and 1.1% above 5 minimum wages. It was found that the mean for the VAS scale was 6.75 (SD = 2.91), and for the FIQ, 61.43 (SD = 15.52). Regarding depressive symptoms, 26.7% had moderate symptoms, 22.2% mild symptoms, and 11.1% had severe symptoms.

Table 1. Characterization and quality of life of women with fibromyalgia. Uberaba, 2015 a 2018.

Variables	Frequency and Percentage	Mean (Standard Deviation)
Age	-	58.85 (8.41)
Educational level		
Incomplete elementary school	39 (43.3)	-
Complete elementary school	14 (15.6)	-
Incomplete high school	7 (7.8)	-
Complete high school	19 (21.1)	-
College education	7 (7.8)	-
Monthly Personal Income		
< 1 MW	16 (17.8)	-
1-2 MW	37 (41.1)	-
3-5 MW	13 (14.4)	-
> 5 MW	1 (1.1)	-
VAS	-	6.75 (2.91)
BDS		
No	22 (24.4)	-
Mild	20 (22.2)	-
Moderate	24 (26.7)	-
Severe	10 (11.1)	-
FIQ	-	61.43 (15.52)

An inverse correlation of weak magnitude was observed between age and quality of life, according to which the higher the age, the lower quality of life decline. There was also a moderate correlation between pain and quality of life, showing that pain negatively impacts quality of life (Table 2).

Table 2. Correlations between quantitative variables. Uberaba, 2015 a 2018.

	Age	Visual Analogue Scale	Fibromyalgia Impact Questionnaire
Age	1	0.033	-0.242*
VAS	0.033	1	0.463*
FIQ	-0.242*	0.463*	1

* Spearman's correlation test, $p < 0.05$.

Regarding the association between depressive symptoms, pain and quality of life, it was observed that pain and the impact on quality of life are greater in patients with severe depression, showing that these conditions increase depressive symptoms among women with FM (Table 3).

Table 3. Associations between depressive symptoms, pain, and quality of life. Uberaba, 2015 a 2018.

	VAS M(SD)	p	FIQ M (SD)	p
Depressive symptoms				
No	5.14(3.05)		53.44(16.08)	
Mild	6.69(2.96)	0.009*	61.82(19.71)	0.038*
Moderate	7.43(2.40)		63.00(12.57)	
Severe	7.63(3.16)		72.44(9.10)	

VAS: Visual Analog Scale;
 FIQ: Fibromyalgia Impact Questionnaire; m: mean;
 SD: standard deviation. * Kruskal-Wallis test.

DISCUSSION

The results show an inverse correlation of weak magnitude between age and QoL and a moderate correlation between pain and QoL. Thus, it is possible to infer that, as age increases, QoL decreases, and that pain has a negative impact on quality of life. In addition, it was found that pain and the impact of fibromyalgia on QoL are greater in the categories of stronger depression, showing that these conditions increase the likelihood of depressive symptoms among women with FM.

Studies have shown that FM has a considerable impact on the QoL of women with the disease, in physical, psychological, and social aspects^{7,12}. The literature also states that pain and depression can be considered important variables in the impact of QoL on these individuals^{13,14}. Individuals with FM have a low degree of resilience for personal satisfaction, self-confidence and persistence¹⁵.

The average age among women with FM was 58.85 years. Other studies found lower averages, like 46.1, 47.9, and 52.0 years^{12,16,17}. This result can be explained by the fact that the participants are part of an extension project associated to the Elderly Care Unit in the city of Uberaba (MG), where the concentration of elderly people tends to be higher. As for the assessment of pain, the mean VAS score was 6.75. The means found by other studies were 8.2 and 9.0, greater than the result found here^{16,18}. The total mean of the FIQ score was 61.43, slightly lower than the total score of 64.3 found in one study¹⁷, but higher than the mean of 59.73, reported by another research¹¹.

Regarding depressive symptoms, this study showed that 60% of women with FM had some degree of depression, where 26.7% had a moderate degree, 22.2% mild and 11.1% severe. These results are higher than that found in a study¹⁴ in which 50% of FM patients had depressive symptoms, but lower than that found in another¹⁷, where approximately 71% of women with FM had moderate to severe depressive symptoms.

The present study showed that the impact of FM on QoL increased with age, a result that corroborates a research that evidences the impact on QoL measured by the FIQ result in women with FM aged between 50 and 59¹⁹.

In the results presented here, the intensity of pain is associated with a greater impact of FM on QoL. This indicates that pain is a determining factor for the decrease in QoL in these individuals. A study shows that there is a linear correlation between pain and QoL results in people with FM¹⁶.

Both the intensity of pain and the impact of FM on QoL are greater in women with moderate to severe degrees of depression. Individuals diagnosed with FM and severe depressive symptoms reported an increase of 17.6% in the general severity of FM, higher fatigue rates and worse sleep quality when compared to fibromyalgia patients with minimal depressive signs, showing an important influence of depression and impact of FM on QoL²⁰.

There is scientific evidence that the increase in the FIQ score and the consequent decrease in functional capacity lead to impairments in the physical aspect of QoL and to a direct and negative relationship in the mental aspect of QoL²¹. It is also worth mentioning that there is a correlation between the worsening of physical fitness, functionality, pain, emotional state, social support, and perception of health in general with levels of depression in patients with FM¹².

The findings of this investigation point to the need to systematically introduce assessment and interventions related to pain, depression and quality of life in the clinical routine of patients with fibromyalgia. Comprehensive health care for patients with fibromyalgia requires a multifactorial approach, that is, the search for solutions for the various conditions that contribute to reducing the quality of life of these people.

CONCLUSION

Pain intensity has a negative impact on QoL. Both the intensity of pain and the negative impact of FM on QoL increase the likelihood of depressive symptoms in women with FM. In addition, QoL decreases as the age of these women increases.

Studies of multivariate models, including multidimensional factors that can determine the quality of life in people with fibromyalgia, are necessary, since the present study has limitations due to its sample size and to the variables available for analysis.

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CONTRIBUTIONS

Cristiane Vitaliano Gristão and **Pedro Augusto Moreira de Oliveira** contributed to the conception, design, analysis and interpretation of data, writing and review. **Juliana Martins Pinto** and **Eduardo Elias Vieira de Carvalho** participated in the analysis and interpretation of data, writing and review.

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