

Quality of life and mood state of chronic pain patients

Qualidade de vida e estado de humor em pacientes com dores crônicas

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ABSTRACT

BACKGROUND AND OBJECTIVES: Noticing the presence of persistent somatic complaints of people looking for the physiotherapy department, with persistent pain as major symptom, and the possible association between pain complaint and psychological and social factors, mood changes and interference with quality of life, this study aimed at evaluating quality of life and mood state of chronic pain patients.

METHODS: Quantitative and descriptive survey carried out in three basic health units of the city of Catarina/CE. The following questionnaires were applied: SF-36 (quality of life), McGill (pain evaluation) and Profile of Mood States (mood state).

RESULTS: Participated in the study 24 individuals with chronic musculoskeletal pain complains, mean age of 37.29 years and 83.3% of the female gender. Just 33.3% of the sample had complete high school, and 83.3% had musculoskeletal pain three or more times a week. Physical and emotional aspects measured by SF-36 had mean scores of 23.12 and 30.92, respectively. Lowest McGill scores were found in the mixed (2.12) and evaluative (2.29) scores. For POMS, the sum of negative values (72.04) was higher than the item vigor (18.96).

CONCLUSION: There have been evidences of interference with quality of life and mood state in chronic pain patients.

Keywords: Chronic pain, Mood disorders, Quality of life.

RESUMO

JUSTIFICATIVA E OBJETIVOS: Percebendo a presença de queixas somáticas persistentes nas pessoas que procuravam o serviço de fisioterapia, apresentando dor persistente como principal sintoma e a possível associação entre a queixa de dor e fatores psicológicos e sociais, alterações de humor e interferência na qualidade de vida, o presente estudo objetivou avaliar a qualidade de vida e o estado de humor de pessoas com dores crônicas.

MÉTODOS: Estudo quantitativo, descritivo e *survey*, realizado em três unidades básicas de saúde no município de Catarina/CE. Para tanto, foram aplicados os questionários: SF-36 (qualidade de vida), McGill (avaliação da dor) e o Perfil dos Estados de Humor (estado de humor).

RESULTADOS: Foram selecionados 24 indivíduos com queixas de dores crônicas musculoesqueléticas com média de idade de 37,29 anos e 83,3% do sexo feminino. Apenas 33,3% da amostra apresentou segundo grau completo, e 83,3% apresentavam dores musculoesqueléticas 3 ou mais vezes por semana. No SF-36 os aspectos físicos e emocionais atingiram a menor média de escores 23,12 e 30,92, respectivamente. Já no McGill os menores valores foram no escore misto (2,12) e avaliativo (2,29). Por fim, no POMS a soma dos valores negativos (72,04) foi superior ao quesito vigor (18,96).

CONCLUSÃO: Evidenciou-se que há interferência na qualidade de vida e no estado de humor em pacientes com dores crônicas.

Descritores: Dor crônica, Qualidade de vida, Transtornos do humor.

INTRODUCTION

Chronic pain affects approximately 30% to 40% of the population, with mean prevalence of 35.5%, being a major cause of medical leaves, retirement and low productivity, thus generating severe public health problem^{1,2}.

Chronic pain may be described as continuous, recurrent, of uncertain etiology, lasting at least three months, causing functional impairment and incapacities³. Psychological influences have been emphasized as relevant during pain complaints, being able to trigger depression and anxiety disorders, which may happen as punctual episodes or be something constant and routine in patients' lives, being worsened by tension and concern with regard to pain⁴.

Andrade et al.⁵ have stressed that mood is a standard complex of behaviors, physical status, feelings and thoughts which may change according to the events. Psychological conditions such as anger and depression, psychosomatic conditions such as tiredness and tension, are variables able to define mood state.

This study aimed at evaluating quality of life (QL) and mood state of chronic pain patients.

METHODS

Survey-type study with quantitative and descriptive approach. Survey was carried out in three basic health units

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part of the territory of Multiprofessional Residence in Family and Community Health of the city of Catarina-CE.

Sample was of convenience and made up by all subjects of the three health territories reporting musculoskeletal pain and who looked for the basic unit as free demand. Inclusion criteria were age between 25 and 50 years, regardless of gender, education level, marital status and income; with routine musculoskeletal pain (approximately one or more times a week for at least three months); not being submitted to pain-specific physiotherapeutic treatment. Exclusion criteria were individuals with heart and lung diseases, cancer, victims of stroke or nervous injuries and motor deficits.

Data were collected in the basic health unit of each territory from December/2015 to January/2016, using one weekly shift. Three validated questionnaires were applied: Profile of Mood States (POMS) developed in 1971 by McNair, Lorr & Droppleman⁶. This questionnaire was developed in a psychotherapy laboratory in Washington to measure changes in affective symptoms and mood states⁶. It has 65 alternatives divided in six subcategories: tension, depression, anger/hostility, vigor, fatigue and confusion. POMS is calculated by subtracting from the variable Vigor (Positive) the sum of variables tension, depression, anger, fatigue and confusion (Negative)⁷.

McGill pain questionnaire (Br-MPQ) validated for the Portuguese language by Pimenta & Teixeira⁸ in 1966. McGill pain questionnaire, created by Melzack⁹ in 1975, was adapted for the Portuguese language as clinical and research tool for pain evaluation⁸. Questionnaire is subdivided in four categories: sensory, affective, evaluative and mixed, and 20 subcategories. Analysis is performed by adding words associated to categories¹⁰. And finally QL questionnaire (SF-36) validated for Brazil by Ciconelli et al.¹¹ in 1999. SF-36 is a tool to measure QL. It is made up of 36 items subdivided in eight scales with a final score from zero to 100 where 100 means best health status and zero the worst health status¹¹. It is analyzed by means of its own formula and is divided in eight domains: functional capacity, limitations by physical aspects, pain, general health status, vitality, social aspects, limitations by emotional aspects and mental health¹².

All questionnaires were applied by the same qualified investigator who would fill questionnaires by directly asking respondents.

This study was approved by the Research Ethics Committee, Escola de Saúde Pública (Opinion: 1.403.536, CAAE: 52505716.0.0000.5037).

Statistical analysis

Data were analyzed according to ethical principles and in compliance with descriptive statistical procedures (mean, standard deviation, minimum, maximum and percentage) and interferences (Student *t* and Kolmogorov-Smirnov tests), Chi-square and Binomial test according to normality, by means of the Statistical Package for the Social Sciences, version 20. Significance level was 0.05% (5%).

RESULTS

Total sample was made up of 30 people, of whom 24 were qualified to participate in the survey for meeting inclusion criteria. Volunteers were users of the single health system being assisted in the basic unit of the territory, had mean age of 37.29 ± 8.27 years, 83.3% ($n=20$) were females, 66.7% ($n=16$) had not finished high school, and 83.3% ($n=20$) had musculoskeletal pain for at least three times a week (Table 1).

QL was evaluated with the SF-36 questionnaire where scores of each domain may vary from zero to 100, being zero=worst and 100=best. Physical aspects domains (23.12 ± 24.84), pain (32.37 ± 10.31), general health status (37.58 ± 9.29) and emotional aspects (30.92 ± 35.87) had mean scores below 50 (Table 2).

Pain was evaluated with the McGill questionnaire, which has four descriptors where the numeric index is the number of words chosen by the patient, being that just one word may be chosen for each subgroup, in a maximum total of 20. Pain index is the sum of the values of each descriptor¹³. Pain reported by participants had the following mean scores: sensory (3.16 ± 1.74), affective (3.21 ± 1.91), evaluative (2.29 ± 1.52), mixed (2.12 ± 1.45) and total (10.80 ± 5.00) (Table 3).

Mood state in patients with chronic musculoskeletal pain complaints was evaluated with POMS and has shown higher mean values in the following subcategories: tension (17.37 ± 5.43), depression (12.21 ± 7.26) and fatigue (9.75 ± 4.23), however with vigor value of 18.96 ± 6.14 (Table 4).

Table 1. Socio-demographic aspects of studied sample ($n=24$)

Variables	n	%	p value
Age (years)	12	50	0.04*
30 •– 35	3	12.5	
36 •– 40	4	16.7	
41 •– 45	5	20.8	
46 •– 50			
Gender	4	16.7	< 0.01**
Male	20	83.3	
Female			
Marital status	9	37.5	< 0.01*
Single	14	58.3	
Married	1	4.2	
Widow (er)			
Education	16	66.7	0.15**
Basic	8	33.3	
High school			
Pain prevalence (weekly)	4	16.7	< 0.01**
1 •– 2 times	20	83.3	
3 times			

* Chi-square test; ** Binominal test.

Table 2. Values of the quality of life questionnaire (SF-36)

SF-36	Mean±SD	Median	Min. o Max.	25-75	p value
Functional capacity	46.87±20.47	25	20 o 90	30-62.5	< 0.01*
Physical aspects	23.12±24.84	45	0 o 80	0-37.5	0.12**
Pain	32.37±10.31	31	20 o 51	21-41	0.41**
General health status	37.58±9.29	38.5	20 o 52	31-42	< 0.01*
Vitality	46.46±11.37	45	30 o 65	40-55	< 0.01*
Social aspects	56.21±20.81	50	12 o 100	50-68.5	< 0.01*
Emotional aspects	30.92±35.87	16.5	0 o 100	0-66	0.02**
Mental health	52.42±18.42	56	24 o 80	42-65	0.28**

SD = Standard deviation, min. = minimum value, max. = maximum value, 25-75 = interquartile interval. * Student *t* test; ** Kolmogorov-Smirnov test.

Table 3. Scores of McGill pain evaluation questionnaire

McGill	Mean±SD	Minimum o Maximum	p value*
Sensory	3.16±1.74	0 o 6	< 0.01
Affective	3.21±1.91	0 o 6	< 0.01
Evaluative	2.29±1.52	0 o 5	< 0.01
Mixed	2.12±1.45	0 o 5	< 0.01
Total (Pain Index)	10.80±5.00	1 o 19	< 0.01

SD = Standard deviation, minimum = minimum value, maximum = maximum value. * Student *t* test.

Table 4. Profile of Mood States questionnaire (POMS) values

POMS	Mean±SD	Minimum o Maximum	p value
Tension	17.37±5.43	4 o 28	< 0.01*
Depression	12.21±7.26	2 o 27	0.19**
Anger	9.29±6.80	2 o 24	0.16**
Vigor	18.96±6.14	3 o 29	< 0.01*
Fatigue	9.75±4.23	3 o 17	< 0.01*
Confusion	4.46±3.66	0 o 14	0.49**
Negative factors	72.04±17.08	31 o 71	< 0.01*
Total	53.08±18.64	15 o 51	< 0.01*

SD = Standard deviation, minimum = minimum value, maximum = maximum value. Negative factors = sum of all factors except vigor. * Student *t* test; ** Kolmogorov-Smirnov test.

DISCUSSION

Most participants of this study were females, married, with complete basic education and high prevalence of weekly pains interfering with QL, especially in physical and emotional aspects and pain. As to mood evaluation, higher values were found in the sum of negative factors (tension, depression, anger, fatigue and confusion) as compared to vigor, especially items tension and depression.

QL is a term reported for the first time in 1964 by President of the United States Lyndon Johnson, who stated that objectives are not measured by bank accounts but rather by QL provided to people. This QL concept goes beyond the control of symptoms, increased life expectation and decrease or mortality control¹⁴.

Castro et al.¹⁵ have studied QL in 400 patients with chronic pain and mean age of 45.6 years, and have related anxiety, depression and pain to worst QL variables results. Queiroz et al.¹⁶ have evaluated QL in 31 chronic pain patients assisted in a multiprofessional clinic and have observed that highest scores were found in functional capacity (47.09) and mental health (40.00), with lowest values for limitation by physical aspects and pain. Finally, Queiroz et al.¹⁶ have concluded that chronic pain directly interferes with daily life activities, changing physical capacity, leading to different feelings and changing relationships with other people. These data are in line with our study.

Additionally, it was observed that some volunteers have reported scores equal zero in physical and emotional aspects domains, which proves the direct influence of pain on QL of these people. The concept of QL has an independent development, not well limited, with different lines of thought. By the biological view: health status, functional status; by the psychological view: wellbeing, satisfaction, happiness. With regard to health, it is defined as the level of health of individuals or populations, subjectively evaluated, being the way by which patients perceive their health status and non-medical requirements of their lives¹⁷.

With regard to pain, Silva et al.¹⁸ have highlighted that chronic pain is a routine indicator for basic attention, being present in 30% o 40% of Brazilian population, being necessary the use of strategies to fight such indicator. Our study has presented low mean of pain scores, in line with Carbonario¹⁹, who has evaluated the effects of a physiotherapeutic program in patients with fibromyalgia, by means of McGill questionnaire, where sample had high scores in sensory (17.84) and affective (6.61) domains and lower scores in the evaluative domain, with pain index equal to 33.35, much higher than our study; however, SF-36 pain domain had values similar to our study: pain (35.76), vitality (34.23), mental health (33.71) and emotional aspects (23.07).

In this perspective, Santos et al.²⁰ had difficulties with the elderly with regard to location and depth descriptors, temporal pattern and pain description, also mentioning that difficulty of understanding such aspects is more related to education level and cognitive aspects than to the age group of the studied population, fact which was not observed in

our study because there has been no significant difference in education level of the sample.

It was possible to observe that subcategory vigor had higher mean as compared to other subcategories; however the sum of negative factors (tension, depression, anger, fatigue and confusion) has gone beyond the variable vigor, showing that mood state was impaired in the studied sample. Negative sub-item with the highest mean was tension, and may be related to the painful process, as stated by Vandenberghe & Ferro²¹ when calling the attention to the physiological process associated to pain and tension, since pain increases muscle fibers tension as defense mechanism to protect the body. So, tension is generated as condition to prevent worsening the injury and to reestablish the affected part. They also state that prolonged tension increase the production of algic substances.

Confirming presented data, Brandt et al.²² have studied the mood profile of fibromyalgia females, showing higher negative variables such as tension (7.7), depression (6.5), fatigue (8.9) and mental confusion (5.8). In addition, Steffens et al.²³ have reported that mood is depressed in females with fibromyalgia, with decreased vigor (5.44) associated to increased tension (9.78), depression (9.56), anger (7.33), fatigue (10.0) and mental confusion (8.56), in line with our study.

CONCLUSION

This study has shown the emotional relation of tension and depression in chronic pain patients. It was easy to notice that physical, emotional and general health status aspects were impaired in individuals with chronic pain.

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