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PHYSICAL AND EMOTIONAL FACTORS ASSOCIATED WITH THE SEVERITY OF CHRONIC BACK PAIN IN ADULTS: A CROSS-SECTIONAL STUDY

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ABSTRACT

Objective: determining the multidimensional factors associated with the severity of chronic back pain is essential to design appropriate interventions. The objective of this study was to assess the physical and emotional factors associated with the severity of chronic back pain in adults.
Method: a descriptive, analytical and cross-sectional study, carried out between November 2017 and December 2018 in Family Health Strategies, with 198 adults with chronic back pain. Pain severity, assessed by the Brief Pain Inventory, was considered the outcome variable; and the pain interference in daily activities (Brief Pain Inventory), physical disability (Roland Morris Disability Questionnaire), quality of life (World Health Organization Quality of Life-Brief) and pain threshold (digital algometer) variables were considered explanatory. A Multivariate Multiple Linear Regression analysis, using the stepwise method with 5% significance, was preformed to establish an explanatory model of pain severity.
Results: the mean age was 48.03 years old (standard deviation: 12.41). Most of the participants were women, married and worked. The variables that had a significant and joint impact on pain severity were pain interference in daily activities (parameter: 0.196; p-value<0.001) and in mood (parameter: 0.054; p-value=0.039) and physical domain of quality of life (parameter: -0.032; p-value<0.001).
Conclusion: physical factors (pain interference in daily activities and physical domain of quality of life) and emotional factors (pain interference in mood) play an important role in the severity of chronic back pain, which reinforces its multidimensional character.

DESCRIPTORS: Chronic pain. Back pain. Pain measurement. Regression analysis. Nursing.

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FATORES FÍSICOS E EMOCIONAIS ASSOCIADOS À SEVERIDADE DA DOR CRÔNICA NAS COSTAS EM ADULTOS: ESTUDO TRANSVERSAL

RESUMO

Objetivo: determinar os fatores multidimensionais associados à severidade da dor crônica nas costas é essencial para traçar intervenções apropriadas. O objetivo deste estudo consistiu em avaliar os fatores físicos e emocionais associados à severidade da dor crônica nas costas em adultos.
Método: estudo descritivo analítico, de corte transversal, realizado entre novembro de 2017 e dezembro de 2018, em Estratégias de Saúde da Família, com 198 adultos com dor crônica nas costas. A severidade da dor, avaliada pelo *Brief Pain Inventory*, foi considera variável de desfecho; as variáveis interferência da dor nas atividades cotidianas (*Brief Pain Inventory*), incapacidade física (Questionário de Incapacidade de Rolland Morris), qualidade de vida (*World Health Organization Quality of Life-Brief*) e limiar de dor (algômetro digital) foram consideradas variáveis explicativas. Análise multivariada de Regressão Linear Múltipla, usando o método *stepwise* com 5% de significância, foi conduzida para estabelecer modelo explicativo da severidade da dor.
Resultados: a média de idade foi de 48,03 anos (desvio padrão:12,41). A maioria eram mulheres, casadas e que trabalhavam. As variáveis que tiveram impacto na severidade da dor de forma significativa e conjunta foram interferência da dor nas atividades cotidianas (parâmetro: 0,196; valor p<0,001) e no humor (parâmetro: 0,054; valor p=0,039) e domínio físico da qualidade de vida (parâmetro: -0,032; valor p<0,001).
Conclusão: fatores físicos (interferência da dor nas atividades cotidianas e domínio físico da qualidade de vida) e emocionais (interferência da dor no humor) desempenham importante papel na severidade da dor crônica nas costas, o que reforça o seu caráter multidimensional.

DESCRITORES: Dor crônica. Dor nas costas. Medição da dor. Análise de regressão. Enfermagem.

FACTORES FÍSICOS Y EMOCIONALES ASOCIADOS A LA GRAVEDAD DEL DOLOR CRÓNICO EN ADULTOS: UN ESTUDIO TRANSVERSAL

RESUMEN

Objetivo: determinar los factores multidimensionales asociados a la gravedad del dolor de espalda crónico es esencial para diseñar intervenciones apropiadas. El objetivo de este estudio fue evaluar los factores físicos y emocionales asociados a la gravedad del dolor de espalda crónico en adultos.
Método: estudio descriptivo y analítico, de corte transversal, realizado entre noviembre de 2017 y diciembre de 2018, en unidades de la Estrategia de Salud Familiar, con 198 adultos que sufren dolor de espalda crónico. La gravedad del dolor, evaluada por medio del *Brief Pain Inventory*, se consideró como variable de resultado; y las variables interferencia del dolor en las actividades cotidianas (*Brief Pain Inventory*), discapacidad física (Cuestionario de Discapacidad de Roland Morris), calidad de vida (*World Health Organization Quality of Life-Brief*) y umbral de dolor (algómetro digital) se consideraron como variables explicativas. Se realizó un análisis multivariado de Regresión Lineal Múltiple, usando el método *stepwise* con 5% de significancia, para establecer el modelo explicativo de la gravedad del dolor.
Resultados: la media de edad fue de 48,03 años (desviación estándar:12,41). La mayoría de los participantes fueron mujeres, casadas y con alguna actividad laboral. Las variables que ejercieron un impacto sobre la gravedad del dolor en forma significativa y conjunta fueron las siguientes: interferencia del dolor en las actividades cotidianas (parámetro: 0,196; valor p<0,001) y en el estado de ánimo (parámetro: 0,054; valor p=0,039) y el dominio físico de la calidad de vida (parámetro: -0,032; valor p<0,001).
Conclusión: los factores físicos (interferencia del dolor en las actividades cotidianas y el dominio físico de la calidad de vida) y emocionales (interferencia del dolor en el estado de ánimo) desempeñan un rol importante en la gravedad del dolor de espalda crónico, lo que refuerza su carácter multidimensional.

DESCRIPTORES: Dolor crónico. Dolor de espalda. Medición del dolor. Análisis de regresión. Enfermería.

INTRODUCTION

For the first time in 41 years, the International Association for the Study of Pain (IASP) has revised the concept of pain in order to emphasize the need for its better assessment and, consequently, its management. This concept is presented as "an unpleasant sensory and emotional experience associated with, or similar to that associated with, actual or potential tissue damage"[1:2].

In addition to that, the IASP also emphasized that pain is always a personal experience, influenced by biological, psychological and social factors[1], which reinforces its multifactorial character, and that it can have adverse effects on the person's function and social and psychological well-being[1]. It is in this context that chronic pain fits, in contrast to the protective role of acute pain. This goes far beyond a symptom, characterizing itself as a disease with its own clinical course[2].

According to The Global Spine Care Initiative, the prevalence of chronic pain in the lumbar and cervical regions, as well as the related disability, has markedly increased over the last 25 years globally and is likely to increase further due to population aging[3]. In this sense, this initiative recommends that spinal disorders should be prioritized in research funding opportunities, given the enormous global importance of the problem[3], in order to establish appropriate assessments and courses of action.

Considering that 80% of the health consultations are related to pain[4], the professionals, especially nurses, who deal with these people at all health care levels, must be qualified to identify and treat this important public health problem, which is associated with high spending on health[4] and great human suffering.

In this context, the importance of nurses evaluating chronic pain in its multiple domains is highlighted. These include sensory and affective qualities of pain (such as intensity, how unpleasant or disturbing it can be, how it is perceived and its sensory characteristics); time attributes (duration and variability of pain over time); location; related behaviors (such as facial expression, protective behavior); provocative measures of pain (collected through physical examinations, such as digital palpation or mechanical pressure)[5]; physical disability, which leads to limitations in performing activities of daily living[6] and dependence on other people. It is also important to assess how pain and its consequences impact on quality of life[7]. All this information will allow for a comprehensive assessment and contribute to its proper management.

Correlations between subjective and physiological variables of chronic back pain are already established in the literature[8]. There is a positive correlation between pain severity and pain interference in daily activities and physical disability, and a negative correlation between pain severity and pain threshold[8]. However, up to date, the magnitude of these correlations has not yet been established, nor how quality of life behaves in relation to chronic back pain. Then, when considering the self-report of pain severity as the gold standard in the investigation of this phenomenon[9], it is asked which factors are associated with pain severity and how they interfere in this association, aiming to outline appropriate therapeutic courses of action. Thus, the objective of this study was to assess the physical and emotional factors associated with the severity of chronic back pain in adults.

METHOD

A descriptive, analytical and cross-sectional study, carried out between November 2017 and December 2018, which was approved by an Ethics Committee in Research with Human Beings. The population consisted of 686 individuals with chronic back pain, who were registered in Family Health Strategies (FHS) / *Estratégia de Saúde da Família* in the inland of Minas Gerais. Those who agreed to participate in the study signed a Free and Informed Consent Form.

The following were established as eligibility criteria for the sample: age over 18 years old, preserved cognitive function verified by means of a cognitive impairment test[10] and presence of

pain of any origin for three months or more[2]. Individuals who had severe chronic diseases (such as decompensated cardiac, pulmonary, renal or liver alterations), cancer and neurological or psychiatric diseases were excluded from the study.

To estimate the sample size, the GPower® software (version 3.1.9.2) was used, through the multiple linear regression test: fixed models, based on the coefficient of determination (R^2)[11]. When considering the effect size (f^2)=0.09, power (1-β)=95% and significance level (α)=5%, the estimated sample size was 181 people.

In order to track the sample of this study, telephone contacts were made with the people registered for physical therapy care in the FHS units due to pain complaints in the cervical, thoracic and/or lumbar regions, in order to verify the eligibility criteria. For those who met the criteria and agreed to participate in the study, a time was scheduled for them to attend the FHS units to carry out the assessments proposed.

Sociodemographic variables (gender, age, marital status and occupation) were collected using an individual characterization form. The clinical variables investigated were as follows: pain severity and interference in daily activities, verified using the Brief Pain Inventory (BPI)[12]; physical disability, using the Roland Morris Disability Questionnaire (RMDQ) for pain in general[6]; quality of life, through the World Health Organization Quality of Life-Bref (WHOQol-Bref)[13] and pain threshold, verified with a digital algometer.

BPI[12] has numerical scales graduated from zero (no pain) to ten (worst imagined pain), which are used to measure pain severity (mean of the items: stronger, weaker and mean pain in the last 24 hours and at the time of the assessment) and pain interference in daily activities (mean of the items: activity, ability to walk, work, mood, relationship with other people, pleasure in living and sleep)[14]. The numerical pain scale score can be classified as: 0 = no pain; 1-3 = mild pain; 4-6 = moderate pain; and 7-10 = severe pain[15]. This instrument was translated and validated for the Brazilian culture and has adequate psychometric characteristics[16]. Pain severity and pain interference in daily activities were processed as continuous variables, using the mean obtained in the 11-point numerical scale, followed by the mean of the items that investigated each domain.

The RMDQ for pain in general[6] was developed to measure physical disability in people with pain. It has 24 items with scores of zero or one (yes or no) and the total varies from zero (no disability) to 24 points (severe disability)[17]. It was translated, adapted and validated for the Brazilian version[18–19] and has adequate psychometric properties[19]. Physical disability was processed as a continuous variable.

The WHOQol-Brief consists of 26 questions, two of which are related to overall quality of life (perception of quality of life and satisfaction with health), and the others (24 questions) represent each of the 24 aspects, divided into four domains (physical, social, psychological and environmental) that assess specific aspects of a person's life[13]. Each question has scores from one to five, on a Likert-type scale, which are transformed into a linear scale from zero (least favorable quality of life) to 100 points (most favorable quality of life)[13]. A cutoff point below 60 indicates low quality of life in patients treated in primary health care[20]. WHOQoL-Brief was translated and validated for the Brazilian version and has adequate psychometric properties[13]. Quality of life in general and the four domains of the scale were processed as a continuous variable.

To assess pain threshold, a digital algometer was used (digital dynamometer model DDK, microprocessed, for traction and compression testing - Kratos®), with a capacity of 20 kilograms-force (score of zero: lowest pain threshold at 20: highest pain threshold). The protocol used for this assessment was standardized according to the study by Moura *et al*[8]. Pain threshold is inversely proportional to intensity; thus, the lower the threshold, the greater the pain intensity[16]. A pain threshold ≤ 3 kg/cm^2 is considered abnormal[21]. This variable was processed as continuous.

When performing the internal consistency analysis with the study sample, of the set of items of each scale used, a Cronbach's Alpha of 0.830 was observed for pain severity and of 0.804 for pain interference in daily activities, both from the BPI; as well as values of 0.827 for RMDQ and of 0.796 for WHOQol-Brief. Such values denote high internal consistency of the instruments, indicating that they were suitable for use in this study[22].

The assessments of all participants were carried out by a single researcher, who was properly trained to ensure consistent data collection, aiming to maintain methodological rigor.

The following data collection procedures were adopted: after evaluating the eligibility criteria by telephone contact, a time was scheduled for the participant to attend the FHS. First, sociodemographic data (gender, age, marital status and occupation) were obtained; then, data on clinical variables were collected, in the following order: 1 - Pain severity; 2 - Pain interference in daily activities; 3 - Physical disability; 4 - Pain threshold. For the assessment with the digital algometer, the participant was positioned on a stretcher, in prone position, with the arms extended along the body. Constant and progressive stimulation was performed at specific points on the back[8]. The participant was instructed to press the interruption cable as they felt the mechanical stimulus (pressure) turned into a painful stimulus; then, the value marked on the device, referred to as the nociceptive threshold latency, was recorded.

The data were organized in Microsoft Office Excel® (2013 version) by two independent researchers and, subsequently, had their consistency verified. For the statistical analysis, the Statistical Package for the Social Sciences® software (version 23) was used.

Descriptive statistics were used to describe and summarize the studied variables. The analysis employed was Multiple Linear Regression with 5% significance, using the stepwise method to select the explanatory variables of pain severity. Thus, this variable was treated as outcome variable (dependent); and pain interference in daily activities, as well as each of its consequences (activity, mobility, work, mood, relationship with other people, pleasure in living and sleep); physical disability; pain threshold; perception of quality of life; satisfaction with health and the physical, psychological, social and environmental domains of the WHOQol Brief were considered explanatory variables or covariates.

The adjusted model was significant ($F(3.179)=24.467$; $p<0.001$; $R^2adj.=0.291$), met the normality assumptions ($p=0.64$; Shapiro-Wilk test), homoscedasticity was met and verified by the relation between residuals and predicted values, and independence was confirmed by Durbin-Watson ($DW=1.913$). The variables that remained in the final model also passed the collinearity test and presence of outliers was not verified. The coefficient of determination was 0.291, which characterizes to what extent the model was able to explain the variable under study.

RESULTS

A total of 198 individuals with chronic back pain participated in the study. The mean age of the participants was 48.03 years old (standard deviation: 12.41). Most of the participants were female (77.3%), married (61.7%) and worked (56.8%) (Table 1).

Pain severity and pain interference in daily activities, and physical disability of the study participants were considered moderate[15–17], pain threshold was considered altered[21], and only perception of quality of life and the psychological and social domains of WHOQol-Bref were satisfactory[20] (Table 2).

The variables that had a significant and joint impact on pain severity were pain interference in daily activities and mood, as well as the physical domain of quality of life (Table 3). The variable that most influenced the final model was pain interference in daily activities ($\beta=0.310$). The mean of pain severity increased 0.196 points ($p<0.001$) and 0.054 points ($p=0.039$) for each unit of increased pain interference in daily activities and mood, respectively, and decreased 0.032 points for each unit of increase in the physical domain of quality of life ($p<0.001$) (Table 3).

Table 1 – Sociodemographic characterization of the participants, Mariana, MG, Brazil, 2018. (n=183).

Variable	n (%)
Gender	
Female	153 (77.3%)
Male	45 (22.7%)
Marital status	
Married	113 (61.7%)
Single	45 (24.6%)
Divorced	17 (9.3%)
Widowed	08 (4.4%)
Work	
Yes	104 (56.8%)
No	94 (47.4%)

Table 2 – Pain, physical disability and quality of life of the participants, Mariana, MG, Brazil, 2018. (n=183).

Instrument	Variable	m* ± sd†
BPI‡	Pain severity	5.68 ± 1.60
	General pain interference in daily activities	5.00 ± 2.53
	Activity	6.03 ± 3.45
	Mobility capacity	4.81 ± 3.81
	Work	6.19 ± 3.41
	Mood	4.60 ± 3.88
	Relationship with other people	2.91 ± 3.74
	Pleasure of living	4.54 ± 3.93
	Sleep	5.95 ± 3.86
RMDQ§	Physical disability	13.50 ± 5.70
WHOQol-Bref‖	Perception of quality of life	61.75 ± 17.73
	Satisfaction with health	53.83 ± 21.12
	Physical domain	53.92 ± 14.16
	Psychological domain	62.04 ± 16.81
	Social domain	67.94 ± 15.57
	Environmental domain	56.67 ± 11.62
Algometer	Pain threshold	2.61 ± 1.01

*m: mean; †sd: standard deviation; ‡BPI: Brief Pain Inventory; §RMDQ: Roland Morris Disability Questionnaire; ‖WHOQol-Brief: World Health Organization Quality of Life-Brief.

Table 3 – Physical and emotional factors associated with the severity chronic back pain, according to the Multiple Linear Regression model, Mariana, MG, Brazil, 2018. (n=183).

Variable	Parameter	Standard error of the estimate	β*	p-value	95% Confidence Interval
Constant	6.209	0.625	-	<0.001	4.975; 7.443
General pain interference in daily activities	0.196	0.047	0.310	<0.001	0.104; 0.288
Pain interference in mood	0.054	0.026	0.131	0.039	0.003; 0.105
Physical domain of quality of life	-0.032	0.008	-0.287	<0.001	-0.049; -0.016

*β: standardized coefficient.

DISCUSSION

By conducting this study, physical factors (pain interference in daily activities and physical domain of quality of life) and emotional factors (pain interference in mood) associated with the severity of chronic back pain in adults were evidenced, which reinforces the multifactorial character of this clinical problem.

It is known that the explanatory variables assessed in this research – pain interference in daily life (activity; mobility capacity; work; mood; relationship with other people; pleasure of living and sleep), physical disability and pain threshold – are associated with the severity of back pain[8]. However, up to date, there is no evidence in the literature about the magnitude of this association as a whole in the population studied, which reinforces the innovative character of this study.

In relation to the results obtained in pain severity, whose mean was 5.68, that is, moderate intensity, similar data were also found in the literature. A study[23] aiming to compare pain and quality of life among people with chronic low back pain and other painful conditions obtained a mean of 4.7 for low back pain, and the experience of pain was worse for this group when compared to people with knee osteoarthritis. In addition, another study[24] that sought to determine the relationship between muscle weakness, pain and disability found a mean intensity of chronic low back pain of 3.4, also considered as moderate, in addition to concluding that muscle extensibility and resistance seemed to be affected by pain intensity. In view of these findings, the importance of assessing these indicators of chronic pain is perceived, as people with back pain can have weakened spine-supporting muscle components, due to restricted movement.

As for general pain interference in daily activities, a mean of 5.0 was found in the studied sample, and this was the variable that most influenced pain severity (β=0.310). A study[8] aiming to assess and correlate the subjective and physiological variables of chronic spinal pain over time found a positive association between intensity and all the variables that make up the general pain interference in daily life (activity, mobility, work, mood, relationship with other people, pleasure of living and sleep); however, this study went further in quantifying the magnitude of this correlation. In this sense, among these variables, general interferences in daily activities and mood were the ones that most strongly influenced pain severity (0.196 and 0.054, respectively).

In fact, chronic pain exerts a considerable negative impact on mood. Feelings such as anger and frustration may be present and related to the limitation of performing activities of daily living imposed by this clinical problem[7]. In addition to that, there is a two-way association between pain and depression: patients with pain feel more depressed; on the other hand, they experience more intense pain when depressed[7].

This is because it is believed that development of chronic pain and depression may involve the same brain structures, neurotransmitters and signaling pathways[25]. For example, neurotransmitters such as serotonin, dopamine and norepinephrine are vital for the occurrence and development of pain; and depression can occur as a result of the reduction in these neurotransmitters in the Central Nervous System (CNS)[25]; in addition, glutamate, one of the main CNS excitatory neurotransmitters, is also involved in the development of chronic pain and depression[26]. In addition, pain-related inflammatory factors can affect depression-related functional areas of the CNS, as they cross the blood-brain barrier, inducing changes in neurotransmitter metabolism, neuroendocrine function and neuroplasticity[27].

Still in the context of the emotional changes, it is also important to highlight that, as pain chronicity is often associated with little or no chance of improvement, the fear of continuous suffering related to it also contributes to worse mood[7]. Therefore, it is important to implement interventions that aim beyond pain relief for these people, but also contemplate the biopsychosocial and spiritual aspects.

In this study, pain interference in mood obtained a mean of 4.60, that is, moderate intensity, but enough to have a strong impact on pain severity. A study that offered cupping therapy to patients with chronic low back pain found a mean interference in this variable of 2.33 points before the treatment, which was considered low, on a scale from zero to 10. However, after the intervention, this interference dropped to 1.22 points[28]. According to what the Initiative on Methods, Measurement and Pain Assessment in Clinical Trials advocates, a one-point change in the interference scale is already reasonable to identify minor changes that are clinically important[29]. In this scenario, the importance of working with non-pharmacological interventions is highlighted, such as Integrative and Complementary Practices in Health (ICPH), among which cupping therapy[28] and auriculotherapy stand out[30]. These are increasingly based on scientific evidence; however, their use requires qualified human resources; and the low demand for specializations in the area, in addition to the deficit in teaching on this topic in the training of professionals hinder their implementation in the health services[31]. In this scenario, it is important that nurses take ownership of this field of performance in order to expand the possibilities of therapeutic resources to be offered to this population.

As well as pain intensity and physical functionality, the assessment of health-related quality of life is strongly recommended for people with chronic back pain, as it may provide insight into the various domains affected in the individual[32] (physical, psychological and social, in addition to environmental influence)[13], in order to enable targeted treatments to improve them[32].

In this study, the physical domain, which covers pain and discomfort; energy and fatigue; sleep and rest; mobility; activity of daily living; dependence on medication or treatment; and work capacity[13] had the greatest impact on pain severity (parameter = -0.032; p-value<0.001). In general, the mechanical causes of pain in the dorsal region are related to myofascial pain in facet and sacroiliac joints; discogenic pain; spinal stenosis and failed back surgery[33]; in addition to wear out in the spine-supporting components; inflammatory, degenerative and neoplastic diseases; birth defects; muscle weakness; rheumatic predisposition and signs of spinal or intervertebral disc degeneration. All these factors hinder mobility and the performance of simple activities of daily life, such as washing and cooking, due to physical and functional disabilities and lack of energy imposed by chronic pain[7].

A study[7] that evaluated the impact of chronic pain on quality of life found that the physical component was practically three times worse among people with chronic pain when compared to those without disabling diseases. Furthermore, the participants in this study considered that the negative impact of pain on physical function is the root cause of its interference in family, professional and social life, relationships and mood[7].

Sleep disorders are also frequent in people with chronic pain, especially with regard to its onset and maintenance[34]. The pain-sleep relationship is also bidirectional: pain can interrupt sleep, and short or disturbed sleep, in turn, reduces pain thresholds and increases spontaneous pain[35]. Sleep deficit appears to have a deactivating effect on several systems/mediators with analgesic properties, including the opioid system, the orexinergic system, the melatoninergic system and dopamine signaling; while it activates systems/mediators with a predominance of hyperalgesic properties, such as nitric oxide and adenosine signaling, and inflammatory mediators of the immune system[35].

It is also important to highlight that poor sleep quality negatively affects the ability to deal with pain[7]. The prevalence of these two conditions combined reaches 44%, and it is imperative that sleep disorders are also treated in conjunction with chronic pain[34].

Another important aspect that includes the physical domain of quality of life is dependence on medication or health treatments. In this scenario, it is important to highlight that pharmacological treatment is still one of the most frequently used methods to control chronic pain[4]. However, almost 50% of the sample of a study[4], whose objective was to estimate the prevalence of chronic pain in Brazil and to identify the types of therapies adopted, reported that the effect of drug treatment is ineffective

in controlling pain. In addition to that, a systematic literature review[36] pointed out that the use of opioids is associated with damage to the gastrointestinal and nervous systems and to the withdrawal syndrome, which reinforces the need to think about other therapeutic approaches for this population.

The assessment of chronic pain and its impacts on quality of life is a major challenge, due to its subjectivity and time variability. Therefore, one of the limitations of this study is related to the assessment of the phenomenon at a single moment of time. It is believed that longitudinal assessments could better reflect its impact on people's lives. In addition to that, it is wondered whether a more intense pain level may imply more associated physical and emotional factors, since its interference with these factors can be more energetic.

Therefore, for future studies it is suggested to carry out longitudinal assessments of chronic back pain, in addition to evaluating all the variables investigated in this study in people with greater pain intensity. In addition to the behavioral approach, it is also necessary to evaluate physiological aspects involved in the process of recognizing painful neuromuscular conditions that affect the dorsal region. In this sense, in addition to pain threshold, the assessment of tissue temperature could be another important indicator to be evaluated[37]. It is also proposed to extend this research to other types of chronic pain, which are also the nurses' responsibility.

CONCLUSION

Physical factors (pain interference in daily activities and physical domain of quality of life) and emotional factors (pain interference in mood) play an important role in the severity of chronic back pain in adults. Specifically, pain severity increased 0.196 points and 0.054 points for each unit of increased pain interference with daily activities and mood, respectively; and decreased 0.032 points for each unit of increase in the physical domain of quality of life.

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NOTES

ORIGIN OF THE ARTICLE

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CONFLICT OF INTEREST

There is no conflict of interests.

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