141 - CHRONIC LOW BACK PAIN: CORRELATION BETWEEN KINESIOPHOBIA AND DISABILITY

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INTRODUCTION

Low back pain can be defined as pain in the lumbosacral region, and may also include pain radiating to the lower limbs. Back pain affect about 80% of the population at some point in your life, affecting both men and women (LUSTOSA et al., 2011).

This syndrome causes lumbar inability to perform activities of daily living, absence from work, sleep disturbances, depression and irritability. These disorders and dysfunctions affect not only the body, but will impact the ability to perform tasks and performance thereof and therefore represent a high cost in their treatment, to the health system and social security due to the high rate of remoteness and inability to work (SALVETTI, 2010).

Studies, such as Lustosa (2011) show that individuals complaining of back pain can evolve into a reduction of movements and often develop the belief that all functional activity will worsen the pain.

The fear of pain prevents movement or makes the person gradually reduce their activities, thus limiting their duties, and restricting their participation in activities of daily living. This framework characterized by fear of movement due to pain is called kinesiophobia (CARAVIELLO et al., 2005).

Based on these assumptions, the objective of this study was to correlate the level of disability and kinesiophobia controlled performance in the six-minute walk test (6MWT).

METHODOLOGY

The present study was performed in the physical rehabilitation center Unioeste from March to July 2012. The study design was made transversely. The sample was made intentionally and not probabilistic by twelve subjects with chronic low back pain, four men and eight women aged between 28 and 59 years. Their mean values and standard deviations for age, height and weight were 46.6 ± 10.2 (years), 165.3 ± 11.6 (cm), 73.3 ± 13.2 (kg), respectively. The study was approved by the ethics committee on human research Unioeste.

Inclusion criteria were: sedentary and who had chronic back pain for at least three months. The criteria for non inclusion and exclusion were: Individuals with low back pain potentially associated with another specific spinal cause which include the small proportion of patients with severe or progressive neurologic deficits or conditions requiring rapid assessment as tumor, infection, equine's tail syndrome, as well as patients with other conditions that may respond to specific treatments such as ankylosing spondylitis or other rheumatic diseases and/or vertebral compression fracture and patients with predicted column surgery, besides smokers or former smoker for a period less than one year; musculoskeletal injuries, acute or chronic, and taken peripheral joints; difference in limb length, which can change the walking speed; volunteers with cognitive deficits; voluntary or pregnant individuals with cardiovascular disease who were not indicated for exercise; volunteers who do not present favorable hemodynamic conditions for the test of six-minute walk, decompensated hypertensive, history of heart disease, lung disease and/or neuropathy.

The subjects were informed about the objectives of the study and signed the term of consent. After two questionnaires were applied to identify the level of disability and kinesiophobia.

The level of disability that has been verified by the Brazilian version of the Oswestry Disability Index, adapted from the original - version 2.0 (FAIRBANK, PYSENT, 2000; VIGATTO, ALEXANDER, CORREA FILHO et al., 2007), it is a questionnaire composed of 10 questions, with six possible answers each, reflecting the impact of back pain on daily activities and social individual. The volunteer will receive points from zero to five according to the answer given to each of the 10 questions so that the first response option is worth zero and the last five. This way, five is the maximum score for each question, and 50 the maximum score for the questionnaire as a whole. After the test, to transform the result into a percentage score, the examiner will add all the points, divide by 50 and multiply the result by 100. Where any of these questions is not answered, the summation of the points obtained by the questionnaire will be divided by the maximum possible sum for the questionnaire without counting the score of question deleted. Results are presented as absolute values.

The level of kinesiophobia which was assessed by the Brazilian version of the Tampa Scale kinesiophobia (SIQUEIRA, TEIXEIRA-SALMELA, MAGALHÃES, 2007) consists of a self-administered questionnaire composed of 17 questions that address pain and intensity of symptoms. Scores range from one to four, and the response "strongly disagree" equals one point, "partially disagree" two points, "partially agree" to three points, and "strongly agree" to four points. To obtain the final score is needed the inversion the scores for questions 4, 8, 12 and 16. The final score may be at least 17 and at most 68 points, being that the higher the score, the higher the score, the higher the score, the greater the degree of kinesiophobia.

Then were instructed to six-minute walk test (6MWT). The 6MWT was performed in a corridor of 30 meters in length with a sash delimited metrically marked, in confined premises, flat surface where volunteers will carry out the path round trip as many times as necessary, in the time limit of six minutes. The heart rate of volunteers was monitored every 30 seconds of the experiment using a frequency counter. Participants were instructed to walk as fast as possible, but without running until the researcher request your stop ended when the six minutes of collection. They were also instructed to reduce speed and even interrupt the test if they experience chest pains, difficulty and respiratory distress, severe muscle aches, dizziness or nausea. Immediately after the test were measured again vital signs as well as the distance traveled by each.

During the test the examiner walked discreetly behind and not alongside participants so as not to influence the rhythm of walking them. Still, the distances were calculated predictive for age, sex, height and weight of each volunteer, considered as reference values (6MWT REF), through equations proposed in the literature (Enright, Sherrill 1998): MEN - Distance envisaged (m) = (7.57 x height [m]) - (5.02 x age [years]) - (1.76 x body weight [kg]) - 309 m; WOMEN - Distance envisaged (m) = (2 , 11 x height [m]) - (5.78 x age [years]) - (2.29 x weight [kg]) + 667 m.

For statistical was used software GraphPad Prism 5.00. To verify the Gaussian distribution of the variables will be

applied the test of Shapiro-Wilk normality. Descriptive statistics were presented as mean and standard deviation.

Correlations were made by partial correlation test whose relationship was controlled by the 6MWT. The strength of the correlation was interpreted by the following score (GAYA 2009): perfect correlation (r = 1), a strong correlation (r value between 0.75 and 0.99), average correlation (r-value between 0.5 and 0 , 74), a weak correlation (r <0.5 and ≠ 0) and nonexistent correlation (r = 0). In all cases α = 0.05 is assumed.

The data regarding the 6MWT were normalized by predicted value. The standardization facilitates visualization of how the test value approached that predicted, so that: ratio <1 indicated that the individual has not reached the predicted value; ratio = 1 indicates that the test value was equal to the predicted, and why> 1 that the test value exceeded the value predicted.

RESULTS

Descriptive statistics, with values of central tendency for the variables, level of disability, kinesiophobia and Reason walk, can be viewed in Figure 1.

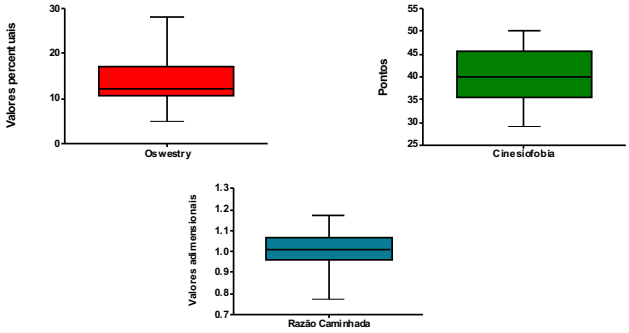

Figure 1: Descriptive statistics for the variables level of disability, kinesiophobia and Reason walk.

There was not correlation between levels of disability and kinesiophobia (partial correlation controlled performance on the 6MWT = 0.479, p = 0.105), as shown in Figure 2.

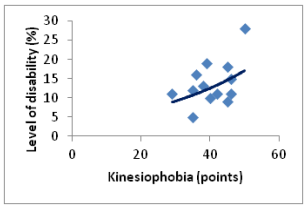

Figure 2: Partial correlation between kinesiophobia and disability level controlled by the distance walked.

DISCUSSION

In the present study was not observed correlation between levels of functional disability and kinesiophobia. The literature describes that low back pain interferes with activities of daily living (KOVACS ET AL., 2004, BARROS; ÂNGELO; UCHÔA 2011, LUSTOSA; GOULART; SILVERIO 2011). Although it seems logical to think that pain determines the level of disability in patients with low back pain, not always the intensity of pain and degree of disability correlate well (KOVACS et al. 2004).

It was observed in the analyzed sample an average score relatively high for the scale of kinesiophobia as well as the study of Reneman et al. (2007), which is consistent with that proposed by Siqueira, Texeira-Salmela and Magalhães (2007) in which pain or fear of injury reincidiva generate behaviors that prevent the movement leading to weakness of physical activity. However, despite the literature indicate relations between kinesiophobia and performance, correlation was not observed between these variables in this study.

Regarding the Oswestry scale, the data obtained in this study showed a level of disability from low to moderate, considering that the results showed a higher concentration of individuals between 10 to 20 points.

According Rondelli (2009), the 6MWT is a test that combines functional representation (desirable to the patient) with operational ease (advantageous to the examiner), proving a highly predictive test, serving as an indicator of functional capacity.

A study by Lustosa, Goulart and Silvério (2011) showed that chronic back pain interferes with functional performance and is associated with kinesiophobia, suggesting a fear to perform the movement with consequent major limitation.

One limitation of this study is that although the questionnaire and the tests used to evaluate the performance and functional capacity have high reliability documented in the literature (SIMMONDS, 2006), and examiners have been trained to implement the instruments, not been evaluated the reliability among examiners.

Another important limitation, perhaps the fact of not analyzing psychological factors such as insecurity and stress, which can contribute to the level of disability caused by pain (BOTELHO, 2005). Because it is a multifactorial syndrome, these factors should be considered, and professionals should make use of tools that can evaluate them.

CONCLUSION

In the present study, were not observed correlations between levels of kinesiophobia evaluated by the Tampa Scale of kinesiophobia and functional disability verified by the Oswestry Disability Index. The correlation did not change when controlled by the 6MWT.

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CHRONIC LOW BACK PAIN: CORRELATION BETWEEN KINESIOPHOBIA AND DISABILITY

ABSTRACT

Introduction: Low back pain has a high prevalence, etiology multidimensional and has important negative impact, both in the physical, social and psychological. Objective: To correlate the level of disability and kinesiophobia controlled performance in the six-minute walk test (6MWT). Methodology: The study included 12 subjects with chronic low back pain, four men and eight women, aged between 28 and 59 years. The kinesiophobia levels were assessed by the Scale Cover kinesiophobia. Functional disability was measured by the Oswestry Disability Index. Functional capacity was evaluated by the six-minute walk test (6MWT). Correlations were made by partial correlation test, controlled by the 6MWT. Results: There was no correlation between levels of disability and kinesiophobia (partial correlation controlled performance on the 6MWT = 0.479, p = 0.105). Conclusion: There were no correlations between levels of kinesiophobia and disability. The correlation did not change when controlled by the 6MWT.

KEYWORDS: Low back pain, functional disability, TC6.

LA LOMBALGIE CHRONIQUE: CORRÉLATION DANS KINÉSIOPHOBIE ET INCAPACITÉ

RESUMÉ

Introduction: La lombalgie a une forte prévalence de l'étiologie, multidimensionnel et a d'importantes répercussions négatives, tant sur le plan physique, social et psychologique. Objectif: corréler le niveau de incapacité et de la performance kinésiophobie contrôlée dans le test de marche de six minutes (TM6). Méthodologie: L'étude a inclus 12 sujets avec lombalgie chronique, quatre hommes et huit femmes, âgés entre 28 et 59 ans. Les niveaux kinésiophobie ont été évaluées par le kinésiophobie Couverture échelle. L'incapacité fonctionnelle a été mesurée par l'indice d'incapacité Oswestry. La capacité fonctionnelle a été évaluée par le test de marche de six minutes (TM6). Corrélations sont faites par test de corrélation partielle, contrôlée par la 6MWT. Résultats: Il n'y avait pas de corrélation entre les niveaux de incapacité et kinésiophobie (performance corrélation partielle contrôlée sur le 6MWT = 0,479, p = 0,105). Conclusion: Il y avait pas de corrélation dans les niveaux de kinésiophobie et le incapacité. La corrélation n'a pas changé lorsqu'elle est contrôlée par le 6MWT.

MOTS-CLÉS: lombalgie, le incapacité fonctionnel, TC6.

EL DOLOR CRONICO DE ESPALDA BAJA: CORRELACION ENTRE KINESIOPHOBIA Y DISCAPACIDAD

RESUMEN

Introducción: El dolor lumbar tiene una alta prevalencia, etiología multidimensional y tiene un impacto negativo importante, tanto en lo físico, social y psicológico. Objetivo: Correlacionar el grado de discapacidad y el rendimiento kinesiophobia controlada en la prueba de caminata de seis minutos (TC6). Metodología: El estudio incluyó a 12 sujetos con dolor crónico de espalda baja, cuatro hombres y ocho mujeres de edades comprendidas entre los 28 y los 59 años. Los niveles kinesiophobia fueron evaluadas por el kinesiophobia Cubierta Escala. Discapacidad funcional se mide por el índice de discapacidad de Oswestry. La capacidad funcional se evaluó mediante la prueba de caminata de seis minutos (TC6). Las correlaciones se hizo por la prueba de correlación parcial, controlada por la PM6M. Resultados: No hubo correlación entre los niveles de discapacidad y kinesiophobia (performance correlación parcial controlada en la 6MWT = 0,479, p = 0,105). Conclusión: No hubo correlación entre los niveles de kinesiophobia y discapacidad. La correlación no cambió cuando se controla por la PM6M.

PALABRAS CLAVE: Dolor de espalda baja, incapacidad funcional, TC6.

LOMBALGIA CRÔNICA: CORRELAÇÃO ENTRE CINESIOFOBIA E INCAPACIDADE

RESUMO

Introdução: A lombalgia tem alta prevalência, etiologia multidimensional e tem importante impacto negativo, tanto no âmbito físico, social e psicológico. Objetivo: Correlacionar o nível de incapacidade e de cinesiofobia controlado pelo desempenho no teste de caminhada de seis minutos (TC6). Metodologia: Participaram deste estudo 12 sujeitos lombálgicos crônicos, sendo quatro homens e oito mulheres com idade entre 28 e 59 anos. Os níveis de cinesiofobia foram avaliados pela Escala de Tampa de Cinesiofobia. A incapacidade funcional foi verificada pelo Índice de Incapacidade de Oswestry. A capacidade funcional foi avaliada pelo teste de caminhada de seis minutos (TC6). As correlações foram feitas pelo teste de correlação parcial, controlada pelo TC6. Resultados: Não houve correlação entre os níveis de incapacidade e cinesiofobia (correlação parcial controlada pelo desempenho no TC6= 0,479; p= 0,105). Conclusão: Não foram observadas correlações entre os níveis de cinesiofobia e de incapacidade. A correlação não se alterou quando controlada pelo TC6.

PALAVRAS-CHAVE: Dor lombar, incapacidade funcional, TC6.