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ORIGINAL RESEARCH

Treatment of patients of nonspecific chronic low back pain by physical therapists: a cross-sectional study

Tratamento de pacientes com dor lombar crônica inespecífica por fisioterapeutas: um estudo transversal

Tratamiento de pacientes con dolor lumbar crónico inespecífico por fisioterapeutas: un estudio transversal

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ABSTRACT | Current studies have investigated the orientation of treatment that physical therapists adopt when treating nonspecific chronic low back pain (CLBP) by assessing their attitudes and beliefs. However, in Brazil, little is known about this subject, especially in the context of the Unified Health System. This study aimed to describe the attitudes and beliefs of the physical therapists working in the Unified Health System treating patients with nonspecific chronic CLBP and to identify the relationship between their demographic and professional characteristics and the treatment guidelines for nonspecific chronic CLBP. This is a cross-sectional population-based study. Data were collected using a demographic and professional questionnaire, and the Pain Attitudes and Beliefs Scale for Physiotherapists. Forty-nine physical therapists participated in the study, and the results showed higher agreement with attitudes and beliefs related to a biomedical orientation. The score in this scale was 15.5% higher than in the behavioral one, and the correlation ($p<0.05$) between the time since graduation and the biopsychosocial treatment orientation was regular and positive. The conclusion was that biomedical beliefs were predominant among the physical therapists who treated nonspecific chronic CLBP in Unified Health System patients. This study also showed physical therapists with more time since graduation were more influenced by the biopsychosocial orientation.

Keywords | Low Back Pain; Physical Therapy Specialty; Attitude; Unified Health System.

RESUMO | Estudos atuais têm investigado a orientação de tratamento que fisioterapeutas adotam no tratamento da dor lombar crônica inespecífica (DLCI) pela avaliação de suas atitudes e crenças. Porém, no Brasil, pouco se sabe sobre essa temática principalmente no contexto do Sistema Único de Saúde (SUS). O objetivo desse estudo foi descrever atitudes e crenças dos fisioterapeutas que atuam no SUS no tratamento de pacientes com DLCI e identificar a relação entre suas características demográficas e profissionais e as orientações de tratamento da DLCI. O estudo é de base populacional e transversal. Os dados foram coletados com um questionário demográfico e

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profissional e o questionário *Pain Attitudes and Beliefs Scale for Physiotherapists*. O estudo contou com 49 fisioterapeutas e os resultados evidenciaram maior concordância com crenças e atitudes relacionadas à orientação biomédica, sendo a pontuação nessa escala 15,5% maior que na comportamental, e uma correlação regular e positiva (p<0,05) entre o tempo de formação e a orientação de tratamento biopsicossocial. Concluí-se que houve predomínio de crenças biomédicas entre os fisioterapeutas que trataram a DLCI em pacientes do SUS. O estudo também demonstrou que os fisioterapeutas com maior tempo de formação foram aqueles que apresentaram maior influência da orientação biopsicossocial.

Descritores | Dor Lombar; Fisioterapia; Atitude; Sistema Único de Saúde.

RESUMEN | Estudios recientes han investigado la orientación de tratamiento que los fisioterapeutas adoptan en el tratamiento del dolor lumbar crónico inespecífico (DLCI) por la evaluación de sus actitudes y creencias. Sin embargo, en Brasil, poco se sabe sobre esa temática principalmente en el contexto del Sistema Único de Salud (SUS). El objetivo de este estudio fue describir actitudes y creencias de los fisioterapeutas que actúan en el SUS en el tratamiento de pacientes con DLCI e identificar la relación entre sus características demográficas y profesionales y las orientaciones de tratamiento de la DLCI. El estudio es de base poblacional y transversal. Los datos fueron recolectados con un cuestionario demográfico y profesional y el cuestionario *Pain Attitudes and Beliefs Scale for Physiotherapists*. El estudio contó con 49 fisioterapeutas y los resultados evidenciaron mayor concordancia con creencias y actitudes relacionadas a la orientación biomédica, siendo la puntuación en esa escala 15,5% mayor que en la conductual, y una correlación regular y positiva (p <0,05) entre el tiempo de formación y la orientación de tratamiento biopsicosocial. Se concluyó que hubo predominio de creencias biomédicas entre los fisioterapeutas que trataron la DLCI en pacientes del SUS. El estudio también demostró que los fisioterapeutas con mayor tiempo de formación fueron aquellos que presentaron mayor influencia de la orientación biopsicosocial.

Palabras clave | Dolor de la Región Lumbar; Fisioterapia; Actitud; Sistema Único de Salud.

INTRODUCTION

Low back pain is one of the most common musculoskeletal complaints in the world, and the one-year median of global prevalence in the adult population is 37% in the middle age, affecting more women than men[1]. In 2015, the global point prevalence of activity-limiting low back pain was 7.3%, which means that 540 million people were affected. Recently, the chronic low back pain is considered the top cause of disability (which increases with age) and work leaves worldwide[1,2]. In Brazil, the 2013 National Health Survey data showed a prevalence of 18.5% of complaints related to chronic spine problems. According to the state survey data, Rio Grande do Sul showed the highest number of chronic back pain cases proportionally, with an average of 22% of the population. Among the respondents who had chronic spine problem, 17.1% reported intense or very intense degree of limitations in usual activities because of this complaint[3].

In most cases of chronic low back pain, defining a specific cause for the pain is not possible; therefore, it is understood as a multidimensional phenomenon that involves, for example, physical and emotional suffering, functional disability and reduction in social participation[4]. In these cases, the pain is classified as nonspecific (nonspecific CLBP)[5], and several clinical guidelines have pointed the biopsychosocial treatment orientation as the most suitable for the treatment of patients with this classification[6]. This perspective considers that the pain and disability are influenced by organic, psychological, and social factors and that its treatment should emphasize elements that are obstacles to recovery and to return to occupational activities, not being limited to pain relief[4]. On the other hand, the focus of the therapeutic approach on symptom relief is related to a practice based on the biomedical model, which can lead the professional to consider the pain the result of structural abnormalities only and ignore the differences in the way people experience, respond to and deal with pain[4].

As the recommendations of the guidelines are linked to the biopsychosocial orientation, investigating the therapeutic approach of nonspecific CLBP used by health professionals also involves the use of the guidelines in the clinical routine[7]. Current studies conducted in different countries show the attitudes and beliefs adopted by health workers when treating nonspecific CLBP are identified with biomedical treatment orientation[8-10]. A single study on this topic was found in Brazil until the moment[11], whose authors conclude that the physical therapists interviewed are uncertain regarding the treatment orientation for nonspecific CLBP patients'

care. This study did not include physical therapists in the Southern Brazil and was not limited to investigating professionals providing services to patients of the Unified Health System (SUS)[11].

In addition, the personal and social losses caused by nonspecific CLBP indicate the importance of effective provision of services, which justifies the conduction of studies on this subject to know how the health services provided to the population have led the therapeutic approach of nonspecific CLBP and whether the recommendations present in the clinical guidelines have been implemented by professionals. In this sense, our study aimed to describe attitudes and beliefs of the physical therapists working at SUS caring for nonspecific CLBP patients and to identify the relationship between the demographic and professional characteristics and the nonspecific CLBP treatment guidelines.

METHODOLOGY

This is a population-based cross-sectional study, conducted in July and August 2014, in which physical therapists who treat nonspecific CLBP patients from SUS in Porto Alegre participated. This study was approved by the General Coordination of Primary Care, Outpatient Specialized Services, and Substitution Services (CGAPSES) of the Municipal Department of Health of Porto Alegre, as well as by the Ethics and Research Committees of the Universidade Federal do Rio Grande do Sul (UFRGS) and the City Hall of Porto Alegre. Information about health services that provided physical therapy care to patients from SUS in Porto Alegre were obtained by contacting CGAPSES. Then, coordinators of the physical therapy services at City Hall were contacted, as well as the prime contractors from partner private clinics, and days and times suitable for data collection were scheduled.

The inclusion criteria were: being a physical therapist; working in the primary and intermediate health care for at least six months; and caring for at least one nonspecific CLBP patient per week. The physical therapists who agreed to participate in the study signed the Informed Consent Form (ICF).

Participants answered a professional and demographic data questionnaire (age, gender, time since graduation, graduate institution, post-graduation, workplace and use of any bibliographic reference on the CLBP treatment) and filled out the questionnaire Pain Attitudes and Beliefs Scale for Physiotherapists (PABS-PT), which assesses beliefs and attitudes related to two treatment guidelines for the management of the nonspecific CLBP: biomedical (1-10 items) and behavioral (11-19 items). This questionnaire was translated and adapted to the Portuguese by Magalhães et al.[12], and the behavioral scale refers to the biopsychosocial treatment orientation. Each of the 19 items is computed by Likert scale of 6 points (from 0 to 5 points); therefore, the score of the biomedical scale ranges from 0 to 50, and the behavioral scale from 0 to 45. To make it clear to participants which condition was addressed in the study, the questionnaire contained a characterization and brief explanation of the nonspecific CLBP in its header. The collections were made by two researchers, and the questionnaires were filled out in person by physical therapists in their workplaces. During the collections, each filled questionnaire was reviewed by the researchers to verify whether all questions had been answered.

The questionnaire PABS-PT is self-administered, has no cutoff point and no right or wrong answer. The sum of the items of each scale of PABS-PT is done, and each physical therapist obtains two scores. The highest score in one of the scales indicates a stronger orientation of biomedical or biopsychosocial treatment. To classify the professionals within a biomedical or biopsychosocial profile, the mean value of the questions in each scale was calculated and, subsequently, the average value of the behavioral scale was subtracted from the mean value of the biomedical scale. With the positive result of the subtraction, the professional was classified as biomedical, and with negative result, as biopsychosocial.

Statistical analysis was performed using the SPSS software v. 2.0. Initially, the data distribution was confirmed with the Kolmogorov-Smirnov test. To correlate the continuous, demographic (age) and professional (time since graduation) variables with the scores of scales of the PABS-PT questionnaire, the Spearman correlation test was used. To compare categorical variables (gender, post-graduation and workplace) in each of the scales in the PABS-PT questionnaire, the Independent t test was used. Correlations with values from 0 to 0.3 were considered weak; from 0.3 to 0.6, regular; from 0.6 to 0.9, strong; and from 0.9 to 1, very strong[13].

RESULTS

According to CGAPSES, the city hall of Porto Alegre had 15 physical therapists in primary and

intermediate healthcare services in its staff in July 2014. The prime contractors of the private clinics in partnership with the city hall were informed that there were 42 physical therapists in its establishments. Therefore, this study population consists of 57 physical therapists who worked in health services that provided care for patients from SUS in Porto Alegre from July to August 2014.

Six physical therapists of the city hall participated in the study: one was on vacation and five were not providing care for patients because three of them were allocated in matrix teams and two were in the reference center in occupational health (Cerest). Among the physical therapists of the private clinics in partnership with SUS, two did not participate in the study: one did not agree to participate in the study and one worked less than six months caring for patients from SUS. Thus, forty-nine physical therapists participated in this study; nine employees of the health services of the primary and intermediate healthcare of the city hall and 40 employees of partner private clinics. The main demographic and professional characteristics of the participants are shown in Table 1.

Table 1. Demographic and professional characteristics of participants (n=49)

Characteristics	Mean and standard deviation
Age	35.3 (10.1)
Time since graduation	9.5 (9.9)
Characteristics	**Number of physical therapists (%)**
Gender Male Female	 19 (38.8%) 30 (61.2%)
Universidade de Fortaleza. Public Private	 5 (10.2%) 43 (87.8%)
Post-graduation No Specialization Master's degree Doctoral degree	 16 (32.7%) 31 (63.3%) 2 (4%) 1 (2%)
Workplace City Hall services Services in partnership with the city hall	 9 (18.4%) 40 (81.6%)
Use of reference for treatment of nonspecific CLBP* No Yes Books Articles Sites	 42 (85.7%) 7 (14.9%) 4 (8.7%) 2 (4.1%) 3 (6.1%)

* The physical therapist could cite more than one option

Table 2 shows the results of the classification of professionals according to the biomedical or biopsychosocial profile. Among the professionals classified in the biopsychosocial profile, four work in clinics and three in the services of city hall. When analyzing the PABS-PT scores, an average of 31.2 (5.5) was identified in the biomedical scale, corresponding to 62.4% of the maximum score of the questionnaire on this scale, which ranges from 0 to 50 points. In the behavioral scale, the average score was 21.1 (5.0), corresponding to 46.9% of the maximum score of the questionnaire on this scale, ranging from 0 to 45. Among all the demographic and professional characteristics searched, only the time since graduation showed significant and positive correlation; however, it was regular with the PABS-PT behavioral scale (Table 3). Categorical variables (gender, post-graduation and workplace) were similar in both biomedical and behavioral scales (Table 4).

Table 2. Profile of the attitudes and beliefs of physical therapists (n=49)

Profile	Frequency	Percentage
Biomedical	42	85.7
Behavioral	7	14.3
Total	**49**	**100**

Table 3. Correlation between continuous variables and PABS-PT scores

Variables	Biomedical score		Behavioral score	
	rho#	P	rho#	P
Age (n=49)	-.067	0.647	.262	0.690
Time since graduation (n=49)	-.237	0.101	.325*	0.023

Spearman correlation value for continuous variables.
* Significant correlation

Table 4. Comparison between categorical variables in each of the PABS-PT scores

Variables	Biomedical score		Behavioral score	
	Mean (SD)	p*	Mean (SD)	p*
Gender Male (n=19) Female (n = 30)	 30.8 (5.6) 31.4 (5.6)	0.719	 21.6 (2.9) 20.9 (6.0)	0.581
Post-graduation Yes (n=18) No (n=31)	 31.6 (3.9) 31.0 (6.3)	0.738	 20.3 (3.3) 21.6 (5.8)	0.328
Workplace Services of city hall (n=9) Services in partnership with the city hall (n=40)	 28.9 (7.5) 31.7 (4.9)	0.166	 23.1 (6.0) 20.7 (4.7)	0.195

* t test p value

DISCUSSION

The results showed the physical therapists of this study treat nonspecific CLBP patients from SUS according to the biomedical orientation, and the score on this scale is 15.5% higher than that of behavioral scale. A regular and positive correlation between time since graduation and biopsychosocial treatment orientation indicates that the higher the time since graduation of the physical therapists, the greater the influence of the biopsychosocial orientation. This suggests that gaining experience allowed these physical therapists to understand that pain and the disability related to it are linked to the patients' social and economic context, as well as their beliefs about pain, and that the treatment aimed only at physical symptoms is insufficient[14,15]. One can also suggest the hypothesis that Brazilian universities have not prioritized a biopsychosocial perspective about nonspecific CLBP when training the students, causing the physical therapists to start their careers still very linked to the biomedical perspective.

In a previous study with Brazilian physical therapists[11], the predominance of beliefs and attitudes related to the biopsychosocial treatment orientation was also not identified, as proposed in the clinical guidelines for nonspecific CLBP treatment. However, unlike the results of this study, the mean scores on the scales of the previous study[11] were very close, showing the lack of predominance of orientation for treatment of nonspecific CLBP between those physical therapists. Regarding the association between demographic and professional data, the results of the previous study conducted in Brazil[11] show male physical therapists with shorter time since graduation are more biomedical oriented, while this study showed a correlation between such variable and biopsychosocial orientation. These findings are relevant, because they show that so far, in Brazil, the time since graduation of the physical therapist influences the vision of this professional concerning the nonspecific CLBP, with evidence that more experienced physical therapists are more prone to a biopsychosocial perspective.

The analysis of the answers of the PABS-PT showed men and women of this study showed very similar scores on both scales and age showed weak and negative correlation with the biomedical scale. These results differ from those of study with Dutch physical therapists[16], in which the female sex was significantly associated with the PABS-PT behavioral scale; and the age greater than or equal to 42 years, with the biomedical scale. The literature also evidences the influence of the physical therapist's working sector, public or private, on the answers to the PABS-PT questionnaire[9]. A study from Canada[9] identified that scores of public sector physical therapists from the province of Quebec were significantly lower in the PABS-PT biomedical scale than those of private sector professionals. These results contrast with the findings of this study, which identified that the working sector of the physical therapist, public or private, did not influence significantly the answers to the questionnaire.

Studies conducted in Canada[9], Holland[16], the United Kingdom[18] and New Zealand[7] also used the PABS-PT questionnaire to determine physical therapists' attitudes and beliefs. The results of these studies demonstrate a greater influence of biopsychosocial orientation among the physical therapists evaluated, indicating greater alignment of professionals with the current clinical guidelines. This may be related to the training of these professionals and to the fact that these countries have published guidelines for treating nonspecific CLBP to disseminate the knowledge of the evidence-based practice[6,19].

Unlike the studies from these developed countries, this study identified that beliefs and attitudes related to a biomedical treatment orientation are still prevalent among physical therapists who work in SUS. This result has important implications since the understanding of nonspecific CLBP based on the biomedical approach has been associated with ineffective recommendations, such as suggesting that patients should limit their levels of labor activities and daily life[20]. These recommendations can hamper the treatment of nonspecific CLBP and the return of patients to their activities[22], considering that they reinforce negative beliefs in patients such as fear of the movement, recognized as important obstacles to recovery[22]. Thus, the guidelines for treating nonspecific CLBP mention the importance of professionals recommending to patients to maintain an active lifestyle despite the pain, treating nonspecific CLBP according to the biopsychosocial[6] orientation.

Faced with the predominance of the biomedical perspective of pain among the physical therapists from SUS evidenced in this study, the need for investing in the dissemination of clinical guidelines for these professionals to achieve as a benefit a greater understanding of the biopsychosocial approach. This demonstrates the relevance of this study for health

managers, considering the importance of nonspecific CLBP both as reason for disability and as a big contributor to health[23] spendings.

Despite this relevance, one cannot apply its findings to physical therapists from other cities or regions of the country, since the professionals we studied cannot be considered representative of the physical therapists. Thus, the conduction of similar studies in other Brazilian cities, with samples representing the population, is important to verification of whether the findings within the local context are consistent with the practice in other places of the country.

PABS-PT itself is one of the limitations of this study, given that, for being a closed questionnaire, it provides only superficial answers and does not allow the respondent to expose different opinions regarding the questions presented.

CONCLUSION

From the context presented, the conclusion is that biomedical beliefs are predominant among the physical therapists who treated nonspecific CLBP in patients from SUS. This study also showed the physical therapists with longer time since formation were those who had the greatest influence of the biopsychosocial orientation.

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