

Beliefs and attitudes about chronic pain among public health professionals: cross-sectional study

Crenças e atitudes sobre dor crônica de profissionais de saúde pública: estudo transversal

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ABSTRACT

BACKGROUND AND OBJECTIVES: The barriers of scientific knowledge and adequate training can influence the skills of health professionals in the management of chronic pain in non-specialized environments. The aim of this study was to assess the beliefs and attitudes of the Brazilian public health care system's (*Sistema Único de Saúde - SUS*) professionals who work in the care of patients with chronic pain in the clinical routine.

METHODS: This is a cross-sectional study carried out with non-specialized pain professionals from primary and medium-complexity care, assessed by the Inventory of Attitudes towards Pain. Participants were grouped by place of work and length of training for comparison analysis using the t-test for independent samples. Effect sizes were calculated (η^2 generalized), and the level of statistical significance was set at $p < 0.05$.

RESULTS: Seventy health professionals took part in this study. They presented undesirable beliefs about curing pain and caring behaviors. They also had desirable beliefs about the influence of emotions, the relationship between pain and tissue damage and the possibility of control by those who feel it. An effect of place of practice was also observed, with undesirable beliefs among

primary care professionals about pain-related disability, and also an effect on length of training for the control domain, with less desirable beliefs among those with less than ten years of training. **CONCLUSION:** The undesirable beliefs presented by the health professionals allow for a situational diagnosis that indicates the need for continuing education in chronic pain in order to implement training with evidence-based practices in the SUS care routine.

Keywords: Chronic pain, Health belief model, Public Health.

RESUMO

JUSTIFICATIVA E OBJETIVOS: As barreiras do conhecimento científico e do treinamento adequado podem influenciar as competências dos profissionais de saúde no manejo da dor crônica em ambientes não especializados. O objetivo deste estudo foi avaliar as crenças e atitudes de profissionais do Sistema Único de Saúde (SUS) que atuam no cuidado de pacientes com dor crônica na rotina clínica.

MÉTODOS: Trata-se de um estudo transversal sobre atenção primária e de média complexidade realizado com profissionais não especialistas em dor, avaliados pelo Inventário de Atitudes Frente à Dor. Os participantes foram agrupados por local de atuação e tempo de formação para a análise de comparação através do teste *t* para amostras independentes. Foram calculados os tamanhos de efeito (η^2 generalizado) e o nível de significância estatística foi definido em $p < 0,05$.

RESULTADOS: Participaram deste estudo 70 profissionais de saúde, que apresentaram crenças indesejáveis a respeito da cura da dor e de comportamentos de solicitude. Esses profissionais também apresentaram crenças desejáveis quanto a influência das emoções, relação da dor com lesão tecidual e possibilidade de controle por quem a sente. Foi observado um efeito do local de atuação, com crenças indesejáveis dos profissionais da atenção primária sobre incapacidade relativa à dor, além de um efeito sobre o tempo de formação para o domínio controle, com crenças menos desejáveis entre aqueles com menos de dez anos de formação.

CONCLUSÃO: As crenças indesejáveis apresentadas pelos profissionais permitem um diagnóstico situacional que indica a necessidade de educação continuada em dor crônica para implementar treinamentos com práticas baseadas em evidências na rotina de cuidado do SUS.

Descritores: Dor crônica, Modelo de crenças de saúde, Saúde Pública.

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HIGHLIGHTS

- Municipal SUS professionals had undesirable beliefs about curing chronic pain.
- Primary care professionals had dysfunctional beliefs about pain and disability.
- Need for continuing education in chronic pain and soft skills training.

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INTRODUCTION

Chronic pain (CP) is defined as pain that persists or recurs for more than 3 months and its management is a complex challenge in routine clinical care^{1,2}. Even though it is one of the most frequent causes of consultations in the public sector, generating high costs, this condition is still underestimated due to lack of diagnosis and low priority in health services^{1,3,4}.

The updating of scientific knowledge and the development of training are concentrated in specialized centers and universities that are unable to assist the majority of the population⁵. In Brazil, there is no structured line of care for CP treatment in the Public Health System (*Sistema Único de Saúde* – SUS) in order to guide the care pathway at the different levels and qualify the offer of services centered on the needs of the individual⁶.

The use of the new systematic classification integrated by the 11th Revision of the International Classification of Diseases (ICD-11) would facilitate CP identification early in the course of the disease and faster diagnosis in services of first contact with the patient, such as primary care¹. Expanding access to treatment throughout the healthcare network is a necessary challenge given the high prevalence of CP in Brazil⁷ and the comorbidities associated with this chronic condition^{3,8}.

Recent data from systematic reviews have shown that CP affects 35.7% of the adult population and 47.32% of the seniors in the country, and is associated with significant suffering, disability and more frequent medical consultations⁷. This scenario may be aggravated by evidence of the emergence of new cases of CP after COVID-19 and the worsening of existing pain in specific groups after Coronavirus infection^{9,10}.

Given the multidimensional factors involved, international clinical best practice guidelines recommend approaches that involve lifestyle change, physical activity, mental health, social interactions and a supported care plan^{11,12}. This integrative model is in line with the principles of SUS primary care and can be included in health promotion programs for users with CP^{13,14}.

In addition, pain education is a complementary intervention to the treatment program, recognized for providing information for patient decision-making in the management of their condition, with the aim of reconceptualizing pain perception and dysfunctional beliefs, reducing disability¹⁵⁻¹⁷. It is a light technology, reproducible in groups and recognized by the World Health Organization (WHO) as a way of promoting equity in low-resource environments¹⁸.

However, the training of professionals in a biomedical model of care and the lack of adequate training can represent an obstacle to the implementation of scientific evidence in clinical practice^{19,20}, especially in health services serving the general public^{4,8}. The knowledge barrier can generate dysfunctional beliefs and attitudes in health professionals that will impact on patients' beliefs about their condition^{21,22} and affect the clinical outcomes of the treatment program¹⁷.

Beliefs are pre-existing notions that reside in cognition and shape our perception of ourselves, others and the environment²³. Attitudes involve beliefs, feelings, values and predispositions to act in a certain way²⁴. Both are culturally learned and shared, predisposing behavior within interaction groups^{23,24}. The literature shows that

beliefs and attitudes influence therapeutic decision-making²⁵⁻²⁷ and the health education to be carried out^{17,28}.

To date, little research has studied the clinical competencies of non-pain professionals working in the SUS²⁹ who are responsible for caring for patients with CP in routine care settings. Investigating these characteristics and the gaps in service provision at different points in the network is important to support the implementation of more effective and evidence-based therapeutic strategies^{8,19,30}, as well as to direct the training and continuing education of health professionals³¹.

The present study's primary objective was to describe the beliefs and attitudes of health professionals in relation to CP who work in primary care and in the medium-complexity area of a municipal public service. As a secondary objective, we analyzed the hypothesis that the beliefs and attitudes of this population are influenced by characteristics such as place of work and length of training.

METHODS

The protocol for this study was approved by a Consent Form from the Municipal Health Department of Anchieta (ES) and by the Research Ethics Committee (opinion number 5.614.114) before it was carried out, in accordance with Resolution 466/12 of the National Health Council. The participants received an explanation of the objectives of this research at a team meeting at each workplace, and signed the Free and Informed Consent Term (FICT).

Study design

This is an analytical, cross-sectional observational study. This study was written following the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines³².

Participants and venue

The sample was selected by convenience, made up of professionals working in the health care network of a municipality in the state of Espírito Santo (Brazil) and who treated patients with CP in their daily clinical practice in the SUS service. Doctors, physiotherapists, dentists, nurses, psychologists, nutritionists, physical educators, occupational therapists and social workers who work in the Family Health Strategy (ESF), the Unified Specialties Center (CEU) and the Psychosocial Care Center (CAPS) were invited to take part.

Data collection took place between September 2022 and May 2023. Exclusion criteria were having a specialization in pain and refusing to take part in the study.

Instruments and variables

The evaluation was carried out individually and accompanied by a single evaluator, experienced in CP. The evaluation form was filled in by the participants themselves and consisted of personal data (profession, place of work, length of training and academic qualifications) and the Inventory of Attitudes to Pain (IAP), which identifies the beliefs and attitudes of health professionals towards CP. IAP-professionals was adapted from the Inventory of Attitudes towards Pain-Brief (IAP-Brief), tested in a study conducted by

the Nursing School of the University of São Paulo (USP) in pain centers of public and private entities in the city of São Paulo. This inventory was validated with 20 items and 6 domains: control, emotion, disability, physical harm, Solicitude and medical cure³³. The control domain (items 1, 8, 11 and 13) refers to the extent to which the health professional believes that the pain can be controlled by those who feel it. The emotion domain (items 3, 6, 9 and 16) relates to the extent to which emotions influence the pain experience, addressing issues of anxiety, depression and stress. The disability domain (items 14 and 17) addresses the belief in pain as a factor in disability. The domain harm (items 7, 10, 18 and 19) deals with the belief in pain as an indication of injury and whether physical exercise should be avoided. The domain solicitude (items 2, 4, 5 and 12) analyzes the correlation of attention from others to the person in pain. The domain cure (items 15 and 20) refers to the extent to which the health professional believes in a medical cure for pain³³.

The instrument is self-administered, with participants indicating their agreement with each statement in 5-point Likert-type items, ranging from 0 to 4 (0 = totally false, 1 = almost false, 2 = neither true nor false, 3 = almost true, 4 = totally true). The score for each domain was calculated by adding up the points for each item, divided by the number of items answered, with the final average score ranging from 0 to 4³³.

There were more desirable response orientations because they were considered by the author of the inventory to be more adaptive. The scores were classified as highly or moderately desirable according to the cut-off points³³. The classification of beliefs as desirable or undesirable does not represent right or wrong, only that they are more or less functional/adaptive in the recovery process, and can contribute to disabilities and unrealistic expectations³³.

Statistical analysis

The data was stored in an electronic spreadsheet (Excel, Office for Mac, Microsoft Corporation, USA) and analyzed using the R software version 4.2.1.

The characterization of the study population and the analysis of the IAP-professionals domains were carried out using descriptive statistics of mean and standard deviation (SD) for numerical variables, and absolute and relative frequency for categorical variables. To test the hypothesis that the characteristics of health professionals can influence their beliefs about CP, a comparison analysis was carried out. The participants were grouped by place of work (ESF, CEU and CAPS) for analysis of variance and by length of training (<10 years and ≥ 10 years) for analysis using the t-test for independent samples. Generalized eta-squared effect sizes (generalized η^2) were calculated, along with p-values for the null hypotheses of no difference between groups. The level of statistical significance was set at $p < 0.05$.

RESULTS

This study included 70 respondents. In addition, 5 health professionals were excluded for refusing to take part in the survey. The most frequent professions in this sample were nurses (30.0%), doctors (27.1%) and dentists (15.7%), this proportion being characteristic of primary care and representative of the municipal

health network with nine ESF units. In medium-complexity services, the most frequent professions were physiotherapist (8.6%) and psychologist (8.6%). The average length of training was 14.2 ± 9.77 years and the most frequent qualification was specialization (77.1%) (Table 1).

Beliefs and attitudes towards pain

In the broad context of the health care network, the health professionals had scores [mean (SD)] compatible with desirable beliefs for the domains: control [2.92 (0.60)], emotion [3.66 (0.57)] and harm [1.28 (0.68)], in relation to CP. However, they had undesirable beliefs for the solicitude [2.73 (0.71)] and medical cure [3.41 (0.60)] domains. The disability domain had a neutral score [2.00 (0.90)] (Table 2).

Table 3 shows the frequency of responses for the 20 items of the IAP-professionals separated by their respective domains. It is worth noting that in the beliefs and attitudes that evaluate care and treatment, the majority of health professionals believed in curing pain (72.9%), that people in pain should receive more

Table 1. Description of sample characteristics

Variables	Description (n=70)
Profession	
Nurse	21 (30.0%)
Doctor	19 (27.1%)
Dentist	11 (15.7%)
Physiotherapist	6 (8.6%)
Psychologist	6 (8.6%)
Social worker	2 (2.9%)
Physical educator	2 (2.9%)
Nutritionist	2 (2.9%)
Occupational therapist	1 (1.4%)
Length of training (years) Mean (SD)	14.2 (9.77)
Higher degree	
Graduation	12 (17.1%)
Specialization	54 (77.1%)
Master's Degree	3 (4.3%)
Doctorate	1 (1.4%)

Mean (standard deviation) or n (%).

Table 2. Descriptive analysis of professionals' beliefs by domain of the Inventory of Attitudes to Pain - Professional version (n = 70)

Domains	Desirable score	Mean (SD)	Classification (Cut-off point)
Control	4	2.92 (0.60)	Moderately desirable (>2-3)
Emotion	4	3.66 (0.57)	Highly desirable (>3)
Disability	0	2.00 (0.90)	Neutral
Harm	0	1.28 (0.68)	Moderately desirable (< 2-1)
Solicitude	0	2.73 (0.71)	Moderately undesirable (>2-3)
Cure	0	3.41 (0.60)	Highly undesirable (>3)

Table 3. Frequency distribution of responses per item of the Inventory of Attitudes to Pain - Professionals version

Domains	Questions	Totally false (%)	Almost fake (%)	Neither true nor false (%)	Almost true (%)	Totally true (%)
Control						
Q1	The patient can often influence the intensity of the pain	1.4	4.3	17.1	47.1	30.0
Q8	Pain can be reduced through concentration or relaxation	0.0	2.9	10.0	51.4	35.7
Q11	It is possible to control pain by changing your thoughts	2.9	8.6	32.9	37.1	18.6
Q13	It is certainly possible to learn to deal with pain	2.9	8.6	18.6	37.1	32.9
Emotion						
Q3	Anxiety increases pain	1.4	0.0	2.9	20	75.7
Q6	Stress increases pain	1.4	0.0	1.4	20	77.1
Q9	Depression increases pain	1.4	1.4	5.7	25.7	65.7
Q16	There is a strong link between emotions and the intensity of pain	1.4	0.0	2.9	18.6	77.1
Disability						
Q14	Pain is not an impediment to leading a physically active life	12.9	12.9	37.1	28.6	8.6
Q17	The person with pain can do almost everything they did before they had pain	8.6	25.7	37.1	21.4	7.1
Solicitude						
Q2	Whenever someone is in pain, the family should treat them better	2.9	2.9	47.1	25.7	21.4
Q4	Whenever someone feels pain, people should treat them with care and concern	2.9	2.9	21.4	42.9	30.0
Q5	It is the responsibility of those who love the patient to help them when they feel pain	4.3	4.3	20	35.7	35.7
Q12	Often, when a person is in pain, they need to receive more affection than they are getting	1.4	8.6	47.1	31.4	11.4
Cure						
Q15	Physical pain will never be cured	44.3	28.6	24.3	2.9	0.0
Q20	There is no medical procedure that helps with pain	75.7	17.1	5.7	1.4	0.0
Harm						
Q7	Exercise and movement are good for pain patients	2.9	4.3	27.1	28.6	37.1
Q10	Exercise can make the pain worse	4.3	22.9	51.4	14.3	7.1
Q18	If the person with pain doesn't exercise regularly, the pain will continue to worsen	2.9	7.1	37.1	31.4	21.4
Q19	Exercise can reduce the intensity of pain	0.0	0.0	17.1	35.7	47.1

help (71.4%) and be treated with more concern (72.9%), and that it is the responsibility of others to help when they feel pain (71.4%).

When analyzing the relationship between pain and the possible severity of tissue damage, 65.7% of the sample believed that movements and exercises are good for people with pain and that practicing them can help reduce the intensity of pain (82.8%). However, with regard to beliefs about pain and disability, the "neither true nor false" alternative prevailed (37.1%) for questions that assessed whether the person with pain could lead a physically active life (Table 3).

As for the cognitive and emotional dimensions of pain, 70% of the professionals believed that it is possible to learn to deal with pain, either by controlling thoughts (55.7%) or with concentration and relaxation techniques (87.1%). The majority of participants believed that depression can increase pain (91.4%), as well as stress (97.1%) and anxiety (95.7%) (Table 3).

Effect of professional characteristics on beliefs and attitudes towards pain

The analysis of variance showed the effect of the place of work of health professionals on beliefs about disability ($F_{2,67} = 4.992$,

Table 4. Comparison of the domains of the Inventory of Attitudes to Pain - Professional version between groups by place of work

Variables	Sample n = 70 ¹	CAPS n = 8 ¹	CEU n = 20 ¹	ESF n = 42 ¹	Effect size (generalized η^2)	p-value ²	CAPS vs. CEU ³	CAPS vs. ESF ³	CEU vs. ESF ³
Control	2.92 (0.60)	2.72 (0.67)	3.15 (0.52)	2.85 (0.60)	0.064	0.109	-	-	-
Emotion	3.66 (0.57)	3.78 (0.36)	3.70 (0.43)	3.61 (0.66)	0.011	0.697	-	-	-
Disability	2.00 (0.90)	1.88 (1.03)	1.53 (0.60)	2.25 (0.92)	0.130	0.010*	0.330	0.258	0.003*
Harm	1.28 (0.68)	1.31 (0.53)	1.01 (0.60)	1.40 (0.71)	0.066	0.101	-	-	-
Solicitude	2.73 (0.71)	2.41 (0.79)	2.81 (0.65)	2.75 (0.73)	0.028	0.384	-	-	-
Cure	3.41 (0.60)	3.63 (0.44)	3.23 (0.73)	3.45 (0.55)	0.045	0.215	-	-	-

¹Mean (SD); ²Analysis of Variance (ad hoc); ³T-test for independent samples (post hoc); *p < 0.05.

Table 5. Comparison of the domains of the Inventory of Attitudes to Pain - Professional version between groups by length of training

Variables	Sample n = 70 ¹	< 10 years n = 22 ¹	≥ 10 years n = 48 ¹	Effect size (generalized η^2)	p-value ²
Control	2.92 (0.60)	2.61 (0.55)	3.06 (0.57)	0.123	0.003*
Emotion	3.66 (0.57)	3.70 (0.32)	3.64 (0.66)	0.003	0.642
Disability	2.00 (0.90)	2.23 (0.84)	1.90 (0.92)	0.030	0.154
Harm	1.28 (0.68)	1.30 (0.70)	1.28 (0.67)	0.000	0.912
Solicitude	2.73 (0.71)	2.90 (0.54)	2.65 (0.77)	0.026	0.182
Cure	3.41 (0.60)	3.48 (0.52)	3.38 (0.64)	0.006	0.514

¹Mean (SD); ²Independent samples t-test; * p < 0.05.

p = 0.010). In the *post hoc* analysis, a significant difference was observed between professionals working in the specialty center (CEU) and those working in primary care (ESF) (1.53 [0.60] vs. 2.25 [0.92], p = 0.003) (Table 4).

Primary care professionals had a score classified as moderately undesirable for the disability domain. There were no significant effects of place of work on the variables control ($F_{2,67} = 2.291$, p = 0.109), emotion ($F_{2,67} = 0.363$, p = 0.697), injury ($F_{2,67} = 2.375$, p = 0.101), diligence ($F_{2,67} = 0.970$, p = 0.384) and healing ($F_{2,67} = 1.575$, p = 0.215) (Table 4).

When the groups were analyzed by length of training (Table 5), a significant effect was observed in the control variable (<10 years vs. ≥ 10 years: 2.61 [0.55] vs. 3.06 [0.57], $t_{68} = 3.09$, p = 0.003). Professionals who graduated from the oldest undergraduate programs had highly desirable beliefs in this domain, while those who graduated less recently had a score classified as moderately desirable. There were no significant effects of the length of training on the variables emotion ($t_{68} = -0.470$, p = 0.642), disability ($t_{68} = -1.440$, p = 0.154), Injury ($t_{68} = -0.110$, p = 0.912), diligence ($t_{68} = -1.350$, p = 0.182) and healing ($t_{68} = -0.660$, p = 0.514).

DISCUSSION

The results showed that health care professionals had beliefs and attitudes considered desirable in relation to the domains that assessed the possibility of pain control by those who feel it, the influence of emotions on pain and the relationship between pain and tissue damage. However, they presented undesirable beliefs for the diligence and healing domains, as well as a neutral score

for the incapacity domain, which are fundamental factors to consider in the management of CP by the health team.

The highlight of this research was to study the characteristics of non-pain specialist SUS professionals working in primary care, where CP is one of the most common morbidities that occur concomitantly with other chronic conditions^{5,8,34}. In addition to including professionals from specialized psychosocial and outpatient care, completing the integrality of care³⁵.

The sample was typical of a municipal public health service, with a predominance of ESF professionals (72.8%), who are important for coordinating care and organizing the network³⁵. The management of CP in the services where patients first come into contact with the disease gained emphasis after CP was recognized as a disease by the ICD-11, favoring the opportunity for early diagnosis and intervention^{2,5}.

The new codes proposed make it easier to record the most important parameters in pain assessment and to target multimodal approaches, which helps to guide care by health professionals who are not specialists on pain⁵. These professionals may not have adequate education and training for the most effective management of CP, maintaining a biomedical model of care, with greater importance given to the severity of tissue damage when determining a patient's level of pain and functional incapacity^{28,29}.

The literature shows an association between the biomedical approach of therapists and unfavorable beliefs in the treatment of CP, such as recommending rest^{21,22}, greater perception of injury and the use of passive therapies²¹, as well as advice to restrict return to work and limit activities^{21,22,27,28}.

These constructs characterize the disability domain of the questionnaire applied in this study, which resulted in a neutral overall score, in which the majority of health network professionals were unsure whether pain prevents them from leading a physically active life and

whether patients can carry out their usual activities. A multicenter study on a primary care network in the United States showed that the subjective nature of pain and the lack of clarity in diagnosis can cause greater divergence in the attitudes of professionals in practice, with clinical decisions based on previous experiences³⁶.

Contexts of uncertainty are frequent in pain clinics. A survey of physiotherapists working with CP in Canada showed that professionals with a greater intolerance of uncertainty tended to take a more biomedical approach, giving more restrictive guidelines for activities for fear of the patient having an adverse reaction. However, older professionals with more clinical experience were less afraid of dealing with pain²⁶.

This study also showed different results when analyzing the groups by place of work and length of training, confirming the hypothesis that beliefs and attitudes can be influenced by the characteristics of the professionals. These data are in line with other studies which suggest that professional characteristics interfere with beliefs and therapeutic decisions when comparing age, gender and length of experience in different practice groups, such as dentistry³⁷, nursing³⁸, medicine³⁹ and physiotherapy^{25,26,40}.

The group working in ESF, which was responsible for the ongoing care of patients¹⁴, had undesirable beliefs in the disability domain. In the *post hoc* analysis, there was a significant difference between the professionals working in CEU vs. ESF (1.53 [0.60] vs. 2.25 [0.92], $p = 0.003$). This result can be explained by the higher proportion of nurses and dentists in this sample, which influences their clinical experience in pain management. In addition, the group with less than 10 years of training had moderately desirable beliefs for the control domain, and a significant effect was observed in this variable when compared to the group with more years of training (<10 years vs. ≥ 10 years: 2.61 [0.55] vs. 3.06 [0.57], $t_{68} = 3.09$, $p = 0.003$). These data suggest a deficiency in current curricula when providing knowledge on CP⁴¹. The study by the Brazilian research group that validated the IAP - Professionals version, applied the questionnaire to professionals working in pain centers in the city of São Paulo and found no significant difference in the cluster analysis by length of experience. The professionals presented desirable beliefs for the domains of control, emotion, injury and disability⁴².

As for the healing and diligence domains, the data from the present study with SUS professionals is similar to a previous study of pain specialists, both of whom had undesirable beliefs in this important construct in the management of CP, in which a demand for more attention and care in search of a cure can generate more dependence, unrealistic expectations and frustration on the part of the patient with the treatment^{42,43}.

A systematic review on the influence of beliefs on the CP care process revealed that the search for the right diagnosis is a concern for patients and general practitioners in primary care and that referral to other tests and services is a way of providing better care, of being believed and trusted. The authors suggested that the uncertainty of professionals, who give in to patients' demands, strengthens the expectation that pain can be cured, whereas they could provide supported care for self-management and pain control⁴³.

Contrary to the biomedical model, the biopsychosocial approach has been recommended by science for the management of

CP^{1,30}. This model of care recognizes the influence of psychological, emotional and social factors on pain behavior and its management^{11,12,18}. In line with this approach, the SUS professionals evaluated in this study had desirable beliefs and attitudes in the domains of pain control, emotion and injury.

A similar result was also shown in a qualitative study of primary care doctors and nurses in Spain. Many professionals believe that psychological factors such as stress, anxiety and depression can perpetuate chronic low back pain, that the patient's mood influences their perception of pain, as does the family environment and level of sociability²⁷.

This study showed a significant difference between professionals with a shorter period of training only in the control domain, while maintaining the same beliefs and attitudes in the other domains when compared to professionals who graduated more than 10 years ago. A similar study carried out with physiotherapists from SUS showed a positive correlation between a longer period of training and a biopsychosocial treatment orientation²⁹. This deficiency in academic training and the predominance of the biomedical model could be identified in a survey of Brazilian students in their final year of undergraduate studies in four health courses, in which only 41.67% of the answers regarding the first therapeutic choices for managing chronic low back pain were in line with best practice guidelines⁴¹.

The literature shows that this limitation of knowledge and training in pain management is also recognized as a difficulty by professionals working in various health services^{4,19,20}. This problem has repercussions on the quality of the service provided, especially in primary care, with data showing that up to 40% of patients seen in routine care settings do not get adequate pain relief³⁶ and less than 20% of patients with CP receive evidence-based information from their family doctors⁴⁴.

The IASP guide for pain management in low-resource settings recognizes that training health professionals is the first step towards improving the care offered to CP patients in developing countries⁴⁵. The guide recommends that training programs should seek to align pain education with soft skills training that favors the implementation of the biopsychosocial management of CP in clinical practice³¹.

Limitations

The limitations of this study include convenience sampling and the fact that the instruments used were self-reported by the participants. To minimize these biases, the questionnaires were distributed to many professionals in the health care network, with wide coverage of the municipal territory, as well as being accompanied by an interviewer with experience in CP. On the other hand, this research has the strength of covering multidisciplinary healthcare teams, including professionals from primary care, specialties and psychosocial care.

Implications for future research

The data from this study allows for a situational analysis of the characteristics of health professionals in order to start implementing a continuing education program in CD in the public health service. This training should be aligned with the contex-

tual factors of the care environment and with the guidelines of best clinical practices based on evidence³¹.

Implementation strategies are adapted according to their context, requiring a diagnostic study of other factors such as the teams' readiness for change, organizational culture and the resources available in the system⁴⁶. It is also important to carry out research to monitor the effectiveness of implementation by evaluating the acceptability, suitability and sustainability of the pain education program for health professionals⁴⁶.

CONCLUSION

Health professionals who were not specialists in pain and who worked in the municipal public health service had undesirable beliefs about the possibility of curing pain and about caring behaviors, such as the patient receiving more help and being cared for more attentively by others. However, they had desirable beliefs about the relationship between pain severity and tissue damage and the influence of emotions on pain intensity, as well as the possibility of patients controlling pain with relaxation techniques. The hypothesis that the characteristics of professionals influence beliefs and attitudes was confirmed, as the primary care group had undesirable beliefs about the disability caused by pain and the prospect of maintaining an active life. On the other hand, professionals with less training had less desirable beliefs about the possibility of pain control by the patient.

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