

FUNCTIONALITY OF INDIVIDUALS WITH LOW BACK PAIN: CROSS-SECTIONAL STUDY WITH ICF CORE SET

FUNCIONALIDADE DE INDIVÍDUOS COM DOR LOMBAR: ESTUDO TRANSVERSAL COM O CORE SET DA CIF

FUNCIONALIDAD DE PERSONAS CON DOLOR LUMBAR: ESTUDIO TRANSVERSAL CON EL CORE SET DE LA CIF

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ABSTRACT

Objective: Characterize the functionality and disability of individuals complaining of low back pain at a physiotherapy service. **Method:** The study included individuals who complained of low back pain, treated at a physical therapy school clinic, over the age of 18. An online questionnaire was applied, with sociodemographic questions and questions corresponding to the codes of the brief "International Classification of Functioning, Disability, and Health" (ICF) for low back pain. **Results:** The total sample was 47 individuals, with an average of 65.31 ± 3.8 years, the majority were women ($n = 40$; 85.1%). The categories: pain functions (b280) and functions related to joint mobility (b710) had a higher prevalence of reports of severe to complete disabilities (89.5% and 55.3%, respectively). The other categories, in general, had a higher prevalence of mild to moderate dysfunction, with a greater report of dysfunction for the categories energy and impulse functions (b130), sleep functions (b134), emotional functions (b152), (76.6%, 66%, 76.6% respectively). **Conclusion:** The ICF core set for low back pain can be used electronically and allows you to evaluate and observe the various factors that are related to pain, enabling reflection and directing multidisciplinary interventions for the treatment of low back pain. **Level of evidence III; Study of nonconsecutive patients; without consistently applied reference "gold" standard.**

Keywords: Low Back Pain; International Classification of Functioning, Disability and Health, Classification; Disabled Persons.

RESUMO

Objetivo: Caracterizar a funcionalidade e incapacidade de indivíduos com queixa de dor lombar de um serviço de fisioterapia. **Métodos:** Participaram do estudo indivíduos que apresentavam queixa de dor lombar, atendidos em uma clínica escola de fisioterapia, com idade acima de 18 anos. Foi aplicado um questionário online, com questões sociodemográficas e questões correspondentes a categorias do core set abreviado da Classificação Internacional de Funcionalidade, Incapacidade e Saúde (CIF) para dor lombar. **Resultados:** A amostra total foi de 47 indivíduos, média de $65,31 \pm 3,8$ anos, a maioria eram mulheres ($n=40$; 85,1%). As categorias: funções de dor (b280) e funções relacionadas à mobilidade das articulações (b710) apresentaram maior prevalência de relato de deficiência grave à completa (89,5% e 55,3%, respectivamente). As demais categorias, em geral, tiveram maior prevalência de disfunção leve a moderada, com maior relato de disfunção para as categorias funções de energia e de impulsos (b130), funções do sono (b134), funções emocionais (b152), (76,6%, 66%, 76,6% respectivamente). **Conclusão:** O core set da CIF para dor lombar pode ser utilizado de forma eletrônica e permitiu avaliar e observar os diversos fatores que se relacionam com a dor, possibilitando a reflexão e o direcionamento de intervenções multidisciplinares para o tratamento da dor lombar. **Nível de evidência III; Estudo de pacientes não consecutivos; sem padrão de referência "ouro" aplicado uniformemente.**

Descritores: Dor Lombar; Classificação Internacional de Funcionalidade, Incapacidade e Saúde; Pessoas com Deficiência.

RESUMEN

Objetivo: Caracterizar la funcionalidad y la discapacidad de los individuos que se quejan de dolor lumbar en un servicio de fisioterapia. **Métodos:** El estudio incluyó individuos que se quejaron de dolor lumbar, atendidos en una clínica-escuela de fisioterapia, mayores de 18 años. Se envió un cuestionario en línea, con preguntas sociodemográficas y preguntas correspondientes a las categorías del core set abreviado de la "Classificação Internacional de Funcionalidade, Incapacidade e Saúde" (CIF) para el dolor lumbar. **Resultados:** La muestra total fue de 47, con una media de $65,31 \pm 3,8$ años, la mayoría eran mujeres ($n = 40$; 85,1%). Las categorías de funciones del dolor (b280) y funciones relacionadas con la movilidad de las articulaciones (b710) presentaron mayor prevalencia de reporte de deficiencia grave a la completa (89,5% y 55,3%, respectivamente). Las otras categorías, en general, tuvieron una mayor prevalencia de disfunción leve a moderada, con un mayor relato de disfunción para las categorías funciones energía e impulso (b130), funciones del sueño (b134), funciones emocionales (b152), (76,6%, 66%, 76,6% respectivamente). **Conclusión:** El core set de la CIF para el dolor lumbar se puede utilizar electrónicamente y

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permite evaluar y observar los diversos factores que se relacionan con el dolor, lo que permite la reflexión y la focalización de intervenciones multidisciplinarias para el tratamiento del dolor lumbar. **Nivel de evidencia III; Estudio de pacientes no-consecutivos; sin estándar de referencia "oro" aplicado uniformemente.**

Descriptor: Dolor de la Región Lumbar; Clasificación Internacional del Funcionamiento, de la Discapacidad y de la Salud, Clasificación; Personas con Discapacidad.

INTRODUCTION

Low back pain (LBP) consists of discomfort between the last ribs and the upper gluteal fold, associated or not with symptoms radiating to the lower limbs and of multifactorial cause.¹ Considered an extremely common and complex condition due to various contributing factors, LBP represents the greatest cause of morbidity and disability in the world.^{1,2} Its global prevalence is 37%, being more frequent in middle age and more prevalent in women.¹ It is estimated that most individuals will present LBP at some point in their lives, with should be seen as a public health problem.³ Complex and multifactorial, LBP affects not only the economic sphere, but also individuals' functionality and quality of life.⁴

Due to the limitations and the absence from work generated by the pain, individuals with LBP often do not perform their daily activities, preferring isolation from the social environment and leisure activities.^{4,5} Individuals with LBP generally manifest stress, irritability, sleep disorders, anxiety, and depression.⁵ These factors are associated with the permanence of pain and generate a multidirectional cycle of triggering factors of the SL.^{4,5} In 2001, seeking a way to classify the alterations in functionality, the World Health Organization (WHO) published the International Classification of Functioning, Disability, and Health (ICF), which allows information on health in a common and standardized language for the entire world.⁶

The ICF presents 1454 categories in 4 domains: body functions, body structures, activities and participation, and contextual factors.⁶ The 'body functions' domain is related to physiological functions; the 'body structures' domain refers to anatomical parts; the 'activities and participation' domain points out the involvement of individuals in actions and situations of daily life; and finally, the 'environmental factors' domain refers to the physical, social, and attitudinal environment in which people live and conduct their lives. Each ICF component is organized into progressively more detailed chapters and subcategories, providing a possibility for a complete description of the individual's health state.⁶ Personal factors, such as genetic aspects, anthropometric aspects, beliefs, and values, among others, still remain unclassified, since they have not been described and organized in the ICF.

Through the broad ICF approach, it is possible to quantify, point out, and qualify aspects of functioning and quality of life.⁷ However, assessing 1454 aspects of human functioning becomes unfeasible in everyday life. Therefore, the WHO proposed the creation of the ICF core sets, which are a set of minimum categories capable of describing the functionality completely for a specific health condition.⁷ The core sets were created in a consensus process of specialists from several nationalities, to facilitate the incorporation of the disability and functionality concepts of the ICF in the practice.⁸ The core sets can be summarized (5 to 39 categories), in which the smallest number of categories are included but essential; or comprehensive (55 to 130 categories), which can serve as a guide for a multi-professional evaluation.⁸ Core sets are often used for research, as they cover functioning and disability and how each assessed item is affected by the dysfunction.⁹ The abbreviated ICF core set for LBP was developed in 2004, containing 35 categories in the abbreviated version and 78 categories in the comprehensive version, including categories from the four components (body functions and structures, activities, and participation, and environmental factors).^{10,11}

The ICF and its core sets can be used as epidemiological tools, allowing, through its set of alphanumeric categories, to classify the functionality of a group of individuals.⁷ In this way, it is possible to extract data and information necessary to plan interventions,

policies, and programs directed at the health condition evaluated.¹² Considering the high prevalence of LBP worldwide and the importance of knowing the functional profile of individuals with LBP who seek physical therapy services, this study aimed to characterize the functionality and disability of individuals complaining of LBP using the abbreviated ICF core set.

METHODS

This is a cross-sectional, descriptive, observational study approved by the Universidade Estadual do Centro-Oeste Ethics Committee (COMEP-UNICENTRO) under opinion number 4,019,973. Individuals who complained of LBP, seen at the Clínica-Escola de Fisioterapia (CEFISIO) of the Universidade Estadual do Centro Oeste (UNICENTRO), Guarapuava/PR, aged over 18 years, were invited to participate in the study.

First, a survey of patients with LBP was done through the CEFISIO identification list, or the waiting list, and their respective telephone contact in the CEFISIO records. With this information, the researcher contacted the patients by phone and informed them about the research. For those individuals who confirmed having a complaint of LBP and expressed interest in participating in the research, it was informed that the researcher would forward on the WhatsApp number the link to access the informed consent form (ICF) and research questionnaire, which the participant should answer.

For those individuals who said they did not have access to WhatsApp and preferred to answer during the phone call, the researcher read the TCLE, the questions, and the respective possibilities of answers, marking the corresponding alternative informed by the participant.

The survey questionnaire was administered to all participants who agreed to the TCLE recorded by means of an electronic signature or audio recording. An electronic questionnaire containing the TCLE, sociodemographic questions, a general individual profile, and one question for each category of the abbreviated ICF core set for LBP was prepared. The questionnaire was developed using the Google Forms platform, which is available at <https://docs.google.com/forms/d/1IA2xG0jvD9FeStJY0QCplm8xWeFjKiSI3gfLqc2iwjc/edit> and forwarded to the research participants.

To analyze the sociodemographic profile, questions regarding age, gender, marital status, income, and work were prepared. To analyze the profile of individuals with LBP, questions were developed about weight, height, duration of pain, level of physical activity, and self-reported health.

The body mass index (BMI) in kg/m² is from the weight and height responses. Those with a BMI below 18.5 kg/m² were classified as malnourished, eutrophic as BMI between 18.5 kg/m² and 24.9 kg/m², and overweight/obese as BMI >25 kg/m².¹³

The duration of pain was analyzed by the question "How long have you had low back pain?" whose possible answers were "A" (for more than three months) or "B" (for less than three months). Subjects reporting "A" pain were categorized as chronic pain,³ and subjects reporting "B" pain were categorized as acute pain.³

Self-reported health was assessed by the question: "How do you consider your health?" with five response options: "A" (excellent); "B" (good); "C" (regular); "D" (bad); "E" (terrible).¹⁴ Regarding sedentary lifestyles, they were instructed to mark the answer that best described the amount of physical activity they performed, which were "A" ("I perform 150 minutes of physical activity per week; about 20 minutes per day), "B" ("I perform 75 minutes of physical activity per week; about 10 minutes per day"), "C" ("None of the alternatives").¹⁵

A visual numeric scale was used to evaluate pain and its interference with family relationships and work,¹⁶ from 0 to 100 points, in

which 0 corresponds to no pain/no interference and 100 to extreme pain/extreme interference. For the quantification of impairment, the response was analyzed in percentages and categorized according to the percentages determined by the ICF (0-4% no dysfunction, 5-24% mild dysfunction, 25-49% moderate dysfunction, 50-95% severe dysfunction, 96-100% complete dysfunction).⁷

The abbreviated ICF core set for LBP was used to assess the functioning and disability of the participants with LBP. This core set⁸ consists of 35 categories covering body functions (10), body structures (3), activities and participation (12), and environmental factors (10).⁹ All categories of the shortened version are inserted into the comprehensive version. In this way, it is possible to compare the results, regardless of the version used in other studies. A question with multiple choice self-reported response alternatives was developed for each category. The answer alternatives for each question represented an ICF qualifier.

For the category of body functions and structures, activities, and participation, a response was determined that would be represented by the following qualifiers, in ascending order from 0 to 4 (no dysfunction, mild, moderate, severe, or complete dysfunction), qualifier 8 (not specified), and qualifier 9 (not applicable). Because of the broad possibility of ICF categories and the small sample size, we grouped the qualifiers into a few categories. Thus, we adopted qualifier zero (no disability) when there was a report of the absence of the disability; and qualifier 8 (not specified) when the patient did not quantify the degree of dysfunction in the questionnaire. For the presentation of the results, the qualifiers were grouped as follows: qualifiers 0, 8, and 9 were classified as no dysfunction, qualifiers 1 and 2 as mild to moderate dysfunction, and qualifiers 3 and 4 with severe to complete dysfunction.

For the questions regarding the environmental factors category, participants had the following response possibilities: in ascending order from 0 to 4, the barrier level (no barrier, light barrier, moderate barrier, severe barrier, or complete barrier), qualifier 8 (unspecified barrier); in ascending order from +0 to +4 for the facilitator level (no facilitator, light facilitator, moderate facilitator, considerable facilitator, or complete facilitator), qualifier +8 (unspecified facilitator); and qualifier 9 (not applicable).⁷

To present the results of the environmental factors, the qualifiers were grouped as follows: 0, +0, 8, +8, and 9 neither facilitator/no barrier, +1 and +2 mild to a moderate facilitator, +3 and +4 intense to complete facilitator; .1 and .2 mild to a moderate barrier, .3 and .4 intense to complete barrier.

The electronic questionnaire containing the abbreviated ICF core set for LBP was applied from May to October 2020, with an average duration of 15 minutes for answers through the link and 30 minutes through a phone call, with the evaluator always available to clarify any doubts of the participants. The answers marked on the questionnaire were imported into an Excel (2010) software database. Afterward, a descriptive analysis was performed using the raw values and percentages.

RESULTS

Sixty responses were obtained from the questionnaire via the link or interview. Of these, 13 were excluded for being repeated answers by the same individual, considering only the first questionnaire completed by the date record, totaling a sample of 47 individuals.

The sociodemographic characterization of the sample is presented in Table 1.

Table 2 corresponds to the clinical characteristics of the sample. It is observed that 97.9% (n=46) have had a complaint of LBP for more than three months.

Table 3 shows the characterization of functioning and disability in the categories of body functions, structures, activities and participation of individuals with LBP. No individuals reported qualifier 8 (not specified), meaning that no participant failed to quantify the degree of dysfunction on the questionnaire. Thus, individuals who reported no dysfunction had a 0 (zero) qualifier in the respective

Table 1. Sociodemographic characterization of individuals with low back pain seen at CEFISIO (N=47).

Variables	Mean (SD)
Age (years)	65.31±3.8
Sex	n (%)
Female	40 (85.1)
Male	7 (14.9)
Marital status	
Single/Divorced	13 (27.6)
Married/ Stable Union	28 (59.5)
Widower	6 (12.9)
Work	
Retired	20 (42.5)
Autonomous	5 (10.6)
Employee	10 (21.3)
From Home	4 (8.5)
Retired/INSS	2 (4.3)
Another	6 (12.8)
Income	
Up to 2 salaries	17 (36.1)
2 to 4 salaries	9 (19.1)
4 to 7 salaries	4 (8.6)
7 to 10 salaries	1 (2.1)
Above 10 salaries	1 (2.1)
Other/prefer not to answer	15 (32)

Table 2. Clinical characteristics of individuals with low back pain seen at CEFISIO.

Variables	Mean (SD)
IMC	
Undernourished	1 (2.1)
Eutrophic	15 (31.9)
Overweight/ Obese	31 (66)
Level of physical activity	
Active	28 (59.5)
Sedentary	19 (40.5)
Pain Duration	
More than 3 months	46 (97.9)
Less than 3 months	1 (2.1)
Self-reported health	
Excellent/Good	18 (38.3)
Regular	18 (38.3)
Poor/poor	11 (23.4)

category. It can be seen that most individuals have mild to moderate dysfunction for both the categories of functions (n= 261, 55.5%) and body structures (n=84, 59.6%), and activities and participation (n= 304, 53.9%).

The results obtained for the environmental factors are shown in Table 4. It is observed that most individuals report environmental factors as an intense to complete facilitator (n=260; 55.3%) for their health condition, with the relationship with the health professional (e355) being the category with the highest percentage considered as an intense to complete facilitator by patients (n=41, 87.2%).

DISCUSSION

This study aimed to characterize the functioning and disability of individuals with complaints of LBP seen at a physical therapy service using the abbreviated ICF core set for this clinical condition as an instrument. The results of this study showed that the sample evaluated had mild to moderate impairment in body functions and structures and mild to moderate limitation in daily living and social activities.

Table 3. Characterization of body functions, structures, activities and participation of individuals with low back pain seen at CEFISIO.

Category	Category Description	Absence of dysfunction	Mild to moderate dysfunction	Severe to complete dysfunction	Total
		n (%)	n (%)	n (%)	n (%)
b130	Energy	6 (12.8)	36 (76.6)	5 (10.6)	47 (100)
b134	Sleep	4 (8.5)	31 (66.0)	12 (25.5)	47(100)
b152	Emotions	8 (17)	36 (76.6)	3 (6.4)	47(100)
b280	Pain	0 (0)	5 (10.6)	42 (89.4)	47(100)
b455	Exercise tolerance	3 (6.4)	29 (61.7)	15 (31.9)	47(100)
b710	Joint Mobility	2 (4.3)	19 (40.4)	26 (55.3)	47(100)
b715	Joint stability	9 (19.2)	26 (55.3)	12 (25.5)	47(100)
b730	Muscle strength	2 (4.2)	31 (66.0)	14 (29.8)	47(100)
b735	Muscle tone	1 (2.1)	29 (61.7)	17 (36.2)	47(100)
b740	Muscle endurance	5 (10.6)	19 (40.4)	23 (49)	47(100)
Subtotal		40	261	169	470
d240	Stress	10 (21.3)	34 (72.3)	3 (6.4)	47(100)
d410	Changing body position	4 (8.5)	36 (76.6)	7 (14.9)	47(100)
d415	Maintain body position	2 (4.3)	32 (68)	13 (27.7)	47(100)
d430	Lifting and carrying objects	7 (14.9)	26 (55.3)	14 (29.8)	47(100)
d450	Walking	9 (19.1)	31 (66)	7 (14.9)	47(100)
d530	Sanitize yourself	30 (63.8)	14 (29.8)	3 (6.4)	47(100)
d540	Dress up	23 (48.9)	22 (46.8)	2 (4.3)	47(100)
d640	Domestic services	12 (25.5)	29 (61.7)	6 (12.8)	47(100)
d760	Family Relationships	9 (19.1)	20 (42.6)	18 (38.3)	47(100)
d845	Acquire, maintain and develop a job	14 (29.8)	29 (61.7)	4 (8.5)	47(100)
d850	Work with remuneration	24 (51.1)	16 (34)	7 (14.9)	47(100)
d859	Other work or job	1(2.1)	15(31.9)	31(66)	47(100)
Subtotal		145	304	115	564
s120	Structure of the Spinal Cord	11 (23.4)	26 (55.3)	10 (21.3)	47(100)
s760	Trunk Structure	15 (31.9)	24 (51.1)	8 (17)	47(100)
s770	Additional musculoskeletal structures	5 (11)	34 (72)	8 (17)	47(100)
Subtotal		31	84	26	141
Total		216	649	310	1175

Table 4. Characterization of environmental factors for individuals with low back pain seen at CEFISIO.

Category	Category Description	Neither an enabler nor a barrier	Mild to moderate facilitator	Intense to complete facilitator	Mild to moderate barrier	Intense to complete barrier	Total
		n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
e110	Personal Consumption Products	2 (4.2)	31 (66.0)	13 (27.7)	1 (2.1)	0 (0)	47(100)
e135	Products and technologies for the workplace	6 (12.7)	14 (29.8)	21 (44.7)	3 (6.4)	3 (6.4)	47(100)
e155	Construction for private use	1 (2.1)	5 (10.6)	32 (68.1)	6 (12.8)	3 (6.4)	47(100)
e310	Family Support	3 (6.4)	11 (23.4)	31 (66.0)	1 (2.1)	1 (2.1)	47(100)
e355	Support from health professionals	0 (0)	6 (12.8)	41 (87.2)	0 (0)	0 (0)	47(100)
e410	Attitudes of family members	2 (4.3)	12 (25.5)	29 (61.7)	2 (4.2)	2 (4.3)	47(100)
e450	Individual attitudes of health professionals	0 (0)	11 (23.4)	36 (76.6)	0 (0)	0 (0)	47(100)
e550	Legal services, systems, and policies	11 (23.4)	21 (44.7)	12 (25.5)	3 (6.4)	0 (0)	47(100)
e570	Social security services, systems and policies	10 (21.3)	15 (31.9)	19 (40.4)	1 (2.1)	2 (4.3)	47(100)
e580	Health Services, Systems and Policies	3 (6.4)	18 (38.3)	26 (55.3)	0 (0)	0 (0)	47(100)
Subtotal		38	144	260	17	11	470

The highest demand for LBP treatment in the service was by the elderly (65.31 ±3.8 years) and women (85.1%). These findings corroborate the literature, in which it is observed that women seek more health services and have lower pain thresholds, consequently feeling more discomfort with pain and reporting greater disability.^{17,18}

There is still no consensus on the cause of this higher prevalence, but Mills, Nicolson, and Smith¹⁹ point out that there is evidence of hormonal and genetic influence on pain perception. According to Vicent and Tracey,²⁰ the fall of estrogen is related to a greater

perception of pain, affecting mainly elderly women, since during menopause, there is a decrease in the production of sex steroid hormones. However, this relationship is not fully proven, requiring further studies.²¹

The prevalence of LBP globally is higher in the elderly ranging from 21.7% to 75%, being high in developed and developing countries, such as Brazil, where the prevalence in the elderly ranges from 33.6% to 68.3%.²² This is because the world's elderly population is increasing more than in other age groups.²² The increase in life

expectancy influences the incidence of chronic non-communicable diseases generating morbidity and disability, compromising independence and quality of life.²²

In our study, 66% of individuals with LBP had severe to complete work-related dysfunction (d859). However, only 2 (4.3%) reported being away from their jobs due to the disability provided by LBP. Pain generates disability and suffering, affecting the individual's quality of life and society, since disabled people reduce their productivity and increase expenses with consultations, exams, and treatments.²³ According to Macias-Torronjo²⁴ the pain catastrophizing process²⁴ and kinesiophobia²⁴ influence the recovery, duration of pain, and the time away from work,²⁴ variables that were not evaluated in the present study.

In a study conducted by Filho and Silva,²⁵ the total number of disability retirements related to LBP in 2007 was evaluated, and the result identified 6,200 (57.2%) idiopathic cases of LBP, the main cause of disability retirement in Brazil.²⁶ In 2016, in the United States, an average of 134.5 billion dollars was spent to treat LBP.²⁷ Nowadays, work represents a fundamental condition for man, both to support himself financially, but also to create an identity, where the worker demonstrates his personal capabilities to complete tasks and feel useful and motivated, and can lead to psychological suffering affecting the functional capacity and quality of life of the individual.²⁸

We observed that 66% of the individuals with LBP were classified as overweight or obese (n=31; 66%). Patients who present high weight have higher pain levels due to the greater overload on the joints, besides having sedentary life habits that favor deconditioning.¹⁷ Although sedentary habits favor the onset of pain, 28 (59.5%) of the individuals reported performing physical activity, a result that disagrees with the literature, since the lower the level of physical activity, the higher the risk of developing disability and high-intensity pain;²⁹ it is suggested that new investigations with validated instruments about the type, intensity, and duration of physical activity be carried out.

In this study, 97.9% of individuals with LBP complained of chronic pain; 89.4% classified their pain as severe or complete. Corroborating with our study, Riberto et al.,¹¹ evaluated the functionality and disability with the comprehensive core set, of 29 individuals with LBP; 75% of the sample were women complaining of chronic pain. The categories that presented the most impairment were b280 (pain sensation) and b710 (functions related to joint mobility).¹¹ In another study,³⁰ conducted in 2010, with 118 patients (n=71; 60.17% women) using the comprehensive ICF core set for LBP, the complaint of pain had a prevalence of 60.2% of mild to moderate disability.³⁰ In this same study,³⁰ only 7.6% of individuals presented severe to complete disability in functions related to joint mobility (b710).

In our study, 76.6% of the participants had some impairment in category b152, corresponding to emotional functions, and d240 related to coping with stress and other psychological demands (72.3%). Konno and Sekiguchi,³¹ suggest that factors such as stress, depression, and anxiety cause a failure in the dopaminergic system with reduced production of endogenous opioids by the *nucleus accumbens*, which act in the pain inhibitory system. This results in prolonged pain, and psychosocial factors may be related to the pain chronicification process.³¹

Regarding sleep, 66% of the individuals presented mild to moderate dysfunction; similar findings were found in the study by Frez et al.³² The authors evaluated the functional profile of 40 elderly women through the abbreviated ICF core set for LBP. Of these, 32 (80%) presented mild to moderate disability in the sleep functions category.³² According to Nijs et al.,³³ the prevalence of insomnia in individuals with chronic LBP varies from 53% to 90%. Insomnia is often considered a consequence of chronic pain, because sleep disturbances can prolong central nervous system hyperexcitability and affect endogenous pain inhibitory function in healthy individuals.³³ Thus, sleep alterations can become an etiological factor for pain, reducing the pain threshold and affecting sleep quality, generating a multidirectional cycle. Sleep represents a physiological need, since it maintains homeostasis, acts on the metabolism, and promotes physical and mental well-being.³⁴ In this way, the therapist must

have a broad view of the individual with LBP, whereas in cases of insomnia, the therapist must refer the individual to a specialist in treating sleep disorders.³³

In this study, the categories d410, d415, d450, and d640, related to activities of daily living, were reported by individuals with LBP as mild to moderate disability. According to Grabovac and Dörner,²⁸ LBP directly affects functionality and the ability to perform activities of daily living. There is also the existence of kinesiophobia, where the presence of fear of performing movements becomes more disabling than the pain itself,²¹ however the variable kinesiophobia was not evaluated in this study, but it is recommended to be investigated in future studies.

Regarding body structures, 72% reported mild to moderate dysfunction in the s770 category related to additional musculoskeletal structures related to movement. It is believed that many patients have incorrect beliefs regarding the structures related to the spine, often negatively influenced by misinterpretations.³⁵ The literature shows that not all pathological findings represent pain and dysfunction. Personal factors such as lifestyle, depression, stress, and psychosocial factors influence the spinal column more than imaging findings.³⁶ Thus, it is important that healthcare professionals take a biopsychosocial view of the condition of individuals with SCI and provide appropriate treatment and information.

Most environmental factors were considered to be facilitators, with products and technology used for design, architecture, and construction of private-use buildings (e155; n=32; 68.1%), immediate family (e310; n=31; 66%), health care professionals (e355; n=41; 87.2%), and individual attitudes of health care professionals (e450; n=36; 76.6%) being noted as the main facilitators. These results corroborate similar studies using the ICF core set for LBP, where environmental factors were predominantly facilitators.^{11,30,37} These indicators are important to guide public policies for urban accessibility, develop therapeutic strategies that insert the family in the context of the individual with LBP, support network, and therapeutic approach in the biopsychosocial model since access to health professionals and their individual attitudes positively (or negatively) impact the health status of the individual with LBP. According to Babatunde et al.,³⁸ treatments for musculoskeletal conditions should include communication and psychological interactions between patient and therapist, thus establishing a therapeutic alliance, where there is mutual agreement on goals and intervention. Establishing a strong bond on both sides represents a determinant for treatment success, where the physiotherapist will be able to face the various psychological factors associated with pain and thus positively impact the pain sensation, disability, physical and mental health, and patient satisfaction, promoting symptom improvement, psychological well-being and greater adherence to treatment.³⁹

In this context, and considering the high prevalence of chronic LBP in the clinical service, pain education seems to be an additional therapeutic tool for the physical therapist to use with physical rehabilitation, individually⁴⁰ or in groups.⁴¹ Pain education is focused on the biopsychosocial approach of the individual and favors adequate communication in health.⁴² Thus, it provides an integrated approach to the different dysfunctions presented by the individual with LBP and provides therapeutic strategies for the self-management of chronic pain with improvement in pain outcomes,⁴⁰ psychosocial conditions,⁴⁰ and functionality.^{40,41} Thus, studies that analyze the effectiveness and cost-effectiveness of the intervention strategies used for the individual with LBP and implementation of the pain education approach in physical therapy services are necessary. According to the literature, exercise and physical activity programs bring significant results in relation to pain and disability.⁴³ However, for a more effective approach, social and psychological factors must be included in the intervention, and even with the incidence of LBP, individuals who attend pain education groups can perform self-management and pain control, reducing limitations in their activities.⁴¹

The abbreviated ICF core set for LBP has proven to be a useful classification tool that can be performed by the patient without face-to-face assistance from the health professional, and without

reducing the patient's care time. Even when there is a physical test, it can be performed remotely. In our study, the evaluator guided the patient to perform a self-assessment, either by self-palpation or guided movements, without affecting the reliability of the muscle tone assessment.⁴⁴ In this study, forty-seven individuals assessed the lumbar region's muscle tone (b735) by self-palpation and self-reported changes in this category. Similar studies conducted face-to-face through visual assessment and interviews demonstrate that patients with LBP have altered muscle tone in the lumbar region.^{11,30} Lima et al.,⁴⁵ in a 2018 study, evaluated spinal muscle activity during 5 functional activities in 40 patients with chronic LBP and concluded that these individuals have greater global trunk muscle activation. It is assumed that this increased muscle activation is a way of maladaptive protection to preserve the spine.⁴⁵

Further studies need to be conducted to analyze the validity of self-administered questionnaires using the ICF domains. One difficulty encountered in our study was developing the questionnaire in a way that the patients understood. For each category, the categories from the *core set*, their descriptions, and what they included were sent, without adjustments to the terms. As the ICF is written in scientific and medical terms, it may be necessary to adjust some domains to make the questions in a language more easily understood.⁴⁶ One study has

already suggested developing self-applicable questionnaires from a *core set*.⁴⁷ However, the difficulty in converting the ICF categories into a questionnaire has already been reported in the construct validity study of the *core set* for breast cancer.⁴⁶ Furthermore, an adaptation process may be necessary to increase the comprehensiveness of the categories for the patients.⁴⁸ Furthermore, we point out the need for new longitudinal follow-up studies and comparisons with other groups, which allow inferential statistical analyses.

CONCLUSION

It is concluded that pain functions (b280) and functions related to joint mobility (b710) were the categories with the highest report of severe to complete dysfunction in the physical therapy clinical setting. The other categories of the abbreviated ICF *core set* for LBP generally had a higher prevalence of mild to moderate dysfunction. Most environmental factors were considered facilitators, with support from healthcare professionals being the most reported (e355).

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