



## Use of telecare for chronic pain education: suitability and feasibility study

### *Uso do teleatendimento para educação em dor crônica: estudo de adequação e viabilidade*

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#### **ABSTRACT**

Chronic pain is a public health problem that has prompted the search for an effective pain management method. To assess the implementation of the “EducaDor” online self-management program for chronic pain in the National Health System (SUS in Portuguese). This is a qualitative study conducted with researchers and undergraduate students enrolled in the EducaDor program of a public state university. A structured questionnaire was applied through interviews, and thematic analysis was used to analyze the findings. Thirteen interviews were conducted, which underscored the program’s potential to provide health education for primary health care users. In addition, the delivery format of the program facilitates user access to treatments, thereby lowering costs. The EducaDor program has the potential for implementation, contributing to the development of digital health in the Brazilian public health system.

**Keywords:** Chronic pain; Health education; Primary health care; Telemedicine.

#### **RESUMO**

A dor crônica é um problema de saúde pública que estimula a procura por um método eficaz de manejo da dor. Avaliar a implementação do programa online de autogerenciamento da dor crônica “EducaDor” no Sistema Único de Saúde. Trata-se de um estudo qualitativo, realizado com pesquisadores, acadêmicos de graduação, vinculados ao programa EducaDor de uma universidade pública estadual. Foi aplicado um questionário estruturado por meio de entrevista e utilizada análise temática para análise dos achados. Foram conduzidas treze entrevistas, que evidenciaram o potencial de implantação da educação em saúde proporcionado pelo programa aos usuários da atenção básica em saúde. Além disso, a forma de entrega do programa oferece a oportunidade de facilitar o acesso dos usuários aos tratamentos, reduzindo os custos para os cofres públicos. O programa EducaDor possui um potencial para implementação, auxiliando o desenvolvimento da saúde digital no sistema público de saúde brasileiro.

**Palavras-chave:** Dor crônica; Educação em saúde; Atenção primária à saúde; Teleatendimento.

## INTRODUCTION

According to the International Association for the Study of Pain (IASP), pain is “an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage”<sup>1</sup>. Physiologically, pain is a warning mechanism, triggering protective and survival responses. In humans, pain is unique in that they do not ignore it and respond differently depending on the type of pain, the intensity of the sensation, their individual personal history, and the environmental conditions involved in the painful experience<sup>2</sup>.

From a clinical perspective, there are two different types of pain: acute and chronic. The former is the body’s warning mechanism in response to mechanical, chemical, or thermal aggression, beginning with objective and subjective physical signs associated with exaggerated activity in the nervous system<sup>3</sup>. The latter is a dynamic process that can arise due to increased endogenous excitatory pain control mechanisms or decreased inhibitory systems. It lasts at least three months, exceeding the typical recovery period expected for the origin of the pain, and involves prolonged complications that require healthcare professionals, family support, and self-management measures<sup>4</sup>.

Chronic pain plays a crucial role in the care of adults and older adults, significantly interfering with activities of daily living, and is one of the main causes of work absenteeism, medical leave, health-related early retirement, workplace injury lawsuits, and low productivity. The global and Brazilian prevalence of chronic musculoskeletal pain is around 30 and 38%, respectively<sup>5</sup>, representing one of the main demands made of primary health care<sup>6</sup>. Given this high prevalence, significant costs, and adverse impacts on the quality of life of patients and their families, chronic pain is a serious public health problem<sup>7,8</sup>.

The management of chronic pain is

recognized as an important component in health care, with a growing interest in strategies to mitigate it<sup>9</sup>. E-pain interventions, based on online technologies, show potential in chronic pain management, contributing to relieving pain and changing negative psychological aspects and maladaptive behaviors, with the potential to help people experiencing chronic pain in accessing education programs and pain self-management<sup>10</sup>. Non-pharmacological strategies for dealing with chronic pain have been developed through approaches that integrate educational, cognitive, and behavioral elements, demonstrating effectiveness in improving pain and physical-psychosocial disability<sup>11</sup>.

In this context, digital approaches are being increasingly employed in the healthcare field, since they offer a wide range of interactive and innovative resources that promote learning and behavioral changes, especially in the case of people with chronic pain, where health education is one of the strategies for health promotion<sup>12</sup>. The National Health System (SUS in Portuguese) combines information and communication to facilitate distance activities. Its “Telessaúde Brasil Redes” program aims to improve care and expand and adapt the health service network, especially Primary Health Care (PHC) and its interaction with other levels of care, thus strengthening the SUS Health Care Networks (HCN)<sup>13</sup>.

Implementing pain science education strategies within the SUS can provide information to help establish the best strategy and delivery format and will support the expansion of science in public health<sup>14,15</sup>. Thus, the aim of present study was to assess the implementation of the “EducaDor” chronic pain self-management program<sup>16</sup> in the public network of a medium-sized city in southern Brazil and understand how future healthcare professionals are preparing to use new technologies in everyday services.

## METHODS

### DESIGN

This study used a qualitative approach, with a structured questionnaire applied through recorded interviews, to assess the implementation of a chronic pain program in the SUS. Thematic analysis, a content analysis modality proposed by Minayo<sup>17</sup> (2014), focuses on qualitative health research and aims to discover the core meanings of statements, relating their presence or frequency to the topic under investigation. It is divided into three stages: 1 – Pre-Analysis: selecting the documents to be analyzed and reassessing the initial hypotheses and objectives of the research based on skim reading, corpus composition, and formulating and reformulating hypotheses and objectives; 2 – Material Exploration: a classificatory operation aimed at achieving a core understanding of the text, whereby the investigator identifies categories of significant expressions or words around which the content of a speech will be organized; 3 – Analyzing and Interpreting Results, based on the positivist roots of traditional content analysis.

### CHARACTERIZATION OF THE CHRONIC PAIN EDUCATION PROGRAM

This study is part of an online education program on pain sciences, called EducaDor<sup>16</sup>, for SUS users experiencing chronic musculoskeletal pain in a medium-sized city in Paraná state, Brazil. The program aims to provide knowledge about the neurophysiology of pain and related factors through health education. The goal is to stimulate healthy behaviors and habits that help in the self-management of chronic musculoskeletal pain, promoting quality of life and functionality for the reintegration of an individual into daily and professional activities.

SUS participants were selected in primary health care, referred to EducaDor<sup>16</sup> through the

Municipal Health Department and categorized according to International Classification of Diseases (ICD) codes. SUS users with ICD R:522 and R:521 were selected from May to September 2022, after which they were contacted by EducaDor assessors to undergo initial assessment.

Next, they were randomized into three different delivery formats: (1) synchronous online group: interactive e-book from the EducaDor program + 10 synchronous meetings + physiotherapy-based care; (2) asynchronous video group: interactive e-book + one synchronous meeting + 10 asynchronous videos + physiotherapy-based care; (3) interactive e-book group: interactive e-book + one synchronous meeting + physiotherapy-based care.

All participants, regardless of their group assignment, underwent the intervention over a period of 10 weeks following the “path to recovery” model proposed by Reis et al. (2017)<sup>18</sup>, which includes: (1) acceptance; (2 and 3) pain education; (4) sleep hygiene; (5) pharmacological assistance; (6) recognizing stress and negative emotions; (7) increasing positive coping in lifestyle; (8) exercises; (9) communication; and (10) recurrence prevention<sup>16</sup>.

### PARTICIPANTS

We interviewed students involved in the PET-Health program, extension projects, and scientific initiation projects that are part of the EducaDor program, all developed at a public university. Eligible students had to be enrolled between the 3<sup>rd</sup> and 5<sup>th</sup> year of physiotherapy or pharmacy courses at a state public university in the 2022 academic year, and have taken part in the project for more than six months.

Participants were categorized into two groups based on their roles in the program. One group consisted of assessors, that is, students conducting initial assessments and post-intervention reassessments of users. The

other group consisted of providers, representing students responsible for conducting the intervention.

#### DATA COLLECTION

Students who met eligibility criteria were contacted via WhatsApp®, where they received information about the research objectives. Next, the assessment was scheduled, from April to August 2023, and took place in person at the university's physiotherapy clinic or synchronously via Google Meet. Researchers were assessed through a semi-structured questionnaire consisting of fifteen questions on topics such as content suitability, number of sessions, assessment instruments, positive and negative aspects of the implementation strategy in the healthcare network, and suggestions exploring the suitability and feasibility of the EducaDor program. Each researcher conducted the assessment individually, in a quiet room, and their responses were recorded for subsequent transcription and analysis.

#### ETHICAL ASPECTS

The study was approved by the Health Ethics Committee of a state public university, under protocol number 5,530,422 of 2022, and was conducted only after the research objectives were explained and participants provided written informed consent.

#### RESULTS AND DISCUSSION

##### *Data analysis*

Thirteen interviews were conducted, with an average duration of  $13.3 \pm 7.1$  minutes. The audios were transcribed using artificial intelligence (AI) and the Google Colaboratory analytics platform. The transcription was then compared with the recording in order to preserve

all possible characteristics. The transcription was analyzed by two researchers and the results compared, with disagreements resolved through discussion. To ensure confidentiality during the transcription process, codes were assigned to the interviewees' statements, using the letter A for assessors and I (intervention) for providers, followed by a corresponding number indicating the order of the interviews.

With respect to sample characteristics, the average age was  $21.9 \pm 0.9$  years, the majority being female (10 women and 3 men). At the time of the interviews, four students were in the 4th year of Physiotherapy, two in the 5th year of Pharmacy, four in the 5th year of Physiotherapy, and three had already earned their Physiotherapy degree.

#### CONTEXTUALIZATION

The multifactorial nature of chronic pain requires the implementation of new preventive and therapeutic approaches for its control. Thus, the use of multidimensional strategies that consider biological, psychological, and social aspects, along with health education initiatives addressing these biopsychosocial aspects, may provide short and long-term benefits<sup>7</sup>.

To that end, an educational model to teach people about the biology and physiology of pain, called therapeutic education in neuroscience, is gaining ground, aiming to explain to patients the biological and physiological processes involved in a pain experience and, more importantly, shifting the focus away from issues associated with anatomical structures<sup>11</sup>. Educational initiatives on pain often involve information about etiology and pathophysiology, providing individuals with a broader understanding of causal and aggravating factors. This knowledge can impact social and economic issues, favoring patient recovery. By teaching that pain does not always indicate tissue injury, it is possible to control intensity, resulting in benefits such as improved function, sleep quality, activity resumption, and physical activity<sup>9</sup>.

Although the most effective approaches to education on this subject are not yet fully understood, several studies underscore health education as a crucial element in chronic pain management<sup>19</sup>. However, its implementation is a significant challenge due to obstacles that limit access to specialized services for pain treatment, such as distance, cost, and availability. As such, online interventions are a solution that facilitate access to education and self-management programs for pain<sup>10</sup>.

The use of information and communication technologies makes patient support more efficient by promoting the exchange of information that can contribute to the diagnosis, prevention, and treatment of identified diseases, thereby providing comprehensive care to the population<sup>20</sup>. In physiotherapy, the use of remote care in teleconsultation, teleconsultancy, and telemonitoring was only authorized by the Federal Council of Physiotherapy and Occupational Therapy (COFFITO) on March 20, 2020, through resolution no. 516<sup>21</sup>.

However, the literature still lacks evidence on the implementation of tests to assess innovative digital solutions in the healthcare field. There is growing interest in evaluating self-efficacy in health practices, given that this indicator can provide information about the quality of self-management and patient adherence to health programs for chronic diseases. This may be valuable for healthcare professionals dealing with the use of medication and illness-related symptom control<sup>22</sup>.

#### ADAPTATION TO THE “EDUCADOR” PROGRAM

When asked about the suitability of the “EducaDor” content for SUS users, both assessors and providers agreed that the material is didactic, and easily understood by users regardless of their education level. They also underscored the use of content in digital media format, such as videos and audios available in the e-book, which makes

the topic easier to understand and accessible at any time by project participants. “[...] *the way the e-book is written, the way it’s presented, it’s easy to understand, and in the e-book, for example, using a lot of icons from YouTube or Spotify makes it more playful, so I think it’s very interesting for users and also very easy to understand.*” I1. However, it is emphasized that there is still a gap in technology access for SUS users. “[...] *there are still many SUS patients who do not have access, sometimes we can’t even contact these patients and sometimes we can but they don’t even know how to answer us, so this makes it difficult.*” A3. According to data from the Continuous National Household Sample Survey (continuous PNAD) related to the Information and Communication Technology (ICT) module, conducted by the Brazilian Institute of Geography and Statistics (IBGE) in 2021, the Internet is available in 90% of Brazilian households. Thus, one part of society is integrated, while another is excluded, due to the lack of access to modern or even traditional communication channels. This may be due to self-imposed restrictions in relation to new media and digital resources<sup>23</sup>.

When asked about users’ understanding of this content, the interviewees stated that the majority understood the material. They underscored that the users who did not fully understand did not completely adhere to the program, due to lack of interest or because they had some difficulty in accessing the content. “[...] *I think those who don’t understand don’t really participate. Those who follow the program correctly and attend the meetings and read the materials usually give good feedback at the reassessments and realize that the program helped them understand what they needed about pain.*” A4. Theoretical and empirical evidence unequivocally indicates that as intentions to perform a behavior increase, the likelihood of that behavior occurring in the future also increases, with consensus in the literature considering intention as the most immediate antecedent



predictor of behavior<sup>21</sup>. Thus, individuals who enroll in the program without intending to promote behavioral changes tend to exhibit lower adherence.

In regard to the number of sessions during the intervention, most interviewees consider that ten are adequate to cover the proposed content. *"[...] ten sessions is a good number, it's not too little or too much time, I think it's the time needed to convey the most important information. [...]"* A4. However, some interviewees suggest the need to reduce the number of synchronous sessions, since many users cannot set aside ten consecutive weeks for these sessions. This proposal increases opportunities to implement other types of intervention already used in the program, such as asynchronous video or interactive e-book groups. *"[...] we realized that there could be fewer than 10 sessions, maybe an initial session and then the follow-up; the group really likes using WhatsApp, but some people can't always participate because of the time or because they have other commitments, sometimes they can't join the synchronous meeting [...]"* 15. In their systematic review, Louw et al.<sup>11</sup> (2016) emphasized that the frequency employed in neuroscience education programs for pain varies widely, ranging from protocols with only one educational session to those that distribute pain education in up to twelve sessions. The strategies used in the program, such as asynchronous meetings or providing the e-book with support via WhatsApp, are more attractive follow-up approaches for users who are unable to attend synchronous meetings due to time constraints.

Assessors consider the evaluation questionnaires used in the program suitable, but they are too long and contain a number of complex questions, which may compromise user adherence to the program. *"I think the assessment takes a long time, I believe that if there was a way to shorten this initial standard assessment, because some patients get tired sometimes during the first assessment [...]"* A5. Providers

observe that the questionnaires are extensive but report not having personal experience with them. This perspective may be influenced by shared perceptions among colleagues. One study emphasized the relevance of comprehensive assessment for individuals with chronic pain, since it reveals multiple associated pathologies, a marked psychosomatic component, and the need for multi and interdisciplinary approaches<sup>24</sup>. Recovering quality of life and the ability to cope with diseases, afflictions, and pain were achieved only through an integrated approach to all health problems. Thus, it is essential to conduct an appropriate assessment of these users in order to identify possible barriers that may impact the success of individual interventions.

In relation to the suitability of the dynamics of the activities provided by the program, the interviewees consider this approach appropriate, highlighting it as a differential in the treatment of patients with chronic pain. They underscore the importance of active listening for these patients, who often feel lonely and neglected, both by family members and healthcare professionals. *"[...] it's a differential, a follow-up other than in-person meetings, and I think that's important because we provide assistance, attention, they feel cared for in some way, because many patients, mainly those with chronic pain, we know that they're neglected to a certain extent because they are often undergoing treatment for a long time, these patients complain a lot [...]"* A3. Neglect occurs when professionals fail to provide care in a specific situation. In general, pain-related complaints are addressed late and ineffectively, characterizing clear negligence in physical, emotional, and social care<sup>3</sup>. The quality of the patient-healthcare team relationship can influence non-adherence to new treatments<sup>25</sup>. In this respect, patients who have been neglected by healthcare professionals are prone to not adhering to subsequent treatments.

When asked about which aspects they consider appropriate to be implemented in

the healthcare network, several participants mentioned the importance of pain education provided by the program. This includes knowledge about the neurophysiology of pain and related factors, along with strategies to self-manage chronic pain that adapt to users' daily lives. "[...] *teaching patients how pain occurs, the pain process, teaching these strategies and alternatives for controlling this pain, that it's not just drugs that work, so that they can control this pain at home without needing any external agent. So, it's really this education so that they can manage their pain alone. [...]*" I1. There is robust evidence that pain neuroscience education contributes to improving pain ratings, knowledge about pain, reduced disability, decreased pain catastrophizing, overcoming fear of movement, pain-related attitudes and behaviors, as well as the use of healthcare services<sup>11</sup>.

The interviewees also emphasized the cost-effectiveness of the program for both users and the healthcare system, with easy access to the material on mobile devices meaning that users do not need to travel. Additionally, the healthcare system can treat a high patient demand simultaneously. "[...] *there aren't many costs involved, it's done in a way that is feasible for the patient and for those applying it, because it doesn't require much travel [...]*" A4. A population-based study in Brazilian adults indicated a chronic pain prevalence of approximately 40%, making it the primary reason for early retirement and the second most common cause of long-term treatment, and therefore a public health problem<sup>6,26</sup>.

With respect to the aspects considered inadequate for implementation in the healthcare network, several interviewees highlighted the lack of an in-person monitoring option. This is because many users have no technological knowledge or access to quality internet for active participation. "[...] *not everybody has access to broadband internet or uses mobile data, so sometimes the data can run out during the day, so this ends*

*up being somewhat unfeasible.*" A1. Additionally, they cited the disadvantage of prolonged and less individualized monitoring, which compromises users' adherence to EducaDor. "[...] *I think we could take a different more individualized approach, explaining better to the patients about their specific case and not just in general as we do in the program and in the intervention we perform.*" I1. Given the need to extend digital health to all Brazilians, it is imperative for the Ministry of Health to develop policies that facilitate collaboration among government agencies, and other public and private organizations committed to health and socioeconomic development. This includes participating in a broad plan to develop and implement the Digital Health Strategy. Additionally, the aim is to encourage users to take control of their health, engaging patients and citizens to promote the adoption of healthy habits and the management of their health, family, and community. This approach also contributes to building the information systems that will be used<sup>20</sup>.

In relation to the implementation strategy in the healthcare network, most interviewees agree that the approach is appropriate. However, they emphasize the need to improve communication with primary care professionals. This would be crucial to ensure more effective dissemination of the program and better inform users from the moment of referral. "[...] *So I think we need to align well with all the Basic Health Units (BHUs) so that the program reaches patients correctly and they come to us with a understanding better of what the program is, because sometimes they arrive with no idea what it's about.*" I4. Effective communication among professionals from different care levels enables approaches designed to manage knowledge, promoting comprehensive healthcare that requires constant interaction among collaborators. Communication, knowledge, and relationships between professionals play a crucial role in coordination, directly impacting the continuity and quality of the care provided<sup>27</sup>.

When asked about possible changes to the program, the responses of the assessors and providers differed. The former proposed reducing the length of the questionnaires, emphasizing that the excessive number of questions can cause fatigue and demotivation among users due to the prolonged assessment time. “[...] *reducing the size of the questionnaires would help a lot in the assessments, both for us who conduct them, and for the users who sometimes spend one or two hours answering our questionnaires [...]*” A3. On the other hand, the providers recommended making the initial contact with the patient more effective, through in-person meetings. This would provide initial support for users who are not familiar with digital platforms and a more detailed explanation of how the program works. *“I believe that in the first contact the assessment team should try to make it clearer what the program is so that when users arrive for the intervention, they already know about it more or less and don’t feel so lost. Sometimes they arrive thinking it won’t be online, maybe because of this discrepancy in information [...]*” I2. In addition to fostering a therapeutic relationship, communication should create conditions for health promotion, enabling the user to actively participate in negotiating treatments and conditions that promote self-care<sup>9,10</sup>. Thus, it is extremely important to hold meetings with program collaborators to align implementation strategies and ensure a successful intervention.

#### Feasibility of the “EducaDor” Program

When asked about the feasibility of implementing the program in the healthcare network, the interviewees stated that the program’s educational nature makes it totally suitable for implementation. This is particularly relevant given the significant burden of patients with this condition, who often do not receive adequate care in the healthcare system. “[...] *pain is one of the main complaints we receive and the SUS waiting list for this is huge, but because mortality is not so high compared to*

*other diseases, it’s neglected. So by promoting this health education alternative and bringing new strategies, the program provides patients with a different perspective [...]*” I4. Including pain neuroscience education is suggested by both international clinical guidelines and the Ministry of Health’s Clinical Protocol and Therapeutic Guidelines (PCDT) for chronic pain. This approach aims to improve functionality, optimize prognosis, and streamline the rehabilitation process in people with chronic musculoskeletal pain. Additionally, it effectively reduces pain intensity and psychological suffering<sup>28,29</sup>.

With respect to user acceptance of the strategies, the interviewees believe that the majority will incorporate the strategies taught in the program into their daily routines, considering the feedback received throughout the meetings. “[...] *we receive a lot of feedback from patients who can play with their grandchildren again, sometimes work in the garden, do something in the yard that they couldn’t do before, and then they send us photos saying that now, after the program, they have been able to do these activities again [...]*” I2. Some participants emphasized that users take the strategies with them, although they may not adopt them as a habit, but rather as tools to be used in different phases of life. “[...] *I think in the routine of life, of course, some patients commit more and others less, but I think that having access to this content and information, although there will be phases where they do more or less, I believe that the content remains with them [...]*” I4. Patients with chronic pain may face challenges during treatment due to the physical and psychological discomfort caused by pain. However, it is presumed that improved patient understanding of the underlying logic behind the treatments recommended by professionals can favor therapeutic adherence. This attitude towards health improves the body’s performance and prevents future complications, developing motivation for care and being co-responsible in the process of promoting one’s



health<sup>30</sup>. Thus, health education strategies aimed at pain self-management stimulate individuals' autonomy in treatment, facilitate communication with professionals, and promote a sense of self-efficacy<sup>31</sup>.

In relation to the feasibility of online delivery in the healthcare network, the interviewees agreed that it is feasible for most users. However, they underscored that it still does not cover the entire population, due to lack of access to technology and digital education or individual preference for in-person interaction. *"I think it's feasible for a large part of these people. But of course, there are people who cannot access a cellphone, who don't have the internet, who have difficulty, who sometimes don't know..."* I5. Successfully implementing change is intrinsically linked to how individuals interact with organizational change. Organizational change supports entities in the transition process from the current state to the future and reflects individual transformations. However, it includes perceptions that cause concern and discomfort, thus becoming a challenge for both the professionals involved and changes in individual preferences<sup>32</sup>. In line with the effective use of Information and Communication Technology and innovation, the municipality under study aims, in the digital health context, to implement initiatives and services directed at management, healthcare professionals, organizations, users, and the community. Since 2018, the municipality has promoted the "Fala Saúde" (Health Talk) application, which allows accessing information about appointments, vaccines, and scheduling teleconsultations without the need to travel to the BHU<sup>33</sup>.

With respect to the interventions available, the interviewees consider them suitable for the healthcare network, since they reach a large number of users and demand in the SUS for this condition is significant. Additionally, the possibility of replacing synchronous meetings with recorded classes was emphasized, making

the intervention easier to adjust to each user's routine. *"[...] because there is a very high demand in the SUS, it is sometimes more difficult for us to do this in person. And the way the program is structured, I think we reach more people more quickly..."* I4. The possibility mentioned is used in Group 2 (Asynchronous video group) of the EducaDor Program. In this context, participants receive an interactive e-book at the beginning of the program and, over the weeks, have access to 10 videos, one per week, addressing the same topics as the synchronous online component. Additionally, physiotherapy-based services are offered, along with a synchronous meeting that provides guidance on the program.

However, some interviewees believe that implementing the program in the healthcare network would face a shortage of professionals since, in the university it is conducted by a large number of individuals. *"I think there's a lack of professionals to do the work. We're managing to do it because we're in a project with a lot of students, a big project..."* A2. The same is said regarding the delivery format of the intervention in the BHUs, where most interviewees agreed that the program would not be conducted in the same way by primary healthcare professionals. This is due to the lack of trained professionals and multidisciplinary teams in many BHUs in the municipality. *"...we're working in an interdisciplinary way. And I believe we each contribute a piece of ourselves, everyone provides knowledge, we're really present. But staff at BHUs have many other things to do besides the program. I believe it wouldn't be the same care that we provided."* A7. However, they underscore that the content can be delivered similarly to users if BHU professionals are trained accordingly and more multidisciplinary teams focused on this type of intervention are hired. *"I believe that if BHU professionals are well trained, even by us from the program or by those who have already participated, the delivery could be similar..."* I1. In Brazil, the Ministry of Health considers teamwork

a key element in primary health care, and to that end, multiprofessional and interdisciplinary teams were created. These teams aim to provide comprehensive, continuous, resolute, and quality care, meeting the health needs of the enrolled population, with a focus on the family<sup>28</sup>. With a view to facilitating the population's access to health care, the Family Health Support Center (NASF) was established and regulated by Ordinance 154 of January 24, 2008. Currently, the NASF has evolved into Multidisciplinary Teams in Primary Health Care (eMulti), consisting of a multiprofessional and interdisciplinary team, as established by Ordinance 635 of May 22, 2023. The main objective is to promote access to health services through collaborative work among professionals, including offering remote care<sup>34</sup>.

When asked about the potential population adherence if the program were implemented in BHUs, the interviewees believed there would be adherence. However, they underscored the need for broader dissemination through primary care so that a greater number of users are aware of this strategy. *"...I have the impression that it's little disseminated in BHUs and maybe that's why few people know or understand what it is. So, I think if there were better dissemination, we would have more adherence."* 15. Additionally, some interviewees argue that adherence would be more effective if there were an in-person option, especially if conducted with multidisciplinary support. *"...there would definitely be more adherence, I believe, if it were in person, if it were supervised by health agents or professionals such as physiotherapists or nurses..."* A3. To achieve this goal, it is essential that community health agents, doctors, and nurses that work in primary care and maintain close contact with these patients disseminate the program and refer users to it.

As such, this study has contributed to fortifying the healthcare network for individuals with chronic musculoskeletal pain and has

presented a collaborative intervention model involving primary healthcare providers, secondary level professionals, and users of the National Health System (SUS). Despite recommendations from the National Commission for the Incorporation of Technologies in the National Health System (CONITEC), recommending pain education across all public health care levels<sup>25</sup>, there is a limited number of healthcare professionals equipped with knowledge of contemporary pain management approaches. This hinders access to specialized pain treatment for users suffering from chronic musculoskeletal pain<sup>35</sup>.

The participation of users, professors, students, healthcare personnel, and administrators in the implementation of the EducaDor program has resulted in teaching-service-community integration in a continuous teaching and learning, cycle with concrete practices. This collaborative process has benefitted the training of SUS professionals through the exchange of experiences with healthcare workers and management. For students, in addition to learning from professors, they also produce knowledge and practices together with administrators, service providers and users. In other words, health care helps train professionals and training helps health care. Thus, it is hoped that the project will promote the training of academics and health professionals who are equipped to collaborate with management and care for patients with chronic musculoskeletal pain. These professionals will possess the skills necessary to comprehensively assess chronic pain sufferers, identify problems and associated factors, and efficiently deliver comprehensive and interdisciplinary care, in addition to providing continuing education to primary healthcare providers and community health agents regarding contemporary pain management approaches.

## CONCLUSION

This study aimed to examine the implementation of the “EducaDor” online chronic pain education program in the public healthcare system of a medium-sized city, analyzing variables related to suitability and feasibility from the perspective of the researchers involved in the program.

Based on the findings, the EducaDor program was deemed feasible for implementation in the National Health System (SUS), but requires adjustments, since telehealth is an evolving care model. Both primary healthcare and its users are adapting and transitioning to this format, where online technologies show potential in managing chronic pain.

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