

# Impact of the COVID-19 pandemic on the perception of treatment and chronic musculoskeletal pain in users of a family health unit: qualitative study

*Impacto da pandemia da COVID-19 na percepção do tratamento e da dor musculoesquelética crônica em usuários de uma unidade de saúde da família: estudo qualitativo*

Maria de Paula Faria<sup>1</sup>, Leticia Jonas de Freitas<sup>2</sup>, Paula Nunes Cordeiro Soares<sup>1</sup>, Anamaria Siriani de Oliveira<sup>2,3</sup>, Tainan de Castro Silva<sup>3</sup>

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## ABSTRACT

**BACKGROUND AND OBJECTIVES:** Chronic pain has a high demand for health care due to its multifactorial cause. The COVID-19 pandemic represented a scenario of social stress, in which there was a reduction in care for chronic non-communicable diseases, including cases of chronic pain. The aim of this study was to understand the impacts of the pandemic on this population, considering the perception of pain, experience with care and mental health.

**METHODS:** This is an exploratory case study using a qualitative methodology. An intentional sample of six patients diagnosed with chronic musculoskeletal pain, of both genders and aged between 30 and 70 was used. The individuals underwent a semi-structured interview, in which the data was analyzed by thematic analysis and coding.

**RESULTS:** After the analysis, three themes emerged: 1) Multidimensional impact of pain and coping strategies; 2) Characteristics of the health service and individual-centered care; 3) Influence of pain on quality of life and perspective of future life.

The impact of health care was a factor of anxiety and uncertainty about pain. It had repercussions on new coping strategies, such as telehealth. In this context, Primary Health Care was a scenario capable of managing the short- and long-term quality of life of individuals with chronic pain.

**CONCLUSION:** This study contributed to understanding the impact of the COVID-19 pandemic on individuals with chronic pain, which represents a challenge to current care.

**Keywords:** Chronic pain, COVID-19, Musculoskeletal pain, Primary health care.

## RESUMO

**JUSTIFICATIVA E OBJETIVOS:** A dor crônica apresenta alta demanda de assistência à saúde, devido a sua causa multifatorial. A pandemia da COVID-19 representou um cenário de estresse social, em que houve redução de atendimentos às doenças crônicas não transmissíveis, incluindo os casos de dores crônicas. O objetivo deste estudo foi compreender os impactos da pandemia para este público, considerando a percepção da dor, experiência com assistência e saúde mental.

**MÉTODOS:** Trata-se de um estudo de caso exploratório de metodologia qualitativa. Foi utilizada uma amostra intencional de seis pacientes com diagnóstico de dor musculoesquelética crônica, de ambos os sexos e com idade entre 30 e 70 anos. Os indivíduos passaram por uma entrevista semiestruturada, na qual os dados foram analisados por análise temática e codificação.

**RESULTADOS:** Após a análise, emergiram três temas: 1) Impacto multidimensional da dor e estratégias de enfrentamento; 2) Características do serviço de saúde e atenção centrada no indivíduo; 3) Influência da dor na qualidade de vida e na perspectiva de vida futura. O impacto na assistência à saúde foi um fator de ansiedade e incertezas sobre a dor. Isso repercutiu em novas estratégias de enfrentamento, como os teleatendimentos. Nesse contexto, a Atenção Primária à Saúde foi o cenário capaz de gerenciar a qualidade de vida a curto e a longo prazo dos indivíduos com dor crônica.

**CONCLUSÃO:** Este estudo contribuiu para a compreensão do impacto da pandemia da COVID-19 em indivíduos com dor crônica, o qual representa desafios à assistência atual.

**Descritores:** Atenção primária à saúde, COVID-19, Dor crônica, Dor musculoesquelética.

Maria de Paula Faria – <https://orcid.org/0000-0002-4253-2748>;  
Leticia Jonas de Freitas – <https://orcid.org/0000-0002-3924-231X>;  
Paula Nunes Cordeiro Soares – <https://orcid.org/0000-0002-5004-3135>;  
Anamaria Siriani de Oliveira – <https://orcid.org/0000-0001-5854-0016>;  
Tainan de Castro Silva – <https://orcid.org/0000-0002-7660-7912>.

1. University of São Paulo, School of Medicine, Multiprofessional Residency Program in Comprehensive Health Care, Ribeirão Preto, SP, Brazil.
2. University of São Paulo, School of Medicine, Department of Health Sciences, Ribeirão Preto, SP, Brazil.
3. University of São Paulo, School of Medicine, Department of Physiotherapy, Ribeirão Preto, SP, Brazil.

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## HIGHLIGHTS

- The COVID-19 pandemic scenario for individuals with chronic pain.
- Primary care and multi-professional teams in the treatment of chronic pain.
- Coping strategies for chronic musculoskeletal pain.

Associate editor in charge: Maria Belén Salazar Posso

<https://orcid.org/0000-0003-3221-6124>

## Correspondence to:

Anamaria Siriani de Oliveira

E-mail: [siriani@fmrp.usp.br](mailto:siriani@fmrp.usp.br)



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## INTRODUCTION

Chronic musculoskeletal pain (CMP) affects 45.59% of the adult population in Brazil, with a higher prevalence in females<sup>1</sup>. According to the International Association for the Study of Pain (IASP) 2020, pain is “an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage”<sup>2</sup>. CMP results from the pathological involvement of muscles, bones, joints, and adjacent tissues and has multifactorial causes<sup>3</sup>. The diagnosis of chronicity is obtained when the symptom lasts for more than three months<sup>4</sup>. This condition can result in both physical and emotional functional disability<sup>5</sup>, which can lead to time off work and predispose patients to depression and anxiety<sup>3,6</sup>. Due to its complexity, which affects not only the physical aspects, but also the psychological, emotional and social aspects, this condition leads to high rates of demand for health care and, consequently, a high financial cost for the Brazilian public health sector<sup>4,7</sup>.

The recommendation for the treatment of chronic pain (CP) involves the work of a multi-professional health team, which is able to assist the individual and provide support to minimize the impact that pain has on various areas, having a direct influence on quality of life<sup>8,9</sup>. The recommended model of action is interdisciplinary, through the exchange of knowledge between professionals and their areas of expertise, so that coping strategies can be developed according to the individualities and discrepancies of the population<sup>10-12</sup>. In this context, Primary Health Care (PHC) represents an important point of care for chronic non-communicable disease conditions, being responsible for the initial contact with the patient and their complaint, for example in cases of chronic pain<sup>13,14</sup>. The PHC scenario is made up of teams of health professionals who aim to maximize assistance by coordinating care<sup>15</sup>. It also guarantees support for individuals with multiple diagnoses and when there are insufficient clinics<sup>12,16</sup>.

The COVID-19 pandemic has had a global impact on health care. During the period, especially in 2020 and 2021, public health services were redirected to contain the spread of contamination and provide care to contaminated individuals<sup>17,18</sup>. As a result, it was necessary to reduce care for chronic and non-emergency cases, which included care for individuals with CMP<sup>17,18</sup>. In addition, during the pandemic period, an international study that explored 22,330 adults from the general population in 13 countries and four continents found a higher prevalence of anxiety and depression during the first wave of the COVID-19 pandemic<sup>19</sup>. This may have directly affected patients with CMP, since high levels of anxiety and depression have a direct impact on the quality of life of patients with CP<sup>20</sup>. Thus, individuals with CMP already experience a reduction in their quality of life because psychological factors such as anxiety and depression are related to this condition. During the pandemic period, these negative experiences may have been intensified, since the COVID-19 pandemic has caused symptoms of anxiety and depression in the general population worldwide. In this context, due to the decrease in care for chronic pain

conditions because of the need to prioritize the treatment of COVID-19 contamination, the present study's objective was to understand the perception of treatment and CMP in users of a family health unit during the COVID-19 pandemic. The central question of the study was “How did you perceive your pain during the pandemic?”.

## METHODS

This is an exploratory case study, a method that has allowed us to gain a detailed and in-depth understanding of a newly explored topic<sup>21-23</sup>. In addition, the qualitative methodology focuses on the meaning of the individual's behavior and their perception in relation to the proposed theme, aiming to understand the aspects of a phenomenon through inductive means<sup>24-26</sup>.

The study followed the international recommendations of the Consolidated Criteria for Reporting Qualitative Research (COREQ), and the Standards for Reporting Qualitative Research (SRQR) (<http://www.equator-network.org/>)<sup>27,28</sup>.

### Research site and sample

A voluntary intentional sample of six individuals diagnosed with CMP belonging to a family health unit in the city of Ribeirão Preto-SP was used.

Individuals of both genders aged between 30 and 70 years who had been diagnosed with CMP in any part of the body before the pandemic period (March 2020) were included. This selection process also required the following: registration and linkage to the health service before the pandemic; history of indication for physiotherapy follow-up in PHC during the COVID-19 pandemic (March 2020 and December 2021, such as consultations, telehealth, home visits and guidance); active follow-up, i.e. attending routine appointments and consultations at the unit in 2022; and finally, capacity for understanding and self-care.

The exclusion criteria were individuals who were diagnosed with CMP after March 2020; individuals who were undergoing weekly physiotherapy rehabilitation; individuals with severely reduced and absolutely disabling visual and hearing acuities at the time of the interview.

In the end, 10 individuals were invited to take part in the study. Of these, four individuals were unable to take part: two females, one for incompatibility due to her work schedule and the other for family reasons; and two males, one for incompatibility due to his work schedule and the other for not showing any interest in the study.

### Procedures

The individuals were selected from the unit's case discussion meetings when a patient with CMP was presented by the team's health professionals. The analysis was done using a physical list of patients who had previously been followed up with the team of physiotherapy professionals in PHC. After selection, individuals were invited to take part in the study, either by face-to-face contact at the health service or by telephone contact.

The inclusion criteria were applied by the author MPF, who worked as a multiprofessional resident physiotherapist at the unit. The professional also made initial contact with the individuals invited to take part in the study, presenting the objectives and relevance of the study.

Participants were given the study's Free and Informed Consent Term (FICT), which was signed in two copies, one remaining with the volunteer and the other with the researcher in charge. A sociodemographic questionnaire was then collected to characterize the sample, followed by a semi-structured interview which was audio-recorded. Finally, a field diary was kept to collect aspects during the interview and the particularities of each interviewee, as a way of improving and studying the cases<sup>29</sup>. Afterwards, the recording was sent to the respective volunteer to add or remove any information they deemed necessary.

The semi-structured interview was carried out at a scheduled time at the health unit or at the patient's home, and was directed by the researcher MPF, in person and individually. Five interviews were carried out at home and one at the health unit, in a reserved room.

#### *Semi-structured interview*

The model of a semi-structured interview investigates the individual's experience to recognize factors that can be modified within the context of health care<sup>30</sup>. By directing the interview, the authors limit the amount of information and can better achieve the initial objectives<sup>26</sup>.

The interview designed for this study consisted of open-ended questions, allowing individuals to answer freely and without interference. The trigger question for the interview was "How did you perceive your pain during the pandemic?". Three main categories were addressed, resulting in subcategories: experience with CMP during the pandemic – perception of pain, control actions for pain, comprehension of factors that improve pain; access to health services in search of care due to pain and experience with care, if received; aspect in relation to quality of life, physical and mental health – perception of the present moment and perspective of health in the future (next 10 years). The Interviews lasted between 20 and 30 minutes, were audio-recorded and later transcribed by the researcher within a maximum of 24 hours.

#### **Ethical information**

Project No. CAAE 61037022.4.0000.5414, approved by the Research Ethics Committee of the Dr. Joel Domingos Machado School Health Center of the University of São Paulo's Ribeirão Preto Medical School (CEP-CSE/FMRP/USP).

#### **Data analysis**

The data from each interview was stored on Google Drive<sup>®</sup>. Access was limited to the exclusive use of the researcher responsible, and there was no sharing. No software was used to organize the data.

Afterwards, the data was subjected to thematic analysis, which helps to identify, analyze, and describe patterns or themes present in individuals' discourses, and is an objective and summarized way of presenting the main findings<sup>31</sup>. This analysis sought to understand experiences, thoughts, and behaviors through qualitative data. In addition, thematic analysis can be flexible when used in paradigmatic and epistemological variations, given its relevance to ensuring reliability in findings and interpretations. At the end, themes were generated, considering elements that answer the question investigated in the study<sup>32</sup>.

The research also included the inductive coding method, which consists of creating codes from the data collected<sup>33</sup>. These codes were grouped and organized according to the categories developed in this study. For each category, subcategory, codes, and emerging themes were discussed between two members of the team (MPF and LJF), the latter with experience in qualitative research. Finally, the categories, subcategories, codes, and themes were organized in a table to better demonstrate the results<sup>33</sup>.

#### **RESULTS**

The study sample consisted of six individuals, five of whom were female and one male. Table 1 shows the characteristics of the participants.

After thematic analysis of the interviews, three topics emerged: 1) Multidimensional impact of pain and coping strategies; 2) Characteristics of health service and individual-centered care; 3) Influence of pain on quality of life and future life prospects. Table 2 shows the coding and emergence data of the topics.

**Table 1.** Sample characteristics

Identification	Age	Gender	Time of pain	Occupation	Diagnosis and imaging
Patient 1	42 years	Female	5 years	Percussionist	Rotator cuff syndrome (ultrasound: bilateral supraspinatus tendinopathy and bursitis)
Patient 2	52 years	Female	6 years	Housewife	Back pain
Patient 3	35 years	Female	14 years	Housewife	Chronic pelvic pain (X-ray examination: femoral osteochondrosis)
Patient 4	45 years	Female	5 years	Unemployed (previous profession: saleswoman)	Back pain
Patient 5	65 years	Female	20 years	Retired – Housewife	Back pain
Patient 6	58 years	Male	8 years	Retired – general services assistant.	Knee osteoarthritis (X-ray examination: reduction of medial femorotibial joint space next to D)

**Table 2.** Interpretation of the qualitative data, categories and subcategories outlined in this study, codes and themes emerging after analysis of the semi-structured interviews.

Categories	Subcategories	Definition	Quote	Codes	Topics
Experience with CMP during the pandemic	Pain perception	Individuals' understanding of the presence of pain	(...) <i>I was even more... I was very confined and very still, not much, and the more I stayed at home [...] because we had no way of going out, of walking. In my case, it seems that people are even more inclined to feel pain, right? (Patient 4)</i> (...) <i>My pain during the pandemic, in a way, improved, I think in a way because the movement decreased. (Patient 1)</i>	Worsening of pain intensity Fear and uncertainty Concern about contamination Pain relief Reduced workload, sedentary lifestyle, and social isolation	Multidimensional impact of pain and coping strategy
	Control actions for pain	Actions taken by individuals to relieve pain symptoms	(...) <i>I had to take some measures on my own. So sometimes, the drugs I take on my own is dipyrone, and I behave as if I had been to the doctor, remembering the treatment he said and doing it. (Patient 3)</i> (...) <i>Usually we felt a bit of pain, a bit too much, so I tried to rest, rest more, so I could rest a bit, right? (Patient 6)</i>	Drugs Rest Self-management	
	Understanding factors that improve pain	Individuals' knowledge of actions and strategies that help control and relieve pain	(...) <i>I tried to do the activities I usually do, I try to set goals and I don't stand there thinking 'Ahh, I'm in pain, I'm in pain!', I take the focus off of it even though I know it exists. (Patient 3)</i> (...) <i>thinking about the routine, I'm aware that if I go back to having healthier habits ... I already have a healthier eating habit [...] so I think I need to add exercise to my routine. Make it a routine, you know... every day eh, do it... I think that if I managed to lose weight, exercise more, maybe I'd be able to notice more of a difference in the pain. (Patient 2)</i>	Healthy habits Physical exercise Rest Self-management Self-knowledge	
Access to health services during the pandemic	Seeking care due to pain	Search for health care due to worsening of pain symptoms	(...) <i>I did have it..., but we avoided it... because there was a peak when the contagion was very high, when the health centers were very crowded with COVID patients, so sometimes we felt pain and we avoided it." (Patient 2)</i>	Emergency care Multi-professional care Avoidance of care Reception Guidance Physiotherapeutic care	Characteristics of the health service and individual-centered care
	Experience during care	Individuals' perceptions during health care received to assess pain symptoms	(...) <i>The people at the center would say: "No... let's lengthen it like this, let's change the booklet like this, try this, try that" So who... who really gives me support for pain is the center, right?" (Patient 1)</i> (...) <i>ah I had to go straight, I have a card that I can go and book my appointment with the orthopedist, eh. [...], but my orthopedist, he's... he looks me in the face and says: 'There's nothing he can do! You're already on the physiotherapy waiting list. (Patient 1)</i>	Satisfaction Resolvability Frustration Indifference	

Continue...

**Table 2.** Interpretation of the qualitative data, categories and subcategories outlined in this study, codes and themes emerging after analysis of the semi-structured interviews – continuation.

Categories	Subcategories	Definition	Quote	Codes	Topics
Quality of life, physical and mental health aspects	Perception of the present moment	Feeling of understanding of their current situation and experience.	(...). <i>Today I went out, did a million things, stood for a long time and got in the car about 10 times, so I'm a bit tired. Anything that takes me out of my routine, the pain comes, you know? (Patient 2)</i> (...) <i>My emotions are pretty shaken up, 15 days ago we lost my daughter's father-in-law. It was quite an impact for me, you know. But then we get more tense, you get stuck." (Patient 4)</i> (...) <i>I had to stop handicrafts, but I already have the idea of seeing what I can do, right, so the mind always remains a mind, so... inspiring." (Patient 3)</i>	Stress Tiredness Irritation Sadness Grief Motivation Encouragement	Influence of pain on quality of life and future life prospects
	Perspective of health in the future (next 10 years)	Feeling of expectations about the future in the next 10 years of life.	(...) <i>I wonder if I'll ever make it (laughs). When we were kids, we didn't even think we'd reach 40, let alone 70! I don't think much about it. But I tell my husband, when he retires, we're going to live on a ranch by the river, that's all!" (Patient 5)</i> (...) <i>Really? I'm so unmotivated... it makes me sad. With the world, with people, [...]. I can't get a job, I've looked for several and I've been looking. So, I'm fine, I'm pretty discredited to tell you these days. I have no expectations of tomorrow, you know... I don't..." (Patient 4)</i>	Demotivation Frustration Responsibility Hope Life project	

GMP = Chronic musculoskeletal pain.

### Topic 1 – Multidimensional impact of pain and coping strategy

Half of the patients (P2, P3 and P4) reported worsening of pain intensity during the pandemic, and this was associated with emotional aspects such as fear and worry about the risks of contamination (quote 1), restrictions on care in health services, which were geared towards containing the spread of COVID-19 and dealing with the acute demands of respiratory cases (quote 2) and the factor of social isolation and sedentary lifestyle (quote 3). On the other hand, some (P1 and P5) reported improved pain during the pandemic, due to a possible reduction in workload and social commitments (quote 4). For one individual (P6), the pain remained constant in some periods, even in the face of fears and uncertainties about the disease (quote 5).

Most of the interviewees (P2, P3, P4 and P5) reported using drugs to control pain during the pandemic, either as an adjunct or as the main method of pain relief (quote 6). Among the drugs mentioned were non-steroidal anti-inflammatory drugs, analgesics, and muscle relaxants (quote 7). Others (P1 and P6) reported rest as the main control measure, especially when the pain worsened (quote 8).

Only one individual (P6) reported not understanding the importance of healthy habits. On the other hand, the others (P1, P2, P3, P4 and P5) understood that these habits could help control the intensity of pain in the long term (quote 9). Healthy habits were understood to include eating a balanced diet, exercising regularly, and reducing body weight. These habits were acquired through guidance provided by health professionals throughout the participants' lives, and some were also present in their daily lives. Among the healthy habits reported by the participants, exercise was seen by some (P1, P2, P4 and P5) as beneficial for pain treatment. However, for others (P1, P2 and P4), there seemed to be a difficulty in organizing themselves to adhere to a physical exercise routine with satisfactory frequency and intensity (quote 10). Finally, an understanding of the importance of rest (P3, P5 and P6) or resting during a pain crisis was also identified in the individuals' statements (quote 11).

The ability to manage pain within the routine of activities seems to represent a significant aspect of self-care with one's own health. In addition, the perception of the symptom, when managed, can contribute to a less compromised routine of activities of daily living (quote 12). Table 3 shows the quotes relating to topic 1.

**Table 3.** Excerpts from participants' narratives related to topic 1 – Multidimensional impact of pain and coping strategies.

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**Quotes – Topic 1**

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Q1 *"This pain has been with me since before the pandemic. [...] I felt that during the pandemic I was in even more pain. I think it's psychological, I don't know, something related to that seems to have made the pain more pronounced"* (Patient 2).

Q2 *"So at the time of the pandemic, the pain was even a little more intense in relation to this: people being in the daily routine of staying more at home in isolation, without contact with other people; access to health was also more restricted. So you were feeling (pain), but you thought it was better not to go to the clinic, because the clinic was more focused on treating Covid patients. And then, in this way, it gets more intense, right, because you feel at the moment that it's intense, you can't cope, there's no way you can seek help, because you know that if you did, you could put yourself at greater risk of contamination"* (Patient 3).

Q3 *"I was even more... I was very confined and very still, not much, and the more I stayed at home [...] because we had no way to go out, to walk... it seems that people are even more likely to feel the pain in my case, right?"* (Patient 4).

Q4 *"My pain during the pandemic period, in a way, it got better, I think in a way because it reduced movement. Yeah... since I work with percussion, I use my arms a lot where my chronic pain is more localized, which is in my shoulder. At the time, we had a... the demand for work dropped a lot and with that my arm, um... I think it had more rest and it got better"* (Patient 1).

Q5 *"During the pandemic, it (the pain) didn't increase. [...] There was no difference. What I remember was more the worry about being vaccinated"* (Patient 6).

Q6 *"During the pandemic we didn't go out, just indoors, right? Then at home we used hot water bags, those bags to try to relax and take drugs, a muscle relaxant. They gave it to me here (at the health unit), I think it was a relaxant, but I took it and it made me very sleepy"* (Patient 4).

Q7 *"I had to take some measures on my own. So sometimes the drugs I take on my own is dipyrone, but I behave as if I'd gone to the doctor, remembered the treatment he'd said and did it"* (Patient 3).

Q8 *"We usually felt a bit of pain, a bit too much, so we tried to rest, rest more, rest a bit, right?"* (Patient 6).

Q9 *"Thinking about the day to day, I'm aware that if I go back to having healthier habits... I already have a healthier eating habit [...] so I think I need to add exercise to my routine. Make it a routine, you know... every day, mmmm... do it... I think that if I managed to lose weight, exercise more, maybe I'd be able to notice more of a difference in the pain"* (Patient 2).

Q10 *"It was good... the exercises, the stretching with the group (exercise group at the health unit), it was really good, but I can't do it at home"* (Patient 4).

Q11 *"When I'm in pain, I can't do much and then I stop, you know? I relax a bit in bed, start stretching. I don't insist on doing anything"* (Patient 5).

Q12 *"I've tried to do the activities I usually do, I try to set myself goals and I don't sit there thinking 'Ahh, I'm in pain, I'm in pain!', I focus on it even though I know it's there. It's worked well for me, right, because if I go back to just looking at this pain, I'll realize that it's hurting a lot and it hurts a lot... then you think you can't do anything"* (Patient 3).

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**Topic 2 – Characteristics of the health service and individual-centered care**

During the COVID-19 pandemic, some of the patients (P1, P2, P4 and P5) reported that they sought care at the health service due to one or more pain crises. Some (P1, P3 and P5) reported that due to fear of possible contamination they chose to avoid seeking medical care, especially in emergency rooms (quote 13). In this scenario, multi-professional care, within PHC, was considered a strategy by some of them (P1, P4 and P5), to receive guidance on pain management during the phase of social isolation and restriction of medical care to chronic degenerative conditions during the pandemic period (quote 14). In addition, two of the individuals (P2 and P6) reported that they did not seek health care to improve the intensity of their pain. The fact that they didn't seek help seems to be related to the length of experience with the symptom and getting used to the functional limitations caused by the pain, possibly influenced by self-knowledge to manage their own pain.

For all the individuals who sought the health service, involving medical care, physiotherapy, with the nursing team or the multi-professional team (P1, P2, P4 and P5), the care received was interpreted as satisfactory and resolute, especially within PHC (quote 16). In this scenario, the assistance provided by

the PHC physiotherapy team was considered essential within the actions and guidelines for these individuals, both in terms of pain control and quality of life during the pandemic phase (quote 17). One female patient (P1) sought care at both the PHC and the specialized care service and reported some frustration with the care received at the specialized care service. In her account of the care she received, there was a lack of resolution of her musculoskeletal complaint, since there were ineffective intervention strategies for her diagnosis, a lack of welcome and empathy (quote 18). Table 4 shows the quotes relating to topic 2.

**Topic 3 – Influence of pain on quality of life and future life prospects**

Participants were encouraged to talk about their current state of health, both physical and mental. Among the reports, some (P1, P2 and P4) reported feelings of stress, tiredness, and irritation, which they believed were associated with worsening pain intensity. These feelings were related to current issues, such as work overload, the routine of multiple tasks without planning and personal dissatisfaction (quote 19). For one female patient (P2), pain was the reason she felt irritable and tired, and she also reported feelings of dissatisfaction with the lack of dedication on

**Table 4.** Excerpts from participants' narratives related to topic 2 – Characteristics of the health service and individual-centered care.

Quotes – Topic 2
Q13 “Oh yes... I did have it..., but we avoided it... because there was a peak when the transmission was very high, the health centers were very crowded with COVID patients, so sometimes we felt pain, and we avoided it” (Patient 2).
Q14 “The people at the center would say: “No! Let’s stretch like this, let’s change the booklet like this, try this, try that” So who... who really gives me support for pain is the center, right?” (Patient 1).
Q15 “During the pandemic I looked for... well, not so much related to pain, because when the weather gets cold, I start with respiratory symptoms, and since it was necessary to do screening to say if it wasn’t COVID, then I even looked. But when it came to pain, I tried to follow what the doctors always told me to do. [...] I’ve tried to control my mind, right, my emotions, so as not to think too much about “pain, pain, pain”. And when I feel that it’s unbearable, I take medicine that gives me relief and continue with my activities” (Patient 3).
Q16 “What really supports me in dealing with the pain is the health center, you know! In fact, during the pandemic, there was a day when my back locked up, and they provided me with individual care. The guys (physiotherapy interns) came and released the muscles in my back because there was nothing else to be done at that moment. So, the best care I receive for pain is at the health center” (Patient 1).
Q18 “Oh! I had to go straight to the orthopedist. I have a card... where I can go directly and schedule my appointment with the orthopedist [...]. But my orthopedist, at the time, looked me in the eye and said: ‘There’s nothing to be done! You’re already on the waiting list for physiotherapy.’ So, I asked: ‘What about the pain?’. And he said: ‘If you have pain, take a painkiller (anti-inflammatory drug).’ That’s when I sought help at the health center” (Patient 1).

the part of professionals to identify the cause of the pain (quote 21). This is common among the processes of diagnosing and understanding pain. Three participants (P1, P4 and P5) reported feelings of sadness, stress, and low self-esteem with their physical condition, due to the influence of work scenarios, family members with health problems (P4) and the grieving process (quotes 20 and 21). However, despite citing the experience of living with pain, two individuals (P3 and P6) reported feelings of motivation and encouragement to set goals and carry out new projects, relating their current emotional state to satisfaction and hope, visualizing new beginnings within the routine of their life activities (quote 22).

The interviewees were asked about their feelings of hope and expectation about their future, especially how they saw them-

selves when they were 10 years older. Two individuals (P3 and P5) reported living with uncertainties about their health and the aging process, even though they had made future plans such as changing their housing and lifestyle (quote 24). In addition to uncertainty, two patients (P2 and P4) reported lacking motivation and positive expectations for the coming years due to unemployment, their own health condition, and a negative perception of their current quality of life (quotes 25 and 26). The scenario in today’s society, such as inequalities and political conflicts, was also mentioned by some of the patients (P1, P4 and P6) as a mediator of favorable and unfavorable possibilities, such as access to quality health care. These aspects seem to influence life choices, such as opting for healthier habits (quotes 27 and 28). Table 5 shows the quotes relating to topic 3.

**Table 5.** Excerpts from participants' narratives related to topic 3 – Influence of pain on quality of life and future life prospects.

Quotes – Topic 3
Q19 “Yeah... today I went out, I did a million things in the street early, I stood for a long time and I got in the car about 10 times, I left 10 times, so I’m a bit tired. Anything that takes me out of my routine, the pain comes, you know?” (Patient 2).
Q20 “My pain, mhm... (laughs) it’s been increasing, probably because now the workload is... back to normal [...]. ] And today, we’re going through a very heavy stress, so it’s... let’s put it this way, a delicate moment, but even so, we’re a family that goes through delicate moments very united, so we don’t have this thing of despair, right... or loneliness or... you know, it’s very difficult, even because we don’t give ourselves space to feel it, so to tell you the truth. It’s been a very turbulent week, mine had a problem with her eyes, she burned both strings with eyeliner. She’s recovering now, she has five days to get her sight back. My younger sister had a miscarriage yesterday, lost the baby, so we’re going through a really turbulent time, but our turmoil is controlled” (Patient 1).
Q21 “Our emotions are really shaken, we’re really shaken, 15 days ago we lost my daughter’s father-in-law. It was quite an impact, quite an impact for me, you know. It shook me emotionally. But then you get more tense, you get stuck” (Patient 4).
Q22 “Ahhh...I feel good, you know. I’m always really focused... in this case, I have a problem with my hip and I’m trying to find an alternative treatment, something to relieve my pain, but I’ve been feeling fine, despite these problems with pain. I had to stop handicrafts, but I already have the idea of seeing what I can do, right, so the mind always remains a mind, so...inspiring” (Patient 3).
Q23 “It’s like two feelings, right, like: I’m always very grateful to God for everything, and I’m always a bit fed up with not being able to [...] it’s a bit annoying because you can’t reach a context, a denominator. ‘Oh, so it’s fibromyalgia’, ‘Oh, let’s get a blockade’, ‘Oh, let’s take an anti-inflammatory’, ‘Oh, let’s rest’, ‘Let’s exercise’, ‘Let’s lose weight’. There are millions of things, but nobody can really define the reason for the pain, and then you live with that pain and it bothers you a lot” (Patient 2).
Q24 “Wow, am I ever going to make it?” (laughs) When we were kids, we didn’t even think we’d make it to 40, let alone 70! I don’t think much about it. I think: like I say to my husband “I can’t retire, because today I’ve retired”, but when he retires we’re going to live on a ranch by the river, that’s all!” (Patient 5).

Continue...

**Table 5.** Excerpts from participants' narratives related to topic 3 – Influence of pain on quality of life and future life prospects – continuation.

**Quotes – Topic 3**

Q25 "I do everything a person has to do at home with all these problems, I don't give in, but I'm not someone who has much expectation of the future.... Especially because I don't think any body can take that much drugs for that long... I take 14 pills a day [...] 'Then I want to be 60 and healthy', I'm not healthy anymore, you know? (Patient 2).

Q26 "Really? I'm so unmotivated... I'm so unmotivated... it makes me sad. I'm really unmotivated! With the world, with people, with everything we see on the news. [...] I can't get a job, I've looked for several and I've been looking. So I'm fine, I'm pretty discredited to tell you these days, I don't see myself at 55, I don't know! I wouldn't be able to tell you today. I have no expectations of tomorrow, you know... I don't..." (Patient 4).

Q27 "I'm going to have to work hard, I'm going to have to fight hard! The world is very screwed up and we work in the social area and we're going to have more and more to do in order to improve all this" (Patient 1).

Q28 "Ah, that depends on the consequences of what comes next, right! Then today you'll have to stop doing things... Like the weather, there are things you won't be able to do. You have to know how to take the conditions we have"! (Patient 6).

## DISCUSSION

The present study sought to analyze the impact of the COVID-19 pandemic on the perception and treatment of pain in patients with CMP who are users of family health units. After analyzing the semi-structured interviews, three topics emerged that explore the perception of these individuals: 1) Multidimensional impact of pain and coping strategies; 2) Characteristics of the health service and individual-centered care; and 3) Influence of pain on quality of life and future life prospects. Within these topics, it was possible to observe that the study participants, during the COVID-19 pandemic, reported both improvements and worsening of pain, and in the second case, it could have been associated with the increased stress experienced during this period. In addition, because of the fear of possible contamination, individuals went less often to the emergency room and more often to the basic health unit. Finally, the pain affected the quality of life of the individuals because it affected their emotions and increased their stress levels during the pandemic period, as well as the prospects of improvement and non-improvement of the pain.

The sample in this study reported both an improvement in CMP, due to the decrease in work demand during the pandemic, and an increase in pain intensity due to the increase in stress during this period. CP during the COVID-19 pandemic was considered a psychosocial stressor because it affects not only the physical condition, potentiated by physical inactivity, but also the psychosocial condition, limiting social interactions and providing uncertainty about future expectations<sup>6,34</sup>. These results corroborate the findings of the present study, where in addition to these feelings, the participants reported financial worries due to unemployment and the impossibility of exercising their occupational activity. In addition, the participants in this basic family unit reported uncertainties in the economic area and in relation to the functioning of the public health sector due to possible changes in the Brazilian political scenario. Regarding coping with pain, the participants reported understanding the importance of healthy habits, such as diet and physical exercise, which shows that they had strategies for self-management of CMP symptoms. These healthy habits are considered essential in the treatment and control of CP<sup>35</sup>.

However, during the pandemic period, beneficial habits such as practicing physical activity were affected by social isolation, which meant they spent more time at home<sup>34</sup>. Similar data on coping with pain suggests that educational approaches to pain should be strengthened to improve the management of activities at home<sup>36</sup>.

The reports showed that contact with physiotherapy in PHC was considered positive, since it enabled individuals to develop strategies for coping with pain, such as home exercise management and self-care. In this respect, it was possible to observe that individuals reported a worsening of pain due to the absence of physiotherapy appointments and other therapies for coping with pain, such as occupational therapy and psychotherapy during the pandemic<sup>37</sup>. After a period of lockdown in health care, physiotherapy and these other areas were recognized by patients as essential health services, giving relevance to their continuity in these areas, especially in individuals with CP<sup>34,37</sup>. However, some of the participants reported that the intensity of their pain had improved during the COVID-19 pandemic due to the possibility of spending more time resting and the reduction in the burden of occupational activities. This finding may be justified by the belief, often present, that movement can generate pain and therefore rest could improve the pain condition<sup>38</sup>.

As for the care received, PHC was considered a safe and effective place to receive patients with CP. The narratives showed experiences of the services offered and the quality of care. This was a well-known and much talked about scenario during the pandemic due to the overload in health care services, which were geared towards containing the spread of the disease and supporting the care of infected individuals<sup>17,18</sup>.

The interviewees in this study reported seeking care due to pain, but with the fear and uncertainty of the risk of contamination, some avoided seeking assistance. These findings were also found in a study on the experience of pain and health care during the pandemic<sup>39</sup>. The issues raised showed that the impact on care led to anxiety and uncertainty about the continuity of pain treatment and the end of the pandemic. In addition, there were also reports of concern about the evolution of their own pain due to the lack of care. There were also concerns about the use of drugs, which could be delayed and in short supply, and some interviewees raised the issue of risk of suicide<sup>39</sup>.

The aspects reported by the participants in this study involving quality of life and mental health demonstrated the influence of pain on the present and future of individuals. According to the findings of a study on CMP, investigated in the PHC setting, CP makes greater demands on individuals to maintain the integrity of their physical and mental health and can have repercussions in terms of fatigue, insomnia, anxiety and depression<sup>40</sup>. It was observed that the mental health variable seems to be related to greater pain intensity and an increase in painful areas of the body, emphasizing that PHC represents an important scenario capable of managing the care of the population with CP, considering the improvement of quality of life in the short and long term<sup>40</sup>.

### Relevance of the study

The study made it possible to understand the impact of the COVID-19 pandemic on the perception of pain and treatment for patients with CMP. In addition, it was possible to demonstrate the negative repercussions of the pandemic period on the emotional state, coping, future expectations, and economy of Brazilian individuals with CMP. The findings also demonstrated the importance of physiotherapy as perceived by users of a family health unit, which, with the multi-professional health team, provided coping strategies and management of CMP.

### Limitations of the study

The small sample of individuals with active follow-up at the health unit and who had a history of being referred for physiotherapy during the pandemic at a Brazilian family health unit can be considered a limitation due to the difficulty in reaching a certain level of information saturation. In addition, because the study was carried out in only one basic health unit, it may not have represented the reality of other populations, which implies caution when interpreting the results.

### CONCLUSION

Patients from a basic family unit with CMP reported both improvement and worsening of pain intensity during the COVID-19 pandemic. The improvement may have been related to rest and/or reduced workload, and the worsening to the increased stress experienced at the time. In addition, these patients went to the primary health care unit more often than to the emergency room. Finally, the pain affected quality of life by increasing the level of stress during this period and the patients had expectations of improvement rather than worsening of their clinical condition.

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### AUTHORS' CONTRIBUTIONS

#### Maria de Paula Faria

Data Collection, Conceptualization, Project Management, Research, Methodology, Writing – Preparation of the original, Writing - Review and Editing, Visualization

#### Letícia Jonas de Freitas

Conceptualization, Project Management, Methodology, Writing - Review and Editing, Validation

#### Paula Nunes Cordeiro Soares

Conceptualization, Writing - Review and Editing

#### Anamaria Siriani de Oliveira

Conceptualization, Methodology, Writing - Review and Editing, Supervision

#### Tainan de Castro Silva

Conceptualization, Writing - Review and Editing

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