

Possibilities of the nurse's action in front of the effects of social isolation on the patient with chronic pain: integrative review

Possibilidades de atuação do enfermeiro frente aos efeitos do isolamento social no paciente com dor crônica: revisão integrativa

Fracielle Rozendo de Carvalho¹, Sílvia Sidnéia da Silva¹, Alexandra de Souza Melo¹, Priscila de Medeiros², Lillian Sheila de Melo Pereira do-Carmo¹, Belisa Vieira da Silveira²

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ABSTRACT

BACKGROUND AND OBJECTIVES: Social isolation, as experienced in the context of the COVID-19 pandemic, has triggered psychological and neuropsychiatric problems; these conditions can aggravate chronic pain crises. It is also known that social relationships play an important role in pain and emotions. Chronic pain (CP) is a challenging disease, especially in terms of its multifaceted mechanisms and treatment. Thus, the aim of this study was to provide a better understanding of nurses' work with patients with CP and the impact of social isolation resulting from the COVID-19 pandemic.

CONTENTS: This is an integrative review, carried out in the Virtual Health Library (*Biblioteca Virtual em Saúde - BVS*) and Medline via Pubmed databases of the National Library of Medicine. To select the articles, the following descriptors in health sciences and Medical Subject Headings (DeCS/MeSh) were considered: "Social isolation", "Chronic pain", "COVID-19", "Nursing care" and "Patient care planning", with their synonyms/alternative terms. A total of 45,703 articles were found; based on the inclusion and exclusion criteria, 27 articles were selected.

This study hoped to answer the following guiding questions: "how do nurses work with individuals with CP during the social isolation caused by COVID-19?", and "what are the consequences of social isolation for this population due to the COVID-19 pandemic?". Of the 27 articles, most were published in North America and Europe, and three in Brazil. The population most affected by CP are seniors, women and people on low incomes. In terms of profession, only three of the 27 articles were published by nurses. The data was discussed considering the work of nurses with individuals with CP, especially through telehealth, as well as the impacts that people with CP have suffered from social isolation during the coronavirus pandemic.

CONCLUSION: There is a significant gap in the literature regarding the role of nurses with individuals with CP in social isolation, suggesting the need for further studies in this area, mainly at the national level. From the studies found, it was evidenced that individuals who live with CP have the multiple dimensions of the human being affected, but that in this moment of social isolation due to the COVID-19 pandemic, the worst commitment was the emotional one. Thus, with the continued rise of telehealth and the possibility of future pandemics, it is recommended to move the existing guidelines for the formal development of telehealth competencies towards relevant curricular content and clinical experience for all nursing programs.

Keywords: Chronic pain, COVID-19, Nursing care, Patient care planning, Social isolation.

RESUMO

JUSTIFICATIVA E OBJETIVOS: O isolamento social, como vivenciado no contexto da pandemia da COVID-19, desencadeou problemas psicológicos e neuropsiquiátricos; essas condições podem agravar as crises de dor crônicas. Além disso, é sabido que as relações sociais têm um papel importante na dor e nas emoções. A dor crônica (DC) apresenta-se como uma doença desafiadora, sobretudo quanto aos seus mecanismos multifacetados e ao seu tratamento. Assim, o objetivo do presente estudo foi trazer uma maior compreensão da atuação do enfermeiro nos pacientes com DC e do impacto do isolamento social decorrente da pandemia da COVID-19.

CONTEÚDO: Trata-se de uma revisão integrativa, realizada nas bases de dados Biblioteca Virtual em Saúde (BVS) e Medline via Pubmed da *National Library of Medicine*. Para a seleção dos artigos foram considerados os descritores em ciências da saúde

Fracielle Rozendo de Carvalho – <https://orcid.org/0000-0003-3796-8923>;
Sílvia Sidnéia da Silva – <https://orcid.org/0000-0003-2102-8603>;
Alexandra de Souza Melo – <https://orcid.org/0000-0003-0259-7018>;
Priscila de Medeiros – <https://orcid.org/0000-0002-6787-9801>;
Lillian Sheila de Melo Pereira do Carmo – <https://orcid.org/0000-0003-0990-1852>;
Belisa Vieira da Silveira – <https://orcid.org/0000-0002-5966-8537>.

1. University of Ribeirão Preto, Enfermagem, Ribeirão Preto, SP, Brazil.
2. University of Ribeirão Preto, School of Nursing, General and Specialized Nursing, Ribeirão Preto, SP, Brazil.

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HIGHLIGHTS

- This study reinforced the impact of isolation on patients with chronic pain, which affected functionality and quality of life.
- The role of nurses as an integral part of caring for these patients with telehealth was also reinforced.
- This research opted for an integrative review in order to get to know the current panorama of nurses' scientific production on the care of patients with CP.

Correspondence to:

Belisa Vieira da Silveira

E-mail: bvsilveira@unaerp.br

e *Medical Subject Headings* (DeCS/MeSh): “Isolamento social”, “Dor crônica”, “COVID-19”, “Cuidados de enfermagem” e “Planejamento de assistência ao paciente”, com os seus sinônimos/termos alternativos. Foram encontrados 45.703 artigos; a partir dos critérios de inclusão e exclusão, foram selecionados 27 artigos. Este estudo esperou responder às seguintes perguntas norteadoras: “qual a atuação do enfermeiro com o indivíduo com DC durante o isolamento social da COVID-19?”, e “quais as consequências do isolamento social devido à pandemia da COVID-19 para essa população?”. Dos 27 artigos, a maior parte foi publicada na América do Norte e Europa, e três no Brasil. A população mais afetada pela DC são idosos, mulheres e pessoas de baixa renda. Em relação à profissão, dos 27 artigos somente três foram publicados por enfermeiros. Os dados foram discutidos considerando a atuação do enfermeiro para com o indivíduo com DC, em especial por meio da telessaúde, bem como os impactos que as pessoas com DC sofreram com o isolamento social durante a pandemia do novo coronavírus.

CONCLUSÃO: Há uma significativa lacuna na literatura no que tange à atuação do enfermeiro com indivíduos com DC em isolamento social, sugerindo a necessidade de maiores estudos nessa área, principalmente a nível nacional. Nos estudos encontrados, foi evidenciado que indivíduos que vivem com DC possuem as múltiplas dimensões humanas afetadas, mas nesse momento de isolamento social devido à pandemia da COVID-19 a dimensão de pior comprometimento foi a emocional. Assim, com o aumento contínuo da telessaúde e a possibilidade de futuras pandemias, recomenda-se mover as diretrizes existentes para o desenvolvimento formal de competências da telessaúde por conteúdo curricular relevante e experiência clínica para todos os programas de enfermagem.

Descritores: COVID-19, Cuidados de enfermagem, Dor crônica, Isolamento social, Planejamento da assistência ao paciente.

INTRODUCTION

The COVID-19 pandemic has been a milestone in world history with the involvement and warnings of the World Health Organization (WHO). This is a new strain (type) of coronavirus that has not been identified in humans before. The situation, rapidly evolving in the first months of 2020, has negatively affected global health systems, impacting all aspects of human life as it is known, as well as various aspects of the global economy, both public and private^{1,2}. The world changed drastically in the blink of an eye, and the planet entered a crisis with the COVID-19 pandemic and, to minimize it, society implemented preventive and control measures, such as physical and social distancing, called social isolation, which impacted the mental health of the population.

The pandemic caused by the new coronavirus and, consequently, social isolation, has triggered feelings of sadness, restlessness and frustration not previously experienced by the majority of the population, which has generated a sickening psychological experience, with anxiety, continuous stress and emotional helplessness, which has exposed people with CP to exacerbated pain situations. The revised definition by the International Association for the Study of Pain (IASP) defines pain as “an unpleasant sensory and

emotional experience associated with, or resembling that associated with, actual or potential tissue damage”³. Pain is a subjective symptom, influenced to varying degrees by biological, psychological and social factors. Its visibility and measurement depend on the report of the person experiencing the pain, as it is more than a sensation, it is an emotion. Pain is multifaceted and, even when it is not the main factor, it is accompanied by other anomalies⁴⁻⁶. Pain can be classified as acute or chronic. Acute pain is related to traumatic, infectious or inflammatory conditions; it is expected to disappear once the injury has healed and has a limited time duration⁴⁻⁷.

Chronic pain (CP), in contrast, persists beyond the healing of the injury that gave rise to it and should be seen not as a symptom, but rather as a disease in its own right⁸. However, CP does not play a useful physiological role fundamental to survival, but is a maladaptive source of suffering and disability, often dissociated from the initial physical injury and caused or exacerbated by abnormal functioning of the nervous system. Normally, there are no neurovegetative responses associated with the symptom; however, anxiety, depression and intense fatigue are frequent responses in this type of pain^{5,6}. Thus, CP can impair the individual’s quality of life and functional capacity^{9,10}.

A 2006 study, published in the *European Journal of Pain*, analyzed 126 patients with chronic neuropathic pain and found that in this group 60% had increased levels of insomnia, 36% had difficulty concentrating, 33% had depression, and 27% had anxiety¹¹.

The COVID-19 pandemic has exposed and exacerbated pre-existing inequalities and challenges among people living with CP, such as material resources, psychosocial conditions, social support and access to care¹².

The American Nurses Association¹³ argues that “nurses have an ethical responsibility to relieve pain and the suffering it causes”. With this approach, nurses can understand pain processes in the era of the pandemic, observe and evaluate its clinical impact and outline the most assertive approaches.

Furthermore, nurse education in the neuroscience of pain is the one that can bring the greatest benefits to patients, as it is an educational approach developed with the aim of reconceptualizing and modifying erroneous beliefs about pain^{14,15}.

In view of the above, the following questions arise: “how do nurses work with individuals with CP during the social isolation of COVID-19?”, and “what are the consequences of social isolation for this population due to the COVID-19 pandemic?”. In view of this, the aim of this literature review was to describe the consequences of social isolation for individuals with CP, to identify the studies that have addressed the development of CP as a consequence of infection with the COVID-19 virus and to present telehealth as one of the ways in which nurses can work with patients with CP during the period of social isolation caused by the COVID-19 virus.

CONTENTS

This is an integrative literature review. The review followed these steps, according to a study used as a reference¹⁶:

First stage = identifying the themes

The themes delimited were: the role of nurses, the effects of social isolation, and patients with CP in this context. Based on this, the following guiding questions were elaborated: “how do nurses work with individuals with CP during the social isolation of COVID-19?”, and “what are the consequences of social isolation for this population due to the COVID-19 pandemic?”.

Second stage = criteria for inclusion and exclusion of studies for sampling

The search for studies and the selection of articles took place between October 2020 and December 2021. The searches were carried out in the following databases: *Biblioteca Virtual em Saúde* (BVS - Virtual Health Library) and Medline via Pubmed of the National Library of Medicine (table 1).

The following Health Sciences Descriptors and Medical Subject Headings (DeCS/MeSh) were used to select the articles: “Social isolation”, “Chronic pain”, “COVID-19”, “Nursing care” and “Patient care planning”, with their synonyms/alternative terms. Table 2 shows the definition of each descriptor, according to MeSh.

After selecting the descriptors, search strategies were created by cross-referencing these descriptors in the databases.

The inclusion criteria for the selection of articles were studies with an abstract available in the databases and full text online;

Table 1. Distribution of the number of articles found in each database, according to the cross-references.

Database (DeCS/MeSh)	No. of articles found
Medline	5,103
LILACS	744
BDENF- Nursing	39
APA PsycINFO	2
Pubmed	39,815
Total	45,703

published between 2020 and 2021; articles in Portuguese and English; and which dealt with the topic addressed in this study. Irrelevant articles, which were off-topic; those which did not have an abstract and full text available online in the databases; duplicates; articles written in languages other than Portuguese and English was excluded (figure 1).

Third stage = definition of the information to be extracted from the selected studies and study categorization

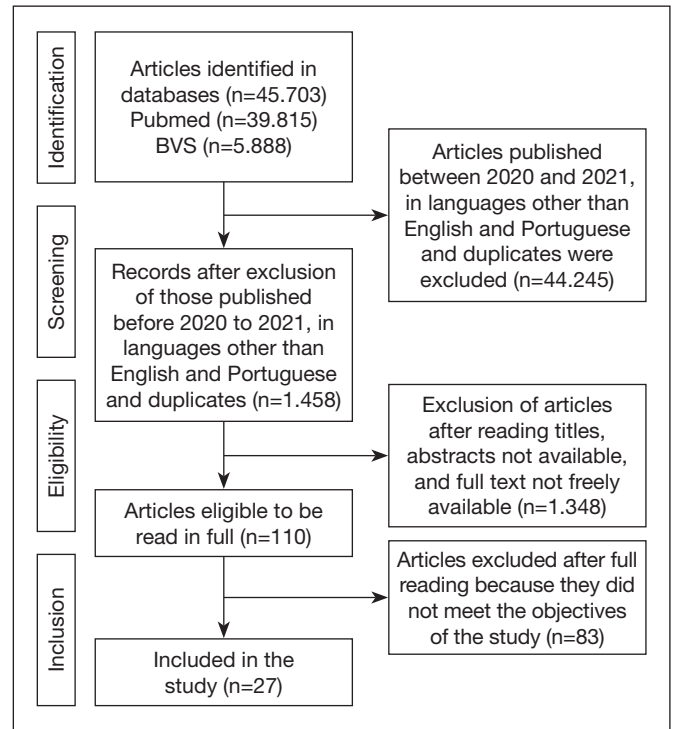


Figure 1. Flowchart for identifying and selecting articles

Table 2. Definition of the Descriptors chosen according to MeSh 2020 and 2021

Descriptors	Definition
Social isolation	The separation of individuals or groups resulting in the lack of or minimizing of social contact and/or communication. This separation may be accomplished by physical separation, by social barriers and by psychological mechanisms. In the latter, there may be interaction but no real communication.
Chronic pain	Aching sensation that persists for more than a few months. It may or may not be associated with trauma or disease, and may persist after the initial injury has healed. Its localization, character, and timing are more vague than with acute pain.
COVID-19	A viral disorder generally characterized by high fever; cough; dyspnea; chills; persistent tremor; muscle pain; headache; sore throat; a new loss of taste and/or smell (ageusia and anosmia) and other symptoms of a viral pneumonia. In severe cases, a myriad of coagulopathy associated symptoms often correlating with COVID-19 severity is seen (e.g., blood coagulation; thrombosis; acute respiratory distress syndrome; seizures; heart attack; stroke; multiple cerebral infarctions; kidney failure; catastrophic antiphospholipid antibody syndrome and/or disseminated intravascular coagulation). In younger patients, rare inflammatory syndromes are sometimes associated with COVID-19 (e.g., atypical Kawasaki syndrome; toxic shock syndrome; pediatric multisystem inflammatory disease; and cytokine storm syndrome). A coronavirus, SARS-CoV-2, in the genus betacoronavirus is the causative agent.
Nursing care	Care given to patients by nursing service personnel.
Patient care planning	Usually a written medical and nursing care program designed for a particular patient.

Source: Medical Subject Headings (2020 e 2021).

Fourth stage = study evaluation (table 3)**Table 3.** Studies selected for inclusion in this review, according to authors, country and authors' profession.

Authors	Country	Profession
Dassieu et al. ¹²	Canada	Doctors, Sociologist, Psychologist, Pharmacoepidemiologist, Mathematician and Engineers
Hruschak et al. ¹⁸	United States	Doctors and Psychologists
Serrano-Ibáñez et al. ¹⁹	Spain	Psychologists
Rau et al. ²⁰	Germany	Doctors
de Moraes et al. ²²	Brazil	Nurses, Doctor and Computer scientist
Puntillo et al. ²³	Italy	Doctors, Physiotherapists and Dentists
Karos et al. ²⁴	United States	Psychologists
Amja et al. ²⁵	Canada	Psychologist and Dentists
Consonni et al. ²⁶	Italy	Psychologist and Doctors
Eccleston et al. ²⁷	United States	Psychologists, Doctors and Nurse
Bannon et al. ²⁸	United States	Psychologists and Senior Biostatistician
Yamada et al. ²⁹	Japan	Doctor
Richardson and Kundu ³⁰	United States	Professor of pediatric psychology and doctor
Miró et al. ³¹	Spain	Psychologists and Doctor
Cankurtaran et al. ³²	Turkey	Doctors
Murphy and Latif ³³	United States	Doctors
Shanthanna et al. ³⁴	North America and Europe	Doctors and psychologists
Iglesias-López, García-Isidoro and Castellanos-Sánchez ³⁵	Spain	Physiotherapists and pharmacobiologist chemist
Sowicz et al. ³⁶	United States	Nurses
Mun et al. ³⁷	United States	Doctor and Psychologists
Marinangeli, Giarratano and Petrini ³⁸	Italy	Doctors
Schwab et al. ³⁹	Germany	Doctors
Jiang et al. ⁴⁰	China	Doctors
Alonso-Matielo et al. ⁴¹	Brazil	Biomedical, Biochemical Pharmacist, Biologist and Software Developer
Smyrnioti et al. ⁴²	Greece	Doctors and Dentist
Antunes et al. ⁴³	Brazil	Nurses
Yu, Kioskli and McCracken ⁴⁴	Europe	Psychologists

Fifth stage = interpretation of results

This stage was based on the articles selected and the interpretation of these results. The results were based on a critical evaluation of the selected studies, comparing the studies and the themes addressed in relation to the proposed research object. Thus, scientific knowledge about the effects that social isolation has on people with CP was observed, given that humans are beings who relate and need others for biopsychosocial development.

For the level of evidence, this research adopted a proposal¹⁷ classified into seven levels, with level I (strong) consisting of evidence from a systematic review or meta-analysis of randomized clinical trials; level II (strong) consisting of evidence derived from well-designed randomized clinical trials; level III (moderate) consisting of evidence obtained from well-designed clinical trials without randomization; Level IV (moderate) consisting of evidence from well-designed cohort and case-control studies; Level V (weak) consisting of evidence from systematic reviews of descriptive and qualitative studies; Level VI (weak) consisting of

evidence from a single descriptive or qualitative study; and Level VII (weakest) consisting of evidence from expert opinion.

Sixth stage = presentation and synthesis of knowledge of the results**RESULTS**

The sample of this integrative review totaled 27 articles, which were followed quantitatively (table 4).

The results of this research are presented below, characterizing the sample and discussing the data. Table 4 shows the 27 studies included in this review, each containing article number, objective, methodological design, main results and level of evidence.

Sample characterization

The articles included in this study were characterized according to language of publication, country of origin, study approach and profession.

Table 4. Characteristics of the studies included in this integrative review.

References	Objectives	Methodological outline	Main results	Level of evidence
12.	To comprehend the experiences and challenges of people living with CP during the COVID-19 pandemic in Canada.	Expert opinion. Scenario: end of the first wave of COVID-19 and the beginning of the reopening of the workplaces in Canada. Participants: 22 individuals living with CP across the country.	The COVID-19 pandemic has revealed and intensified pre-existing disparities and challenges among people living with CP, in terms of material resources, psychosocial status, social support and access to care.	VII (weak)
18.	To examine the severity and interference of pain among individuals with CP during an initial phase of social distancing mandates and to identify characteristics of the individuals who were most affected.	Cross-sectional research study. Setting: academic medical center in Boston, Massachusetts, between April 28, 2020 and May 22, 2020. Participants: 150 patients with fibromyalgia, chronic back and post-surgical pain.	Social distancing was associated with greater pain severity and interference and demographic, socioeconomic and psychosocial factors were associated with greater pain severity and interference during social distancing.	IV (moderate)
19.	To investigate the contribution of life changes due to coronavirus to emotional distress in individuals diagnosed with CP due to central sensitization (CS) and to test whether the associations between pain level and sensitization were independent or mediated by emotional disturbances.	Cross-sectional study. Setting: Online survey with Spanish CD associations. Participants: 477 people aged between 18 and 65; only 363 had chronic primary pain related to CS: fibromyalgia (78%), generalized CP (15%) and low back pain (7%).	The study identified an association between the psychological effects in patients with central sensitivity syndrome and changes in lifestyle due to confinement.	IV (moderate)
20.	To examine how CP changed in schoolchildren before and during the COVID-19 pandemic, and how changes in CP were related to changes in psychological well-being and experiences related to COVID-19.	Longitudinal observational. Scenario: German schools Participants: 777 German schoolchildren (aged 9 to 17).	The study showed that during the COVID-19 pandemic, the prevalence of CP in school-age children decreased overall. However, stressful situations and pre-existing vulnerabilities in psychological well-being can promote the development of CP during the pandemic.	II (strong)
25.	To identify participants' experiences of living with CP during the COVID-19 pandemic.	Prognostic study/qualitative research. Scenario: Semi-structured interview with Quebec residents living with CP during the COVID-19 pandemic. Participants: 22 patients with chronic low back pain (10 men and 12 women).	The results showed that feeling socially isolated made the patients feel as if they had lost their purpose in life, and with this they experienced high levels of stress which, more often than not, aggravated their CP.	VI (weak)
26.	To investigate the impact of COVID-19-related suffering on CP patients, highlighting the effects of changes in individual habits and the reconfiguration of public health on physical and psychological health.	Cross-sectional observational study. Scenario: COVID-19 pandemic Participants: A total of 80 adults, 25 patients with small fiber neuropathy, 42 patients with migraine and 13 healthy patients' family members.	Patients with small fiber neuropathy and chronic migraine had a lower quality of life, poorer physical and mental health and a more catastrophizing attitude towards pain than the patients' healthy relatives.	IV (moderate)
27.	To guide those trying to make the rapid transition to remote service with technology.	Narrative review. Scenario: COVID-19 pandemic Participants: not described.	With drastic changes in the provision of pain treatment services to minimize the risks of exposure to the virus, for example elective medical procedures, face-to-face care and multidisciplinary services are being limited, while telehealth, digital treatment and virtual reality are expanding.	VII (weak)
28.	To assess the improvement in social isolation during treatment and whether these improvements were responsible for improvements in emotional and physical functioning.	Randomized clinical trial. Scenario: Outpatient clinic for 10-week mind-body physical activity program. Participants: 82 patients with heterogeneous chronic musculoskeletal pain.	The study found that interventions for social isolation resulted in significant improvements in self-reported pain intensity and emotional and physical function.	II (strong)

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Tabela 4. Características dos estudos incluídos nesta revisão integrativa – continuation.

References	Objectives	Methodological outline	Main results	Level of evidence
29.	To detect changes in biopsychosocial and socioeconomic factors before and after the COVID-19 outbreak.	Cross-sectional study. Scenario: COVID-19 pandemic Participants: 25,482 people aged between 15 and 79 (12,809 women and 12,673 men).	The study shows an increase in the frequency and intensity of pain and the prevalence of CP in the Japanese population. With increased social isolation due to the pandemic, pain may be more common in depressed patients.	IV (moderate)
30.	To analyze the impact of the pandemic on the treatment of CP and address the types of strategies that can be implemented to overcome the limitations imposed on the provision of care.	Type of study: narrative review. Scenario: COVID-19 pandemic Participants: Children, adolescents and caregivers (parents).	Providing health care through telehealth has allowed pediatric CP clinics to increase patient and staff safety and ensure continuity of care.	VII (weak)
31.	To improve understanding of the effects of COVID-19 social distancing measures on individuals with CP living in Spain during the final stages of lockdown.	Cross-sectional study. Scenario: COVID-19 pandemic and the social distancing measures tolerated in Spain. Participants: 361 adults with CP.	The study found increased pain intensity during the final stages of the blockade among individuals with CP in Spain, and women with lower monthly household incomes and lower levels of education were associated with higher levels of pain and fatigue.	Nível IV (moderate)
32.	To assess the level of fear and anxiety by COVID-19 and examine its effect on disease severity, sleep quality and mood in Fibromyalgia patients compared to the control group.	Cross-sectional study. Scenario: Physical medicine and rehabilitation outpatient clinic Participants: 62, 31 patients with FM and 31 in the control group.	The study showed that COVID-19 anxiety and fear scores were higher in fibromyalgia patients than in healthy patients. In fibromyalgia patients, COVID-19 fear and anxiety were associated with symptom severity, sleep quality and anxiety level.	IV (moderate)
33.	Analyze existing literature to develop consensus recommendations for pain management during the current COVID-19 pandemic.	Narrative review. Scenario: pain management during the COVID-19 pandemic. Participants: Not described.	The Study presents options to mitigate the spread of the pandemic by limiting the adverse impact of pain and suffering in patients with CP.	VII (weak)
34.	Highlighting potentially significant for consideration clinical and empirical research in the months and years to come.	Narrative review. Scenario: North America and Europe Participants: 10 pain specialists, psychologists and researchers.	The study showed that telemedicine is a good way of preventing “missed appointments”, helping to classify an individual case as urgent or emergent and to treat emotional disorders related to the pandemic.	VII (weak)
35.	To determine the impact of confinement on the pain, quality of life and public health of the Spanish population due to the COVID-19 pandemic.	Observational study. Scenario: Follow-up in April and May 2020 during the peak of the first wave of the coronavirus. Participants: 225 participants with CP.	The presence of pain in individuals subjected to confinement was persistent, with intensity and frequency varying based on age, gender, physical activity and work situation. In any of these conditions, the quality of life of the subjects in lockdown was severely affected.	IV (moderate)
36.	Explore the changing role among pain management pain management nurses who provided care during the the COVID-19.	Descriptive qualitative. Scenario: various practice settings. Participants: 18 registered nurses who speak English.	The study showed the many different experiences of pain management nurses and how their roles have been affected by the pandemic.	V (weak)
37.	Examine the initial impact of COVID-19 on pain severity, pain interference and control of CP; and variables associated changes perceived in pain intensity and pain interference.	Observational cross-sectional study. Scenario: United States via Amazon’s Mechanical Turk platform. Participants: 1,453 adults with CP.	The study showed that the impacts of the pandemic on CP vary according to the social disadvantage/ advantage, often exacerbating underlying health inequality in disadvantaged populations.	IV (moderate)

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Tabela 4. Características dos estudos incluídos nesta revisão integrativa – continuation.

References	Objectives	Methodological outline	Main results	Level of evidence
38.	Appeal not to neglect the continuity of care of patients who have chronic diseases, including those who use opioids.	Narrative review. Scenario: Pandemic of COVID-19. Participants: not described.	The authors particularly highlighted the danger of neglecting the treatment of CP. Inadequate analgesic treatment can lead to self-medication, adverse events and even treatment discontinuation.	Nível VII (weak)
39.	To evaluate changes in the perception of pain and disability and changes in the emotional and social aspects of pain in patients with endometriosis during social isolation or quarantine due to the pandemic.	Observational and cross-sectional study. Scenario: COVID-19 pandemic in Germany, April 2020. Participants: 285 women over the age of 18 years old with a confirmed diagnosis of endometriosis.	The study showed that physical pain and disability, on the one hand, and the experience of emotional and social pain, on the other, were differentially affected by the emerging emotional, social and health restrictions related to the SARS-CoV-2 pandemic.	IV (moderate)
41.	To provide an overview of the implications of COVID-19 in acute and CP states.	Type of study: Narrative Review. Scenario: The COVID-19 pandemic. Participants: not described.	Results recognizing that COVID-19 induces CP and exacerbates pre-existing CP are of utmost importance for a better understanding of the disease. In addition, immediate targeted treatment, as well as strategies to reduce the potential impact of CP, should be strongly encouraged.	Nível VII (weak)
42.	To assess the perceived impact of the first wave of the pandemic on pain, quality of life and access to care during the first strict lockdown in Greece.	Type of study: cross-sectional study. Scenario: Pain Management Unit of Attikon University Hospital - Greece - during the period of the first 42-day austere lockdown due to the COVID-19 pandemic. Participants: 101 patients with CP.	The impact of the initial lockdown on social and professional life was apparently more severe for pain patients than the pandemic itself.	IV (moderate)
43.	To describe the implementation of the Integrator Program for patients with chronic postoperative pain.	A descriptive study, in the form of an experience report. Scenario: Pain clinic at the National Institute of Traumatology and Orthopedics in Rio de Janeiro Participants: orthopedic post-surgical patients who are experiencing CP after 3 to 12 months.	The study described the four phases of the program, with interprofessional supervision focused on improving the quality of life, anxiety, depression and catastrophic thinking of patients with CP.	V (weak)
44.	To investigate psychological functioning in the context of COVID-19, including fear and avoidance, specifically its association with daily functioning and the role of psychological flexibility in people with CP.	Cross-sectional study. Scenario: social media and online platforms designed to support people with pain, such as Pain Support. Participants: 555 adults with CP.	The study shows that pandemic stressors (fear, avoidance, anxiety, depression) impact the quality of life and increase the sensation of pain in patients with CP.	IV (moderate)

Regarding the language in which the articles were published, one article was published in Portuguese (4%), while twenty-six (96%) were published in English. It is possible to observe that, although the databases provided articles in both languages, the prevalence of articles was in English.

With regard to country of origin, eight (29.7%) are from the United States, three (11.1%) are from Brazil, three (11.1%) are from Italy, two (7.4%) are from Spain, two (7.4%) are from Germany, two (7.4%) are from Canada, and two (7.4%) are from European countries (distribution between European countries). The other countries, China, Greece, Japan, Turkey and a group classified as "Inconclusive" (distribution between North American and European countries), presented one (3.7%) article each.

This research shows that most of the articles found were published in North American and European countries, suggesting the need for studies in other countries, such as Brazil.

According to this study's approach, 14 (51.86%) studies were quantitative, seven (25.92%) were qualitative and six (22.22%) were classified as quantitative/qualitative. The predominant type of research in the studies was quantitative, which seeks to answer particular questions, i.e. to translate opinions and information into numbers in order to analyze the data and then reach a conclusion.

As for the professional category, seven articles (26%) were written exclusively by doctors, five (18.5%) by doctors and psychologists; three (11.1%) exclusively by psychologists; two (7.4%)

Table 5. Identification numbers, thematic nucleus, articles and main findings.

Identification No.	Thematic focus	Articles	Main findings
1°	Impacts that people with CP have suffered from social isolation during the COVID-19 pandemic.	A ¹² , A ¹⁸ , A ¹⁹ , A ²⁰ , A ²² , A ²³ , A ²⁴ , A ²⁵ , A ²⁶ , A ²⁷ , A ²⁸ , A ²⁹ , A ³⁰ , A ³¹ , A ³² , A ³³ , A ³⁴ , A ³⁵ , A ³⁶ , A ³⁷ , A ³⁸ , A ³⁹	Disconnection and feelings of loneliness, change in routine such as physiotherapy, acupuncture, physical activities, stress, uncertainty or worry about the future, sleep problems, feelings of insecurity, negative thoughts, fear of being infected with coronavirus, anxiety, mood swings, depression, excessive opioid use.
2°	Chronic pain as a consequence of COVID-19.	A ²³ , A ²⁷ , A ³⁶ , A ⁴⁰ , A ⁴¹ , A ⁴²	The physiology of the disease, along with pain, can be neglected because it is considered a low priority compared to other complications. The presence of pain can affect recovery from COVID-19.
3°	Telehealth as a possibility for nurses and other professions to work with patients with chronic pain.	A ²² , A ²³ , A ²⁷ , A ³³ , A ³⁴ , A ⁴³ , A ⁴⁴	Online resources can disseminate pain education and can develop online training programs on pain self-management for professionals, pain patients and relevant staff.

exclusively by nurses; one (3.7%) by nurses, doctors and psychologists; one (3.7%) by a pharmacoepidemiologist, engineers, doctors, a mathematician, psychologists and a sociologist; one (3.7%) by a nurse, a computer scientist and doctors; one (3.7%) by nurses, a pharmacobiologist, physiotherapists and a chemist; one (3.7%) by dentists, physiotherapists and doctors; one (3.7%) by dentists and a psychologist; one (3.7%) by dentists and doctors; one (3.7%) by a senior biostatistician and psychologists; one (3.7%) by a professor of pediatric psychology and doctors; and one (3.7%) by a biomedical doctor, a biologist, a software developer and a pharmacist.

In addition, based on the articles, it was also found that the populations with CP that showed the greatest exacerbation of pain, due to the measures to contain the SARS-CoV-2 virus, were seniors, women and people with a low Human Development Index^{18,19}. On the other hand, in the population of children and adolescents there was no exacerbation of CP due to the social isolation caused by the pandemic²⁰.

From the reading and analysis of the publications, 3 thematic nuclei emerged; the understanding of thematic nuclei was mobilized from the construction of the study problems (table 4)²¹.

DISCUSSION

The analysis of the selected articles showed that there is a scarcity of knowledge produced by nurses on the subject, and it was possible to identify a still limited coverage of the topic. It was also found that, within the health team, nurses are the professionals who appear the least in publications about their role in caring for patients with CP, which suggests the need for more studies and research carried out by these professionals, thus contributing to the care of this public. These findings reinforce the need for research in this area, which will be highlighted as a gain for nursing professionals, the development of skills and scientific updating for the benefit of patients.

The pandemic has had a clear impact on the practice of pain clinics, from outpatient access and hospitalization to the prescription of anchor drugs. In fact, limited access to treatment for CP affects its management and long-term prognosis.

In this study, no articles or data were found that specifically presented the role of nurses in relation to patients with CP during and after the COVID-19 social isolation period. This finding corroborates the data present in the results: of the 27 articles selected for this review, only three had nurses as study authors. The articles present possibilities for the multidisciplinary team to work with this patient, which includes the practice of nurses. In this context, telehealth emerges as a possibility for health professionals and nurses to act in situations of social isolation, as occurred during the most critical periods of the pandemic.

These preventive measures to reduce the spread of the COVID-19 virus, although essential, raise concerns among health professionals, as these measures have had a major impact on those receiving treatment or in need of immediate treatment. Therefore, even in non-emergency situations, late diagnosis can affect the patient's condition and compromise the health and treatment of those waiting for personal care to be normalized^{33,34}. People with CP suffer from great disability and morbidity in general²⁷. For this reason, the use of new care alternatives, even remotely, is of great importance for improving quality of life, and when this is not possible, strategies should be used to organize care for these patients, according to risk assessments^{22,23,27}. Considering the consequences of not caring for these patients due to the uncertainty of the duration of social distancing, the possibility of teleconsultation is envisioned to ensure continuity of care for these patients during the COVID-19 pandemic.

Guidelines for the management of CP have been released that can guide nurses during future pandemics^{22,27,33,34} have been released recently, and the strategy for continuity of care has suggested telehealth, defined as the provision and facilitation of health services, including medical care, nursing care, education, health information services and personal care through communications technologies, such as live videoconferencing, remote patient monitoring or mobile health applications^{23,27}.

Although there are limitations imposed by virtual care, such as the difficulty of performing a physical examination during a teleconsultation, a modified virtual examination via video call can allow for an initial treatment plan, for example observing appearance, movement or self-examination under guidance²⁷.

Telehealth made it possible to draw up the treatment plan and nursing professionals have the potential to care for patients with CP using this tool, given that, based on the nursing instruments consulted, this tool is relevant to the various fields of nursing because it provides a holistic view of the client; the nursing instruments focus on the human being and their basic human needs.

Nurses aim to meet the needs of patients, considering the different aspects of human life. They must therefore be trained to implement effective health promotion, disease prevention, restoration and rehabilitation practices. It is essential that nurses are increasingly trained to help individuals adapt to the situation in which they live and also to educate them, seeking their understanding and autonomy in their situation and treatment, increasing control over their lives and reducing suffering^{22,43}.

Educating patients about their pain is very important, as highlighted in one of the articles, which showed that in individuals who were more resilient to pain, pain intensity and depressive symptoms improved over time⁴⁴. In this way, pain tolerance significantly reduces the impact of COVID-19 dread and avoidance on the disabilities associated with pain and depression.

Pain management by nurses requires a patient care that includes not only knowledge of the pathophysiology of pain, but also comprehensive and humanized care, based on understanding the uniqueness of each person who feels pain⁴³.

In addition, nurses have the tools to act according to nursing diagnoses, according to the classifications of the North American Nursing Diagnosis Association⁴⁵ (NANDA). The NANDA acute pain classification⁴⁵ describes acute pain as something that occurs "suddenly or slowly, of mild to severe intensity, with an expected or predictable end and lasting less than 3 months". Acute pain can indicate damage to tissues, muscles, viscera and even the SNC, while CP diagnoses this type of phenomenon in two stages: (1) as CP associated only with physiology and having as one of its defining characteristics anorexia, facial expression of pain and altered sleep pattern; and (2) How people with CP can go on to have a condition called CP syndrome, in which daily functioning and well-being are impaired due to pain, having as its characteristics anxiety, fatigue and insomnia. Therefore, it is necessary to assess and treat each type of CP (primary CP, secondary CP or both), especially getting to know the patient as an individual, allowing the patient to actively participate in their care, including communication, education and shared decision-making; and promoting a collaborative and supportive relationship with the person with CP.

Mutual help between patients and distant support tools - such as telephone calls and online discussions - are promising strategies for managing chronic conditions, but they have not been explored much in the context of pain; thus, the use of telehealth in the care of nurses and other professionals for these patients is important³⁴.

In addition to the strategies already described, public health measures have been taken in response to the pandemic, such as limiting the number of people allowed to gather in public and reorganizing health service priorities²².

Thus, the impacts due to these health measures, caused by the COVID-19 pandemic, such as social isolation, have damaged and affected the daily routine of many individuals, resulting in important psychological and social threats for the population in general, but particularly for those who coexist with CP, the degree of impairment has been even greater²³.

One study proposed a model to explain how the changes in the social environment created by the COVID-19 pandemic have damaged the health status of individuals with CP; the study therefore interpreted the pandemic as a social threat that compromises autonomy, belonging (social connection) and justice²⁴.

It is known that those living with CP have entered the pandemic with fewer social resources than others, given that CP is multifaceted, complex and usually lonely, culminating in high levels of disability, affecting emotions, work and social life^{12,23,25-27}.

According to one study²⁴, among the social risks caused by the pandemic, social disconnection and loneliness were particularly prominent. In parallel, another study showed that loneliness had a crucial impact on the experience of chronic migraine patients, resulting in reduced self-management capacity and individual contentment with their current state of care²⁶. Since these patients experience significant emotional and functional limitations, including an increased risk of social isolation arising from the condition itself, in these individuals, when socially isolated, the risk of damaging mental and physical health is much greater^{18,28}.

A survey carried out in Japan showed that the increase in the frequency and intensity of pain, as well as the prevalence of CP syndrome, were reported with the increase in the time of social isolation due to the pandemic²⁹. Thus, being physically isolated from others constitutes a social threat that can perpetuate and exacerbate pain and the associated disability, leading to depression, discouragement, a feeling of loss of purpose and personal value, and a lack of ideals^{24,30}.

These changes in daily life during the COVID-19 pandemic have been closely associated with the intensity of pain and mental suffering¹⁹. In one article, the authors analyzed the lives of people with CP during the pandemic, observing various aspects that compromise the health of people with CP; for example, the deficit of social interaction due to isolation and changes in family connections²⁵. From the same point of view, another study showed that these abrupt family changes can lead to interpersonal conflicts and violence, as well as an increase in the family's burden of caring for children with CP, affecting their degree of independence²⁴.

In addition, the more restricted access to self-care possibilities (e.g. physical activity, leisure, massage, yoga), resulted in very significant losses, resulting in more difficulties with daily challenges; as in the example self-reported by the patient who had an accident and found it difficult to be on busy streets. Being isolated increased his reluctance to cross busy streets²⁵.

The pain and sense of lack of control during isolation caused depression, and for these people the more depressed their

mood, the lower their pain tolerance threshold²⁶. One study showed that the majority (61.4%) of individuals reported a worsening mood since the outbreak³¹. In fact, as shown in a cross-sectional study, people with fibromyalgia, compared to healthy people, i.e. without pain, had the fear and anxiety of COVID-19 associated with greater pain severity, which influenced the quality of sleep and mood³², causing a high degree of psychological distress, further overshadowing an already challenging pain experience^{24,25}. This psychological distress can result in worsening pain symptoms, and when left untreated, leads to depression in 50% of patients, and suicidal thoughts in 34.6% of them²⁷.

Anxiety is another important aspect to mention. Anxiety increases with the awareness that, by contracting COVID-19, the disease could further weaken the patient, or lead directly to death, in relation to an already existing disabling disease, making these people more fearful and anxious compared to healthy individuals^{12,25,26}. Similarly, a study carried out in the state of Massachusetts among CP patients showed that 65% reported an increase in pain severity and 64% reported pain interference, compared to what was experienced before social distancing¹⁸.

Another point of great impact has been the challenges faced by these patients in relation to the lack of assistance, because due to public health responses to mitigate the effects of COVID-19, access to health services considered non-urgent or non-essential has been limited, compared to the need to treat life-threatening symptoms associated with COVID-19, which has considerably affected these patients' access to health systems and medicines, thus exposing the inequalities faced by the socially disadvantaged population for pain relief^{12,18,23,24,26,27,33,34}.

As a result, the psychological burden increased, affecting physical health more as the treatment remained incomplete. In one study, it was even pointed out that patients with CP who suffered changes in clinical management were those with less mental stability²⁶. The pain of people in isolation is persistent, varying in intensity and frequency depending on age, gender, physical activity and work situation. In all these conditions, the lack of quality of life of those in isolation, with increased sedentary behavior, health-related anxiety, change in occupational status and pre-existing comorbidities, can alter somatic sensations and increase bodily pain, seriously affecting health³⁵, and, as a consequence, generate an even more significant public health problem²⁵.

The lack of services for pain management as a result of COVID-19, such as regular medical care, nursing appointments, physiotherapy, procedures or surgeries, has exacerbated the stress level of people with CP, compared to healthy people³⁴. Similarly, a study proposed that the sensitive brain can intensify pain and other somatic symptoms in response to stress, as in people with fibromyalgia¹⁹. Therefore, for these people, the combined effect of stress and pain, and the lack of access to common pain coping mechanisms, was and is distressing²⁵.

Without the resources involved in pain management, people have the feeling of an unknown world and no clear indication of when a different program will be resumed^{12,25}. In this way, the absence of therapeutic sessions and the postponement of

appointments have fostered feelings of abandonment, social injustice and inequality, and thus increased psychological suffering, especially in patients with pain^{26,27}.

Another damaging factor was the redeployment of health-care professionals, as shown in a study³⁶, which found that 28% of nurses were forced to change their usual roles during the pandemic; these nurses shared many different experiences, and their roles were affected by the pandemic, in addition to the redeployment of materials to emergency services and intensive care units dedicated to COVID-19 patients^{23,30}. These were some of the main causes of concern for patients receiving opioid therapy, of whom 21.4% reported fear of running out of their medication, and 19.7% reported having difficulties accessing prescribed opioids due to COVID-19³⁷.

Deprioritizing the treatment of CP can lead to serious consequences, as poorly managed pain is one of the main contributors to the misuse of medication³⁸. This was observed in the study that revealed that CP patients had to cope alone with their pain and the physical limitations generated by it, which triggered self-medication, and the opioid epidemic, in particular, grew in magnitude, partly due to restricted access to critical pain management care³³. Another study found that women with endometriosis increased their use of over-the-counter painkillers in 15.9% of cases and increased their use of prescription painkillers in 15.9% of cases³⁹. Similarly, an international panel of experts warned that if continuity of pain treatment for patients is not guaranteed, adverse events can occur, such as discontinuation of treatment, withdrawal symptoms and worsening of pain³⁴.

As explained above, the pandemic has exacerbated social injustices, as has also been seen in recent studies which have shown that social isolation has impacted seniors, women, racial/ethnic minorities and individuals with low socioeconomic status; these were more likely to report worse pain during the pandemic compared to their peers.

On the other hand, in a study of schoolchildren with CP, the authors assessed the prevalence of pain at three different times: before, during and after the pandemic restrictions, showing that the prevalence of CP fell by 7% during the COVID-19 pandemic. And one of the mechanisms behind this decline may be due to reduced exposure to CP risk factors, such as stress, bullying or aversion to school in general²⁰.

However, during social isolation, social support and the use of effective coping strategies led to an improvement in patients' quality of life and mental health, which may lead to the conclusion that patients with stronger pre-pandemic connections adapted better to the virtual environment, feeling less loss; while those who previously had greater feelings of loneliness with the whole family together, felt more comfort and security and more attention with the closeness of family members^{20,24,25,28,30}.

The COVID-19 pandemic, although on the wane, is leaving behind lasting effects on patients' recovery, especially for those with chronic diseases such as CP⁴⁰.

The SARS-CoV-2 virus is responsible for several clinical manifestations, collectively called COVID-19. The intensity and/or severity

of these manifestations can be asymptomatic, mild, moderate and severe, and are directly related to the individual's immune response, generating vulnerabilities among the elderly, ethnic minorities, low-income populations and people with chronic comorbidities, such as patients with persistent pain, who may be led to contract more severe infections from COVID-19^{27,41}.

Symptoms can include pain, pharyngodynia, fever, possible loss of taste and smell and difficulty breathing. It is estimated that 8 to 15% of patients develop severe symptoms such as respiratory failure, acute respiratory distress syndrome (ARDS) and multiple organ failure, requiring intensive care unit and respiratory support⁴².

Although pulmonary infection is the main symptom of SARS-CoV-2 infection in more than a third of infected people, some may also present different neurological manifestations that can involve the CNS (dizziness, headache, altered consciousness, ataxia and epilepsy), the peripheral nervous system (sensory system deficiencies and neuralgia), damage and pain in skeletal muscles, chest pain and abdominal pain. These neurological manifestations can cause sensitization of the nervous system, which may be related to the consequences of the development of CP caused by COVID-19^{40,41}.

Another fact presented was that those with COVID-19 who experienced intense pain and distress during their stay in the intensive care unit (ICU) appeared to be at greater risk of CP after discharge⁴⁰.

Individuals with COVID-19 may also need additional attention regarding pain management due to the physical pain of the infection. Neurological complications associated with COVID-19 infection, including peripheral neuralgia or post-stroke pain syndrome, can further exacerbate pain²³.

In one study⁴¹, three aspects were considered to understand this consequence: the first is that CP appears as a post-viral symptom or as a result of organ damage by the COVID-19 virus; the second is that almost 60% of those affected by COVID-19 had their daily activities affected (sleep, diet and exercise); the third refers to the worsening of pain due to exacerbation of physical/mental complaints.

In addition, the increase in workload and the demand for care caused by COVID-19³⁶ meant that pain began to be viewed more in terms of the biomedical model, since during the pandemic patients might not report pain and professionals might not ask about pain, since they were focused on physiological concerns that were considered more urgent. With pain being seen in the context of a biopsychosocial model that sees symptoms as the result of complex and dynamic interactions between biological, psychological and social factors, there needs to be an understanding that pain assessment and treatment should be carried out regularly.

In addition, the effects of infection can cause new pain or worsen existing pain. Therefore, acute pain management is imperative to avoid this transition to CP; it can be particularly important for patients with long-term symptoms. Providing multidisciplinary interventions that promote physical and psychological recovery in the early stages of hospitalization can minimize this injury²⁷.

As pain significantly affects life and contributes negatively to quality of life, even in the face of a critical and complex moment such as the pandemic, it is necessary to continue caring for these individuals. The articles reviewed showed these possibilities for action, so with the continued increase in telehealth and the possibility of future pandemics, it is recommended to move the existing guidelines for the formal development of telehealth competencies towards relevant curricular content and clinical experience for all nursing programs.

As a gap, this review included articles published mainly in the initial months up to the second year of the pandemic, and in order to have a more in-depth analysis of CP, this longitudinal monitoring of the impacts of the pandemic and isolation on individuals and health services for the treatment of CP is necessary.

CONCLUSION

This study found a gap in the literature in terms of research that shows how nurses work with individuals with CP in social isolation, suggesting the need for more studies in this area, especially at a national level.

In short, by analyzing the data from this study, it was possible to understand that the greatest threat posed by social isolation due to the COVID-19 pandemic is psychological. This emotional effect is caused by manifestations of negative feelings such as anxiety, loneliness, stress, sleep, mood, depression, which affect the degree of pain perception and exacerbation.

Individuals living with CP have multiple dimensions of their lives affected, because the condition of CP is responsible for stressful, unpleasant feelings and for causing multidimensional impacts on the lives of patients living with it.

AUTHORS' CONTRIBUTIONS

Fracielle Rozendo de Carvalho

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

Silvia Sidnéia da Silva

Conceptualization, Project Management, Methodology, Writing - Preparation of the Original, Writing - Review and Editing

Alexandra de Souza Melo

Conceptualization, Project Management, Methodology, Writing - Preparation of the Original, Writing - Review and Editing

Priscila de Medeiros

Conceptualization, Project Management, Methodology, Writing - Preparation of the Original, Writing - Review and Editing, Supervision

Lilian Sheila de Melo Pereira do Carmo

Project Management, Methodology, Writing - Preparation of the Original, Writing - Review and Editing

Belisa Vieira da Silveira

Data Collection, Conceptualization, Project Management, Research, Methodology, Writing - Preparation of the Original, Writing - Review and Editing, Supervision

REFERENCES

- Pan-American Health Organization (PAHO). Folha informativa sobre COVID-19 [Internet]. 2020 [citado em 9 outubro de 2021]. Disponível em: <https://www.paho.org/pt/covid19>.
- Nicola M, Alsafi Z, Sohrabi C, Kerwan A, Al-Jabir A, Iosifidis C, Agha M, Agha R. The socio-economic implications of the coronavirus and COVID-19 pandemic: a review. *Int J Surg*. 2020;78(1):185-93.
- Raja SN, Carr DB, Cohen M, Finnerup NB, Flor H, Gibson S, Keefe FJ, Mogil JS, Ringkamp M, Sluka KA, Song XJ, Stevens B, Sullivan MD, Tutelman PR, Ushida T, Vader K. The revised International Association for the Study of Pain definition of pain: concepts, challenges, and compromises. *Pain*. 2020;161(9):1976-82.
- Katz J, Melzack R. Measurement of pain. *Surg Clin North Am*. 1999;79(2):231-52.
- Elliott AM, Smith BH, Hannaford PC, Smith WC, Chambers WA. The course of chronic pain in the community: results of 4-year follow-up study. *Pain* 2002;99:299-307.
- Marchand S, Saravane D, Gaumond I, editors. *Mental Health and Pain*. Paris: Springer Paris. 2014.
- Sousa FA. Dor: o quinto sinal vital. *Rev Lat Am Enferm*. 2002;10(3):446-7
- Ritto C, Rocha FD, Costa I, Diniz L, Raposo MB, Pina PR, Faustino SA. *Manual de Dor Crônica*. Portugal FG. (ed), Instituto Português de Oncologia, Lisboa. 2012.
- Elliott AM, Smith BH, Penny KI, Cairns Smith W, Alastair Chambers W. The epidemiology of chronic pain in the community. *Lancet*. 1999;354(9186):1248-52.
- Vartiainen P, Mäntyselkä P, Heiskanen T, Hagelberg N, Mustola S, Forssell H, Kautiainen H, Kalso E. Validation of EQ-5D and 15D in the assessment of health-related quality of life in chronic pain. *Pain*. 2017;158(8):1577-85.
- Brevik H, Collett B, Ventafridda V, Cohen R, Gallacher D. Survey of chronic pain in Europe: prevalence, impact on daily life, and treatment. *Eur J Pain*. 2006;10(4):287-333.
- Dassieu L, Pagé MG, Lacasse A, Laflamme M, Perron V, Janelle-Montcalm A, Hudspith M, Moor G, Sutton K, Thompson JM, Choinière M. Chronic pain experience and health inequities during the COVID-19 pandemic in Canada: qualitative findings from the chronic pain and COVID-19 pan-Canadian study. *Int J Equity Health*. 2021;20(1):147.
- Dassieu L, Pagé MG. American Nurses Association (ANA). The Ethical Responsibility to Manage Pain and the Suffering It Causes. ANA Position Statement [Internet]. 2018 [citado em 28 de outubro de 2021]. Disponível em: <https://www.nursingworld.org/practice-policy/nursing-excellence/official-position-statements/id/the-ethical-responsibility-to-manage-pain-and-the-suffering-it-causes/>.
- Robins H, Perron V, Heathcote L, Simons L. Pain neuroscience education: state of the art and application in pediatrics. *Children*. 2016;3(4):43.
- Mendez SP, Sá KN, Araújo PC, Adélia IA, Gosling AP, Baptista A. Elaboration of a booklet for individuals with chronic pain. *Rev Dor*. 2017;18(3):199-211.
- Mendes KDS, Silveira RC de CP, Galvão CM. Revisão integrativa: método de pesquisa para a incorporação de evidências na saúde e na enfermagem. *Texto Contexto Enferm*. 2008;17(4):758-64.
- Melnik BM, Fineout-Overholt E. Making the case for evidence-based practice. In: Melnyk BM, Fineout-Overholt E. *Evidence based practice in nursing and healthcare. A guide to best practice*. Philadelphia: Lippincott Williams & Wilkins; Health. 2005;5(9):3-24.
- Hruschak V, Flowers KM, Azizuddin DR, Jamison RN, Edwards RR, Schreiber KL. Cross-sectional study of psychosocial and pain-related variables among patients with chronic pain during a time of social distancing imposed by the coronavirus disease 2019 pandemic. *Pain*. 2021;162(2):619-29.
- Serrano-Ibáñez ER, Esteve R, Ramírez-Maestre C, Ruiz-Párraga GT, López-Martínez AE. Chronic pain in the time of COVID-19: stress after math and central sensitization. *Br J Health Psychol*. 2021;26(2):544-52.
- Rau LM, Grothus S, Sommer A, Grochowska K, Claus BB, Zernikow B, Wager J. Chronic pain in school children and its association with psychological wellbeing before and during the COVID-19 pandemic. *J Adolesc Health*. 2021;69(5):721-28.
- Minayo MCS. O desafio do conhecimento. *Pesquisa Qualitativa em Saúde*, 11ª ed. São Paulo - Rio de Janeiro: Hucitec - Abrasco; 2010.
- de Moraes ÉB, Santos Garcia JB, de Macedo Antunes J, Daher DV, Seixas FL, Muniz Ferrari ME. Chronic pain management during the Covid-19 pandemic: a scoping review. *Pain Manag Nurs*. 2021;22(2):103-10.
- Puntillo F, Giglio M, Brienza N, Viswanath O, Urits I, Kaye AD, Pergolizzi J, Paladini A, Varrassi G. Impact of COVID-19 pandemic on chronic pain management: looking for the best way to deliver care. *Best Pract Res Clin Anaesthesiol*. 2020;34(3):529-37.
- Karos K, McParland JL, Bunzli S, Devan H, Hirsh A, Kapos FP, Keogh E, Moore D, Tracy LM, Ashton-James CE. The social threats of COVID-19 for people with chronic pain. *Pain*. 2020;161(10):2229-35.
- Amja K, Vigouroux M, Pagé MG, Hovey RB. The experiences of people living with chronic pain during a pandemic: "crumbling dreams with uncertain futures". *Qual Health Res*. 2021;31(11):2019-28.
- Consonni M, Telesca A, Grazi L, Cazzato D, Lauria G. Life with chronic pain during COVID-19 lockdown: the case of patients with small fibre neuropathy and chronic migraine. *Neurol Sci*. 2021;42(2):389-97.
- Eccleston C, Blyth FM, Dear BF, Fisher EA, Keefe FJ, Lynch ME, Palermo TM, Reid MC, Williams ACC. Managing patients with chronic pain during the COVID-19 outbreak: considerations for the rapid introduction of remotely supported (eHealth) pain management services. *Pain*. 2020;161(5):889-93.
- Bannon S, Greenberg J, Mace RA, Locascio JJ, Vranceanu AM. The role of social isolation in physical and emotional outcomes among patients with chronic pain. *Gen Hosp Psychiatry*. 2021;69:50-4.
- Yamada K, Wakaizumi K, Kubota Y, Murayama H, Tabuchi T. Loneliness, social isolation, and pain following the COVID-19 outbreak: data from a nationwide internet survey in Japan. *Sci Rep*. 2021;11(1):18643.
- Richardson PA, Kundu A. pain management in children during the COVID-19 pandemic. *Curr Anesthesiol Rep*. 2021;11(3):214-22.
- Miró J, Sánchez-Rodríguez E, Ferreira-Valente A, Pais-Ribeiro J, Ciaramella A. Effects of COVID-19 social distancing measures in individuals with chronic pain living in Spain in the late stages of the lockdown. *Int J Environ Res Public Health*. 2021;18(22):11732.
- Cankurtaran D, Tezel N, Ercan B, Yildiz SY, Akyuz EU. The effects of COVID-19 fear and anxiety on symptom severity, sleep quality, and mood in patients with fibromyalgia: a pilot study. *Adv Rheumatol*. 2021;61(1):41.
- Murphy MT, Latif U. Pain during COVID-19: a comprehensive review and guide for the interventionalist. *Pain Pract*. 2021;21(1):132-43.
- Shanthanna H, Strand NH, Provenzano DA, Lobo CA, Eldabe S, Bhatia A, Wegener J, Curtis K, Cohen SP, Narouze S. Caring for patients with pain during the COVID-19 pandemic: consensus recommendations from an international expert panel. *Anaesthesia*. 2020;75(7):935-44.
- Iglesias-López E, García-Isidoro S, Castellanos-Sánchez VO. COVID-19 pandemic: pain, quality of life and impact on public health in the confinement in Spain. *Ann Palliat Med*. 2021;10(4):4338-53.
- Sowicz TJ, Knisely MR, Booker SQ, Bai J, Saravanan A, Marie BS. Pain management nurses' roles during the Covid-19 pandemic. *Pain Manag Nurs*. 2021;23(1):9-16.
- Mun CJ, Campbell CM, McGill LS, Aaron RV. The early impact of COVID-19 on chronic pain: a cross-sectional investigation of a large online sample of individuals with chronic pain in the United States, April to May, 2020. *Pain Med*. 2021;22(2):470-80.
- Marinangeli F, Giarratano A, Petrini F. Chronic pain and COVID-19: pathophysiological, clinical and organizational issues. *Minerva Anesthesiol*. 2021;87(7):828-32.
- Schwab R, Anić K, Stewen K, Schmidt MW, Kalb SR, Kottmann T, Brenner W, Domidian JS, Krajnak S, Battista MJ, Hasenburger A. Pain experience and social support of endometriosis patients during the COVID-19 pandemic in Germany - results of a web-based cross-sectional survey. *PLoS One*. 2021;16(8):e0256433.
- Jiang F, Yang WL, Wang JW, Zhu Z, Luo C, Arendt-Nielsen L, Song XJ. Pain during and after coronavirus disease 2019: Chinese perspectives. *Pain Rep*. 2021;6(1):e931.
- Jiang F, Yang W-L, Wang J-W, Zhu Z, Luo C, Arendt-Nielsen L, et al. Pain during and after coronavirus disease 2019: Chinese perspectives. *Pain Rep*. 2021;6(1):e931.
- Alonso-Matielo H, da Silva Oliveira VR, de Oliveira VT, Dale CS. Pain in Covid era. *Front Physiol*. 2021;12:624154.
- Smyrnioti ME, Lyrakos G, Meindani M, Matsota P, Kostopanagiotou G, Batistaki C. The impact of the first wave of the COVID-19 pandemic on patients' perceptions of chronic pain. *J Pain Res*. 2021;14:2571-81.
- Antunes JDM, Daher DV, Moraes ÉB de, Ferrari MFM, Geraldo MDA. Programa Integrador e o cuidado de enfermagem frente a dor crônica: relato de experiência. *Enferm Foco*. 2020;11(5):48-53.
- Yu L, Kioskli K, McCracken LM. The psychological functioning in the COVID-19 pandemic and its association with psychological flexibility and broader functioning in people with chronic pain. *J Pain*. 2021;22(8):926-39.
- Heather HT, Kamitsuru S, Lopes TC. North American Nursing Diagnosis Association International. *Diagnósticos de enfermagem da NANDA: definições e classificação*. 12ª ed. Porto Alegre (RS): Artmed. 2022.

