American Journal of Hospice & Palliative Medicine®
2022, Vol. 0(0) 1–8

DOI: 10.1177/10499091221101879
journals.sagepub.com/home/ajh
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Palliative Care in Breast Cancer During the COVID-19 Pandemic: A Scoping Review

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Abstract

Background: The COVID-19 pandemic has harmed the provision of palliative care (PC) services for women with breast cancer due to all the restrictions that came along with the virus. **Objective:** To map the available evidence on the situation of PC in breast cancer during the COVID-19 pandemic. **Methods:** A scoping review was carried out based on the methodology proposed by the Joanna Briggs Institute. The search was conducted in nine databases, one electronic repository, and one library, using controlled vocabularies. **Results:** Twenty-nine articles and seven documents were included. The majority (11.4% each) were published in the United Kingdom, Italy, and the United States, 38.9% addressed palliative radiotherapy (RT), and 47.2% consisted of recommendations. From the content analysis, five categories were obtained focused on the recommendations on changes in palliative treatment guidelines and the response of PC teams to the evolving crisis. **Conclusions:** The evidence pointed to the management of general PC, palliative RT, palliative chemotherapy, management of metastatic breast cancer, and use of technologies in palliative care. No recommendations were found to manage frequent symptoms in PC, indicating the need to develop primary studies that investigate these aspects in detail in this vulnerable group. **Implications:** The results contained in this document can provide professionals working in this field of care with a global view of how other teams have dealt with the pandemic, thereby identifying the best guidelines to apply in their reality, taking into account the clinical and social situation of each patient.

Keywords

palliative care, breast cancer, COVID-19, women, scoping review, pandemic

Introduction

Palliative care (PC) is an approach to improve the quality of life of patients and their families when they face problems associated with life-threatening diseases.[1] It is estimated that annually 40 million people need palliative care, 78% of them live in low-income and middle-income countries, and only 14% receive this type of care.[2] During the SARS-CoV-2 (COVID-19) pandemic, PC has been seriously neglected in most health systems, even in well-resourced countries, in a rush for rapid mitigation and containment of the disease, a serious mistake since PC must be part of the national and international response plans for COVID-19.[3]

During the COVID-19 pandemic, access to essential end-of-life palliative care, including bereavement support, has been limited due to high demands for health care,[4] social isolation, and the restrictions that came along with the virus. This situation has affected the proper follow-up of patients, for example, in the oncology scenario. The response to COVID-19 exacerbated the challenges at different levels, including prevention, treatment, and palliative care.[5] For the above reasons, health services have had to adapt to guarantee the continuum of care for patients in the current context.

Concerning breast cancer, there were countries in which hospital services, hospices, and palliative care (PC) at home were not completely paralyzed. However, detection and surveillance services were interrupted temporarily.[6] Although there is no detailed information at the global level, it can be conjectured that this was the scenario in most countries,[4]

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aggravating the situation of breast cancer, which is currently the most common cancer and the leading cause of cancer mortality in women worldwide.[7]

Palliative care is essential in the therapeutic approach of patients with breast cancer.[8] This type of medical care is generally performed by a multidisciplinary team in a clinical setting or at home. However, PC services have been affected due to the restrictions imposed by COVID-19, social distancing, and the fear of contracting the disease.[4] This conjecture is supported by Shinan et al, who mentions that the contact of breast cancer patients with health professionals was reduced during the COVID-19 pandemic.[9]

This study is justified by the need to map the situation of PC to breast cancer women in the context of the pandemic, the impacts on the provision of medical care, and how PC services have adjusted their protocols amid the pandemic. Two scoping reviews were found with similar thematic approaches. One addresses the challenges of general PC in the context of the pandemic,[10] and the other details the changes that have taken place in general PC provided in hospitals.[11] Despite reviewing the same concept, these studies differ from our approach since this review focuses on PC to breast cancer patients, hence its relevance. Finally, the following review objective was set: to map the available evidence on the situation of PC in breast cancer during the COVID-19 pandemic.

Methods

Design and Protocol

This is a scoping review guided by the methodological recommendations proposed by the Joana Briggs Institute (JBI)[12] and the approach suggested by Tricco et al[13] This review is also in line with the recommendations of the PRISMA extension for scoping reviews (PRISMA-ScR) checklist[13] and the PRISMA 2020 flowchart.[14] The review protocol was registered in the Open Science Framework (DOI: 10.17605/OSF.IO/MHJB6).

Review Question

The review question was constructed using the Population, Concept, Context (PCC) framework proposed by the JBI,[12] in which (P) corresponds to patients with breast cancer, (C) palliative care, and (C) the COVID-19 pandemic, giving rise to the following guiding question: What is the available evidence on palliative care for breast cancer patients during the COVID-19 pandemic?

Inclusion Criteria

All studies that addressed the variables of the PCC acronym mentioned above were included, without methodological design or language restrictions.

Population: studies that addressed breast cancer, without restrictions regarding age, type, or stage of the disease, including studies addressing breast cancer together with other types of cancer, with the first being the most prevalent. The following definition proposed by the WHO was considered: breast cancer consists of the accelerated and uncontrolled proliferation of glandular epithelial cells, most often originating in the lining cells (epithelium) of the ducts or lobules in the glandular tissue of the breast. Initially, the cancerous growth is confined to the duct or lobule ("in situ"), where it generally causes no symptoms and has minimal potential for spread (metastasis), but over time, these in situ (stage 0) cancers may progress and invade the surrounding breast tissue (invasive breast cancer).[15]

Concept: studies aligned with the theoretical definition of palliative care proposed by the WHO,[8] improve the quality of life of patients and that of their families who are facing challenges associated with life-threatening illness, whether physical, psychological, social, or spiritual.

Context: studies developed in the current context of the COVID-19 pandemic, from its emergence in December 2019 to the present. The WHO defines COVID-19 as an infectious disease caused by the coronavirus SARS-CoV-2, and its main symptoms are fever, tiredness, and dry cough. The pandemic state was declared in March 2020.[16,17]

Exclusion Criteria

Studies that addressed breast cancer in men were excluded.

Search Strategy

The study followed the three-step search strategy proposed by the JBI.[12] A limited electronic search was first performed in one global and one regional database (MEDLINE via PubMed and LILACS), combining the main descriptors of the PCC acronym ("Breast cancer" AND "Palliative care" AND "COVID-19"). Articles retrieved from this search were screened for the inclusion of keywords contained in titles and abstracts, and the indexed descriptors were analyzed, three of which were included in the final search equation ("breast carcinoma", "palliative supportive care", and "SARS- CoV-2 infection).

For the construction of the search strategy, controlled vocabularies (MeSH, DeCS, and Emtree) and their synonyms in English, Portuguese, French, and Spanish were used. The search was carried out in the following databases, combining different search strategies with the Boolean operators "AND" and "OR": MEDLINE (Via PubMed), Embase (Excerpta Medica Database), LILACS (Latin American and Caribbean Health Science Database), CINAHL (Cumulative Index to Nursing and Allied Health Literature, via EBSCO), Scopus, Web of Science, Cochrane Library, JBI Evidence Synthesis, Epistemonikos, the electronic repository SciELO (Scientific

Electronic Library Online), and the Regional Portal of the Virtual Health Library (BVS). (Appendix Table A1)

Due to the flexibility of including gray literature in scoping reviews[12,18] and the importance of knowing the situation of PC for breast cancer patients during the pandemic, we added information from OpenGrey, Who Library Database, Google Scholar, ProQuest and Medscape nurses, as well as from the websites of recognized breast cancer and palliative care societies. (Appendix Table A2) The search was conducted on November 18, 2021, with a new gray-literature search conducted on January 19, 2022.

Selection of the Source of Evidence

Rayyan software was used to manage the recovered articles.[19] This software was designed to support systematic reviews but is currently widely used to manage evidence for different types of literature review studies.

The study selection was carried out in three phases. First, all the articles from the last search were deposited in Rayyan, the duplicate articles were removed, and a random sample of 25 articles was taken to establish the level of concordance and selection of studies among the reviewers according to the recommendations of the JBI.[12] Next, the team met to discuss discrepancies and clarify the eligibility criteria, reaching an agreement of 84%.

In the second phase, titles and abstracts were analyzed by two independent reviewers to identify eligible articles, and another reviewer resolved any uncertainty with inclusion. Finally, in the third phase, the same reviewers independently examined the full manuscripts chosen in the second selection phase, and a third reviewer resolved any disagreements. The PRISMA 2020 flowchart[14] shown in Fig. 1 depicts the literature selection process.

Data Extraction

The data was extracted and deposited in a form designed by a research team member and adapted based on the extraction template proposed by the JBI.[12] A pilot test was carried out to verify that the form could extract all the relevant results of the included studies.[12,20,21] Two reviewers extracted the proposed data from two articles previously selected, and finally, the extraction was evaluated and accepted by the third reviewer. The data were descriptively mapped according to the following parameters: title, year, journal, country, objective, and key points.

Data Analysis and Presentation

A content analysis of the included studies was carried out, and the main findings were grouped by semantic similarity. Then, the textual categories were obtained and described through a narrative synthesis. Descriptive statistics were used to summarize the variables of interest from the included studies. The main recommendations were summarized in a table. In addition, a timeline was created to present the publication dates of the articles. Similarity analysis was performed using IRaMuTeQ version 0.7 alpha 2 software *(Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires)* to find the relationship between the identified concepts.

Results

The last search on the databases resulted in 744 potentially relevant studies, of which 79 duplicates were excluded. The remaining 665 articles were analyzed by title and abstract, and 612 studies were excluded for not meeting the inclusion criteria. Subsequently, the remaining 53 articles were assessed in full text for eligibility. In the end, 29 articles were included in the review. From the gray literature search, 14 records were identified in the different organizations and websites, of which 7 were excluded. The remaining 7 articles were included in the final sample. (Fig. 1)

Description of the Studies

The review process compiled various articles that focused on different aspects of PC in breast cancer during the COVID-19 pandemic. It is important to highlight that the studies were developed in 21 countries, with most studies being conducted in Italy, the United Kingdom, the United States (11.4% each), and Brazil (8.5%) followed by Uruguay (5.7%) and Singapore, Israel, Saudi Arabia, Egypt, India, Colombia, Germany, Iran, Morocco, Spain, Jamaica, Zambia, Lebanon, Peru, Argentina, Canada, South Africa and Switzerland (2.9% each). The above finding indicates great heterogeneity in terms of the location of the studies, corresponding to the spread of SARS-CoV-2 by all continents and the growing interest in the topic of PC in breast cancer. (Table 1)

Regarding the study designs, 47.2% were recommendations regarding PC management during the pandemic, 11.1% were prospective studies and experience reports, and 8.3% were case studies. The remaining were cross-sectional, retrospective studies, literature reviews, and expert opinions. Four studies (11.1%) were conference abstracts. The most published journal was "The Oncologist" and "Journal of Clinical Oncology," with three studies each. Information was also retrieved from organizations including the European Society for Medical Oncology (ESMO), PAHO/WHO, Peruvian Society of Medical Oncology (SPOM), and the Latin American Federation of Mastology (FLAM).

Of the topics investigated, 38.9% of the studies addressed palliative radiotherapy (RT) in breast cancer and its recommendations during the pandemic, 19.4% investigated the role of PC in general for breast cancer patients, PC for metastatic breast cancer, and the use of technologies for the provision of PC during the pandemic. In comparison, 16.7% emphasized recommendations on palliative chemotherapy, and 2.7% suggested recommendations for palliative surgery and

addressed the quality of life of patients with breast cancer in PC during the pandemic.

Due to the importance of knowing the status of the investigated phenomenon, a timeline was made concerning the publication dates of the articles. Since most records are recommendations, it is important to place the reader in the most current guidelines and the changes over time. As shown in Fig. 2, the articles were published between March 2020 and December 2021, with the majority (83%) published from May 2020 to 2021. The first country to publish recommendations for the management of breast cancer patients in PC during the pandemic was Iran,[22] followed by the Federación Latinoamericana de Mastología[23] and the European Society for Medical Oncology.[24]

After the content analysis, five broad categories were identified that reflect the predominant perspectives concerning PC and breast cancer within the context of the pandemic. These included general recommendations for standard palliative treatment and symptom management,[25-31] the use of palliative RT,[6,22-24,32-41] palliative chemotherapy,[35,38,42-45] management of metastatic breast cancer,[22,27,46-50] and teleoncology for the provision of PC[30,51-56] The summary of the main recommendations is shown in (Table 2).

Figure 3 depicts the similarity analysis obtained with IRaMuTeQ. The colored clouds represent the grouping of the most associated words and the connecting lines their degree of association. At the center of the analysis, the cloud with greater predominance places the patient amid all the modifications arising from the Covid-19 pandemic. From the connection between patient and treatment, palliative chemotherapy for metastatic breast cancer was the one that underwent the greatest modifications. Likewise, concerning the patient-pandemic relationship, the changes caused by COVID-19 had had a significant impact on PC in breast cancer, with palliative RT being the treatment with the greatest modifications. Of the last two lower ratios, the recommendations reinforce the continuation or modification of palliative therapy considering the individual risks and benefits.

Discussion

General Palliative Care, Breast Cancer, and COVID-19

The COVID-19 pandemic has directly affected PC services offered to breast cancer patients and the perception of quality of life, especially by patients with metastatic cancer at the end of life. These patients may have had symptoms such as pain, fatigue, and dyspnea neglected, affecting the chance of having a dignified death. In addition, mobility restrictions have caused many outpatients to stop going to services to receive adequate PC, leading to cancer progression and suffering.[28] Patients diagnosed with COVID-19 in PC have been subjected to restricted visits and isolation, facing death in solitude.[30] Consequently, families are subjected to a dysfunctional mourning process.

In a study carried out in Germany, psychological stress was evaluated in patients with breast cancer during the health crisis, where palliative patients were the ones who had more complaints about the presence of fatigue, pain, and loss of appetite, interfering with their quality of life.[31]

A case report of a South African patient with advanced breast cancer places us in the paradigmatic changes resulting from the pandemic, not because of the lack of provision, but because of the difficulties in accessing services (restrictions imposed by COVID-19) as mentioned in the case, in addition to the lack of experienced professionals in this area.[28] A study carried out in Brazil during the pandemic has shown that follow-up by a specialized PC team had positively impacted care at the end of life for breast cancer women compared to those who attended consultations with a medical oncologist only.[29]

Regarding the continuation of palliative treatments in breast cancer, patients with COVID-19 and breast cancer can still benefit from PC, with its early approach being a requirement as indicated by a case study of a patient with toxic epidermal necrolysis,[26] an experience report from a specialized palliative care center[30] and the opinion of five oncologists.[25]

Palliative Radiotherapy, Breast Cancer, and COVID-19

Regarding palliative treatments for breast cancer, radiotherapy is a successful, time-efficient, well-tolerated, and cost-effective intervention that is crucial for the adequate provision of palliative cancer care.[57] However, with the emergence of the COVID-19 pandemic, RT services had to change treatment guidelines,[58] which focused on hypofractionated and short regimens to minimize hospital visits, considered a source of infection.

Regarding the administration schedules of palliative RT in breast cancer during the pandemic, a cancer center in Zambia modified its pre-pandemic schedule (20 Gy/5 #s) to a hypofractionated schedule of 8 Gy/1#,[41] similar to what has been made in Israel and Iran. Organizations from these countries have recommended using a single fraction of 8 Gy even for patients with better functional status, continually re-evaluating the need for a single additional dose at 1-month follow-up.[22,36] However, a study in Singapore shows a slight variation, recommending that palliation of breast cancer with RT should be administered weekly in 6 Gy fractions for 5 to 6 weeks.[6]

Some studies agree that, in the context of the COVID-19 pandemic, palliative RT for breast cancer is used to apply hypofractionated regimens[6,33] and should always be maintained in cases of metastasis when the symptoms are not controlled.[35] This allows for adequate palliation, fewer hospital visits[37] to reduce exposure to the virus, and the ability to repeat the treatment as needed.[36]

Palliative Chemotherapy, Breast Cancer, and Covid-19

In the context of COVID-19, many of the chemotherapy treatments for breast cancer have been modified according to various recommendations adjusted to the scenarios of each country. At the pandemic's beginning, a Moroccan study evaluated palliative chemotherapy for HER2-positive and triple-negative breast cancer (TNBC) as a high priority.[35] Days later, the COVID-19 Pandemic Breast Cancer Consortium noted that when the likely benefit of additional palliative chemotherapy is very small, patients may find that the risks of treatment outweigh the possible gains.[38]

Regarding changes in chemotherapy treatment, in a study conducted in New York, 51.9% of patients with breast cancer receiving palliative intent changed their treatment due to the pandemic, vs 37.5% of patients receiving chemotherapy with healing intent.[42] Likewise, in Uruguay, of 21 patients who were receiving palliative chemotherapy, two (28.5%) continued treatment with the addition of G-CSF, three (42.8%) continued with weekly capecitabine or paclitaxel without changes in treatment, and two (28.5%) changed their treatment regimens.[44]

In Saudi Arabia, breast cancer patients receiving palliative chemotherapy during the pandemic had a mortality rate of 7% vs 1% for curative chemotherapy.[45] Despite this, palliative chemotherapy was an important treatment during the health crisis, especially in patients with advanced breast cancer, as reported by a series report of five cases.[43]

Metastatic Breast Cancer, Palliative Care, and Covid-19

Concerning the management of metastatic breast cancer, the SPOM recommends that treatment should have a palliative approach to improve quality of life and prolong survival (100% Consensus).[27,49] However, the patient's preferences must be taken into account regarding "therapeutic rest", palliative therapy, or maintenance of regimens with dose reduction (89% Consensus).[49]

The recommendations of the Iranian Consensus refer that, in metastatic patients, it is highly recommended to use a less aggressive and toxic treatment to minimize the hospitalizations, especially in palliative treatments.[22] In the same context, a study conducted in the United States recommended that patients receiving first-line palliative systemic therapy continue with the therapy, carefully considering the risks and benefits of late-line therapy,[48] added to the considerations of PAHO/WHO who refer that systemic therapy for metastatic breast cancer must have a palliative indication for substantial benefits in survival.[47]

Two studies emphasize that delaying initiation of CDK4/6 inhibitors may be considered due to the risk of neutropenia,[22,46] recommending that those who are hormonally positive should continue hormone therapy[46] considering switching from intravenous to subcutaneous or oral treatments if there are alternatives and establishing long-term treatment guidelines.[22] The Colombian recommendations recommend deferring palliative surgery in stage IV breast tumors until a better safety scenario is determined.[50]

Teleoncology, Palliative Care, and COVID-19

Teleoncology is the application of telemedicine to oncology. It can improve access and quality of clinical cancer care.[59-61] Due to the restrictions imposed by the COVID-19 pandemic (curfews, isolation, and hospital restrictions), healthcare models worldwide have accepted and adopted telehealth models,[56] especially in rural and geographically distant areas,[60] using them as a tool for monitoring the main symptoms of patients in PC.[53]

In an Uruguayan study, the authors addressed the effectiveness of telephone consultations (TC) and the level of satisfaction of patients attended by a Mastology Unit to receive curative and palliative treatments during the pandemic. A high level of satisfaction was achieved, and the program allowed the maintenance of the follow-up schedule during the pandemic.[51] Similarly, in the United Kingdom, a group of surgeons and a nursing team performed CT follow-ups of women with inoperable breast cancer who were happy with the support provided through virtual means.[55]

A cancer center in the United States adapted its pre-pandemic PC program (ENABLE® and VitalTalk®) to the context of the health crisis, showing the importance of its use for managing cases of advanced breast cancer, where the change in approach would have meant a better quality of life for the patients.[54] Likewise, in a palliative care center in Brazil, patients benefited from video calls to establish communication with the family, relieving pain, suffering, anxiety, and anguish, and providing emotional support in the end-of-life.[30]

Although this review addresses the situation of PC provided for breast cancer patients during the pandemic, it is important to mention that none of the studies addressed recommendations for pain management in this scenario, which is noteworthy since pain is the most recurrent and difficult to manage symptom that impacts the quality of life of these patients.[62] Likewise, dyspnea and fatigue are very common symptoms in metastatic breast cancer patients with lung progression, and those symptoms can be confounded with respiratory symptoms induced by COVID-19. Besides, no recommendations were found on grief management, a process that should be addressed by studies concerned with PC. Given the above, some knowledge gaps were identified in this review, suggesting the development of primary studies that more precisely detail the investigated problem's situation.

A limitation of any review is the possibility that relevant studies may not have been retrieved and discussed. However, the search was performed as broadly as possible to reduce the risk of selection bias, using nine databases, a repository, a

virtual library, and the gray literature with the support of a librarian.

Conclusions

The mapped evidence points to the management of general PC, palliative RT, palliative chemotherapy, management of metastatic breast cancer, and the use of technologies in palliative care. No recommendations were found to manage frequent symptoms in PC patients, indicating the need to develop primary studies that investigate these aspects in more detail.

Implications for Practice

This review offers a map of evidence and recommendations on the topic addressed. Despite not evaluating the methodological quality of the included studies, most of them are international consensus developed based on the situation of each country, so the results presented in this article may be useful for professionals who work in this area of care to have a global vision of how other teams have faced the pandemic and, through it, discern the best guidelines to apply taking into account the clinical and social situation of each patient.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The first and second authors have a scholarship awarded by the Coordination of the Training of Higher-Level Personnel (CAPES-Brazil)

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References

1. Pan American Health Organization. Cuidados paliativos [Palliative care]. Published 2020. Accessed October 28, 2021. https://www.paho.org/es/temas/cuidados-paliativos
2. World Health Organization. Cuidados paliativos [Palliative care]. Published August 20, 2020. Accessed October 28, 2021. https://www.who.int/es/news-room/fact-sheets/detail/palliative-care
3. The Lancet. Palliative care and the COVID-19 pandemic. *Lancet*. 2020;395(10231):1168. doi:10.1016/S0140-6736(20)30822-9
4. Radbruch L, Knaul FM, de Lima L, de Joncheere C, Bhadelia A. The key role of palliative care in response to the COVID-19 tsunami of suffering. *Lancet*. 2020;395(10235):1467-1469. doi:10.1016/S0140-6736(20)30964-8
5. Addai BW, Ngwa W. COVID-19 and cancer in Africa. *Science*. 2021;371(6524):25–27. doi:10.1126/science.abd1016
6. Chan JJ, Sim Y, Ow SGW, et al. The impact of COVID-19 on and recommendations for breast cancer care: the Singapore experience. *Endocr Relat Cancer*. 2020;27(9):R307-R327. doi:10.1530/ERC-20-0157
7. Waks AG, Winer EP. Breast cancer treatment: a review. *JAMA*. 2019;321(3):288-300. doi:10.1001/jama.2018.19323
8. World Health Organization. Cuidados paliativos [Palliative care]. Published August 20, 2020. Accessed August 12, 2021. https://www.who.int/es/news-room/fact-sheets/detail/palliative-care
9. Shinan-Altman S, Levkovich I, Tavori G. Healthcare utilization among breast cancer patients during the COVID-19 outbreak. *Palliat Support Care*. 2020;18(4):385-391. doi:10.1017/S1478951520000516
10. Florêncio RS, Cestari VRF, de Souza LC, et al. Palliative care amidst the COVID-19 pandemic: challenges and contributions. *Acta Paul Enferm*. 2020;33:eAPE20200188. doi:10.37689/acta-ape/2020AO01886
11. Connolly M, Bell M, Lawler F, Timmins F, Ryder M. Hospital-based palliative and end-of-life care in the COVID-19 pandemic: a scoping review. *Am J Hosp Palliat Care*. Published online December 11, 2021. doi:10.1177/10499091211057049
12. Peters MD, Godfrey C, McInerney P, Zachary M, Tricco AC, Hanan K. Chapter 11: scoping reviews (2020 version). In: Aromataris E, Munn Z, eds. *JBI manual for evidence synthesis*. JBI; 2020. doi:10.46658/JBIMES-20-01
13. Tricco AC, Lillie E, Zarin W, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med*. 2018;169(7):467-473. doi:10.7326/M18-0850
14. Page MJ, Moher D, Bossuyt PM, et al. PRISMA 2020 explanation and elaboration: updated guidance and exemplars for reporting systematic reviews. *BMJ*. 2021;372:n160. doi:10.1136/bmj.n160
15. World Health Organization. Cáncer de mama [Breast cancer]. Published March 26, 2021. Accessed August 27, 2021. https://www.who.int/es/news-room/fact-sheets/detail/breast-cancer
16. World Health Organization. WHO Director-General's opening remarks at the media briefing on COVID-19 - 11 March 2020. Speeches. Published March 11, 2020. Accessed October 8, 2021. https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19—11-march-2020
17. Pan American Health Organization. Folha informativa sobre COVID-19 - OPAS/OMS [COVID-19 fact sheet – PAHO/WHO]. Published 2021. Accessed October 8, 2021. https://www.paho.org/pt/covid19
18. Botelho RG, da Cruz de Oliveira C. Literaturas branca e cinzenta: uma revisão conceitual. *Ciência Informação*. 2015;44(3):501-513. Accessed August 19, 2021. http://revista.ibict.br/ciinf/article/view/1804
19. Ouzzani M, Hammady H, Fedorowicz Z, Elmagarmid A. Rayyan—a web and mobile app for systematic reviews. *Syst Rev*. 2016;5(1):210. doi:10.1186/s13643-016-0384-4

20. Armstrong R, Hall BJ, Doyle J, Waters E. 'Scoping the scope' of a cochrane review. *J Publ Health*. 2011;33(1):147-150. doi:10.1093/pubmed/fdr015
21. Valaitis R, Martin-Misener R, Wong ST, et al. Methods, strategies and technologies used to conduct a scoping literature review of collaboration between primary care and public health. *Prim Health Care Res Dev*. 2012;13(3):219-236. doi:10.1017/S1463423611000594
22. Shahi F, Mirzania M, Aghili M, et al. Modifications in breast cancer guidelines in COVID-19 pandemic; an Iranian Consensus. *Arch Breast Cancer*. 2020;22:14-21. doi:10.32768/abc.20207114-21
23. Federación Latinoamericana de Mastología. Abordaje Multidisciplinario de COVID-19 y cáncer: Consenso Intersociedades científicas de Argentina. Published online May 2020. http://www.flammastologia.org/wp-content/uploads/2020/05/ecancermedicalscience-2020-article-1044.pdf
24. European Society for Medical Oncology. ESMO management and treatment adapted recommendations in the COVID-19 era: Breast cancer. cancer patient management during the COVID-19 pandemic. Published May 20, 2020. Accessed January 28, 2022. https://www.esmo.org/guidelines/cancer-patient-management-during-the-covid-19-pandemic/breast-cancer-in-the-covid-19-era
25. Potenza L, Luppi M, Efficace F, Bruera E, Bandieri E. COVID-19 pandemic and cancer: the importance of early palliative care. *Oncologist*. 2020;26(11):e2094-e2096. doi:10.1002/onco.13587
26. Narang I, Panthagani AP, Lewis M, Chohan B, Ferguson A, Nambi R. COVID-19-induced toxic epidermal necrolysis. *Clin Exp Dermatol*. 2021;46(5):927-929. doi:10.1111/ced.14574
27. Martin M, Guerrero-Zotano A, Montero Á, et al. GEICAM guidelines for the management of patients with breast cancer during the COVID-19 pandemic in Spain. *Oncologist*. 2020;25(9):e1339-e1345. doi:10.1634/theoncologist.2020-0363
28. Colgan D, GunnClark N, Kamonyo Sibomana E. Palliative care and Covid-19: a patient's quality of life and dignified death are paramount. *Front Public Health*. Published November 30, 2020. Accessed January 28, 2022. https://www.wits.ac.za/covid19/covid19-news/latest/palliative-care-and-covid-19-a-patients-quality-of-life-and-dignified-death-are-paramount.html
29. Gomes S, Silva D, Sá J, et al. Predictors of home death and the quality of end-of-life care at a cancer center in Brazil. *J Clin Oncol*. 2021;39(suppl 15):e24004-e24004. doi:10.1200/JCO.2021.39.15_suppl.e24004
30. Santiago FB, da Silva ALA. Primeiro caso de COVID-19 em uma unidade de Cuidados Paliativos oncológicos: relato de experiência. *Enfermagem em Foco*. 2020;11(2,n.esp):212-218. doi:10.21675/2357-707X.2020.v11.n2.ESP.3847
31. Bartmann C, Fischer LM, Hübner T, et al. The effects of the COVID-19 pandemic on psychological stress in breast cancer patients. *BMC Cancer*. 2021;21(1):1356. doi:10.1186/s12885-021-09012-y
32. Battisti NML, Mislang AR, Cooper L, et al. Adapting care for older cancer patients during the COVID-19 pandemic: recommendations from the international society of geriatric oncology (SIOG) COVID-19 working group. *J Geriat Oncol*. 2020;11(8):1190-1198. doi:10.1016/j.jgo.2020.07.008
33. Moujaess E, Kourie HR, Ghosn M. Cancer patients and research during COVID-19 pandemic: A systematic review of current evidence. *Crit Rev Oncol-Hematol*. 2020;150:102972. doi:10.1016/j.critrevonc.2020.102972
34. Elghazawy H, Bakkach J, Zaghloul MS, et al. Implementation of breast cancer continuum of care in low- and middle-income countries during the COVID-19 pandemic. *Future Oncol*. 2020;16(31):2551-2567. doi:10.2217/fon-2020-0574
35. Ismaili N, El Majjaoui S. Management of breast cancer during COVID-19 pandemic in Morocco. *Breast J*. 2020;26(8):1618-1619. doi:10.1111/tbj.13925
36. Jacobson G, Kaidar-Person O, Haisraely O, et al. Palliative radiation therapy for symptomatic advance breast cancer. *Sci Rep*. 2021;11(1):5282. doi:10.1038/s41598-021-84872-9
37. Viale G, Licata L, Sica L, et al. Personalized risk–benefit ratio adaptation of breast cancer care at the epicenter of COVID-19 outbreak. *Oncologist*. 2020;25(7):e1013-e1020. doi:10.1634/theoncologist.2020-0316
38. Dietz JR, Moran MS, Isakoff SJ, et al. Recommendations for prioritization, treatment, and triage of breast cancer patients during the COVID-19 pandemic. the COVID-19 pandemic breast cancer consortium. *Breast Cancer Res Treat*. 2020;181(3):487-497. doi:10.1007/s10549-020-05644-z
39. Curigliano G, Cardoso MJ, Poortmans P, et al. Recommendations for triage, prioritization and treatment of breast cancer patients during the COVID-19 pandemic. *Breast*. 2020;52:8-16. doi:10.1016/j.breast.2020.04.006
40. Cardoso FF, Curigliano G. Treating breast cancer during COVID-19: "indispensable." medscape nurses. Published August 6, 2020. Accessed January 28, 2022. http://www.medscape.com/viewarticle/934667
41. Lombe DC, Mwaba CK, Msadabwe SC, et al. Zambia's National cancer centre response to the COVID-19 pandemic—an opportunity for improved care. *Ecancermedicalscience*. 2020;14:1051. doi:10.3332/ecancer.2020.1051
42. Lin DD, Meghal T, Murthy P, et al. Chemotherapy treatment modifications during the COVID-19 outbreak at a community cancer center in New York City. *JCO Glob Oncol*. 2020;6:1298-1305. doi:10.1200/GO.20.00309
43. Vanni G, Santori F, Pellicciaro M, et al. Extremely advanced breast cancer presentation: possible effect of coronavirus pandemic anxiety. *In Vivo*. 2021;35(4):2331-2335. doi:10.21873/invivo.12508
44. Castillo C, Camejo N, Amarillo D, et al. Impact of the COVID-19 pandemic on health care activities at a Uruguayan mastology teaching unit: Preliminary results. *J Clin Oncol*. 2021;39(suppl 15):e12502-e12502. doi:10.1200/JCO.2021.39.15_suppl.e12502
45. Tashkandi E, Al-Abdulwahab A, Basulaiman B, et al. Mortality and morbidity of curative and palliative anticancer treatments during the COVID-19 pandemic: a multicenter population-based retrospective study. *Mol Clin Oncol*. 2021;14(4):1-11. doi:10.3892/mco.2021.2244

46. Batra A, Mehta P, Patel A, et al. Breast cancer treatment during the COVID-19 Pandemic. *Indian J Med Paediatr Oncol*. 2021; 41(2):135-137. doi:10.4103/ijmpo.ijmpo_111_20
47. Organización Panamericana de la Salud. Consideraciones para la reorganización de los servicios de oncología durante la pandemia de COVID-19. Published online May 26, 2020. https://iris.paho.org/bitstream/handle/10665.2/52218/OPSEIHHACOVID-19200004_spa.pdf?sequence=5
48. Sheng JY, Santa-Maria CA, Mangini N, et al. Management of breast cancer during the COVID-19 pandemic: a stage- and subtype-specific approach. *JCO Oncol Pract*. 2020;16(10): 665-674. doi:10.1200/OP.20.00364
49. Sociedad Perúana de Ocología Médica. Recomendaciones de tratamiento médico oncológico del cáncer de mama ante la pandemia por Covid-19. Published online June 7, 2020. https://www.spomedica.org/wp-content/uploads/2020/08/RECOMENDACIONES_SPOM_MAMA_COVID-19_VERSION_FINAL_06-07-20.pdf
50. Maya FH, Maya RB, Hincapié Uribe AL, et al. Recomendaciones para el diagnóstico, tratamiento y seguimiento del cáncer de mama durante la pandemia de SARS-Cov-2/COVID-19 en Colombia. *Rev Colomb Cancero*. 2020;24: 252-257. doi:10.35509/01239015.687
51. Camejo N, Castillo C, Artagaveytia N, et al. Evaluation of the effectiveness of telephone consultations and the level of satisfaction of patients attending the Unidad Docente Asistencial de Mastología [Mastology Care Teaching Unit] using this method during the COVID health emergency. *J Clin Oncol*. 2021; 39(suppl 15):e13610-e13610. doi:10.1200/JCO.2021.39.15_suppl.e13610
52. Lewin W, Marchington K, Zimmermann C. Primary care communication and palliative care in the era of COVID-19. *Can Fam Physician*. Published July 9, 2020. Accessed January 28, 2022. https://www.cfp.ca/news/2020/07/09/07-10
53. Silva MPP, Sunemi MMdO, Fretta TdB, et al. Recomendações para Fisioterapia em Oncologia Mamária e Ginecológica durante a Pandemia de COVID-19: revisão da Literatura. *Rev Bras Cancerol*. 2021;67(2):e191510. doi:10.32635/2176-9745.RBC.2021v67n2.1510
54. Stockdill ML, Barnett MD, Taylor RA, Dionne-Odom JN, Bakitas M. Telehealth in palliative care: communication strategies from the COVID-19 pandemic. *Clin J Oncol Nurs*. 2021; 25(1):17-22. doi:10.1188/21.CJON.17-22
55. Arif T, Shamim Absar M, Moughan B. The American society of breast surgeons official proceedings, volume XXII 2021 annual meeting scientific session abstracts. *Ann Surg Oncol*. 2021;28: 163-400. doi:10.1245/s10434-021-10068-0
56. McGrowder DA, Miller FG, Vaz K, et al. The utilization and benefits of telehealth services by health care professionals managing breast cancer patients during the COVID-19 pandemic. *Healthcare*. 2021;9(10):1401. doi:10.3390/healthcare9101401
57. Lutz ST, Jones J, Chow E. Role of radiation therapy in palliative care of the patient with cancer. *J Clin Orthod*. 2014;32(26): 2913-2919. doi:10.1200/JCO.2014.55.1143
58. Coles CE, Aristei C, Bliss J, et al. International guidelines on radiation therapy for breast cancer during the COVID-19 pandemic. *Clin Oncol*. 2020;32(5):279-281. doi:10.1016/j.clon.2020.03.006
59. Hazin R, Qaddoumi I. Teleoncology: current and future applications for improving cancer care globally. *Lancet Oncol*. 2010;11(2):204-210. doi:10.1016/S1470-2045(09)70288-8
60. Tashkandi E, Zeeneldin A, AlAbdulwahab A, et al. Virtual management of patients with cancer during the COVID-19 pandemic: web-based questionnaire study. *J Med Internet Res*. 2020;22(6):e19691. doi:10.2196/19691
61. da Silva APS, Alexandre HG, de Almeida PC, Ximenes LB, Fernandes AFC. Effects of an educational technology application in the early detection of breast cancer. *Rev Rene*. 2017; 18(3):404-411. doi:10.15253/2175-6783.2017000300017
62. Henson LA, Maddocks M, Evans C, Davidson M, Hicks S, Higginson IJ. Palliative care and the management of common distressing symptoms in advanced cancer: pain, breathlessness, nausea and vomiting, and fatigue. *J Clin Oncol*. 2020;38(9): 905-914. doi:10.1200/JCO.19.00470