

Mindfulness for pain in women with breast cancer: scoping review protocol

Mindfulness para dor em mulheres com câncer de mama: protocolo de revisão de escopo

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ABSTRACT

Objective: A scope review protocol that will be conducted according to the Joanna Briggs Institute (JBI) methodology to map and characterize available evidence on the use of mindfulness-based interventions for pain management in people diagnosed with breast cancer throughout different stages of treatment. **Method:** Studies conducted in adult women aged 18 years or older, who have received a diagnosis of breast cancer and who have undergone mindfulness-based interventions aimed at pain management will be included. The clinical context of the participants will be considered. We will include articles from quantitative and qualitative studies, in addition to the so-called grey literature, with no limits on language and time. A 3-step research strategy will be used. The following databases will be used: PubMed, CINAHL, Web of Science, VHL, PsycInfo, and Google Scholar. The results will be presented in a graphic and narrative summary, written in accordance with PRISMA-ScR.

Descriptors: Breast Neoplasms; Pain; Mindfulness.

RESUMO

Objetivo: Protocolo de revisão de escopo que será conduzida de acordo com a metodologia do Joanna Briggs Institute (JBI) para mapear e caracterizar evidências disponíveis sobre o uso de intervenções baseadas em *mindfulness* para manejo da dor em pessoas com diagnóstico de câncer de mama, nas diferentes etapas de tratamento. **Método:** Serão incluídos estudos realizados em mulheres adultas com 18 anos ou acima, que tenham recebido diagnóstico de câncer de mama e que passaram por intervenções baseadas em atenção plena direcionadas para manejo da dor. Será considerado o contexto clínico das participantes. Incluiremos artigos de estudos quantitativos e qualitativos, além da chamada literatura cinzenta, sem limites de idioma e tempo. Será utilizada uma estratégia de pesquisa em 3 etapas. As bases de dados utilizadas serão PubMed, CINAHL, *Web of Science*, BVS, PsycInfo e Google Scholar. Os resultados serão apresentados de forma gráfica e resumo narrativo, redigidos de acordo com o PRISMA-ScR.

Descritores: Neoplasias da Mama; Dor; Atenção Plena.

INTRODUCTION

Nowadays, the most common neoplasm in the world is breast cancer. In 2020, approximately 2.3 million new cases were estimated, which corresponds to 11.7% of the total number of diagnosed neoplasms⁽¹⁾. It is also the tumor with the highest incidence among Brazilian women in all regions (excluding non-melanoma skin cancers). The estimate for 2021 was 66,280 new cases, representing an incidence of 43.74 cases per 100,000 women⁽²⁾.

Despite the increased probability of survival to neoplasms, several consequences of the disease and treatment accompany people for a long time, impacting their quality of life⁽³⁾. Breast cancer survivors may experience fatigue⁽⁴⁾, post-traumatic stress disorder⁽⁵⁾, depression, and anxiety⁽⁶⁾, sleep disorders⁽⁷⁾, cognitive impairment⁽⁸⁾, changes in heart function⁽⁹⁾, lymphedema⁽¹⁰⁾, pain⁽¹¹⁾, impaired fertility⁽¹²⁾, osteoporosis⁽¹³⁾, and early menopause⁽¹⁴⁾. Cancer-related pain is defined as chronic pain caused by primary tumors or metastases (chronic cancer pain) or by their treatment (chronic post-cancer treatment pain)⁽¹⁵⁾.

With a prevalence of 25 to 60% of the cases, persistent post-mastectomy pain is located in the area of surgery and surroundings and remains for more than 3 months after surgery and radiotherapy treatments for breast cancer⁽¹⁶⁾. It is classified as nociceptive when muscles and ligaments are injured, or as neuropathic, in situations where nerves are injured or when the nervous system is dysfunctional⁽¹⁷⁾. In a systematic review that analyzed 177 articles, a prevalence of pain was found in 29.8% of women after undergoing breast cancer surgery, an index close to the 27.3% found after radiotherapy. According to the authors, radiation in the area of the breast and chest wall can also damage the nerves of the arm, just as in mastectomy⁽¹⁸⁾. On the other hand, pain caused by injury to the peripheral or central nervous system because of the tumor or its metastases represents 40% of the cases of pain in people with neoplasms⁽¹⁹⁾.

Pain reports alone or in combination are significantly associated with a worse index of quality of life⁽²⁰⁾ and increased risk of suffering⁽²¹⁾, the latter symptom being associated with lower survival, although the mechanism for this relationship is unknown⁽²²⁾.

The so-called biopsychosocial model proposes that the experience of pain and its impact result from the multidimensional interaction between physical aspects, psychological, and cognitive processes, as well as environmental circumstances⁽²³⁾. The neuromatrix theory of pain, developed by Melzack in the 1990s, proposes that pain perception has its origin in the periphery of the organism and is transmitted again at different levels. Signs of pain reach the structures of the thalamus and midbrain that form the neuromatrix of pain: a set of networks and connections that can undergo continuous changes and determine perception. During an event of pain perception, different cortical regions become active simultaneously. Chronic pain can be caused by dysfunction at any of these levels⁽²⁴⁾.

The various factors that modulate nociception and promote pain perception have been considered in the current intervention proposals for painful conditions. Within this new paradigm, mindfulness-based interventions (MBI) focused on pain were used in several studies^(25,26). In addition, women diagnosed with breast cancer who participated in MBI showed benefits in their physiological, cognitive, and emotional functions, such as reduction of fatigue and depression, increased mindfulness, and improved sleep quality⁽²⁷⁾.

A preliminary research was conducted in May 2022 at PubMed and the Cochrane Database of Systematic Reviews, and no systematic or current or ongoing review was found on the use of MBI for pain management in women who received the diagnosis of breast cancer, although there are reviews that broadly deal with integrative practices or therapeutic strategies.

Thus, this scope review will be aimed at mapping and characterizing the available evidence on the use of MBI for pain management in people diagnosed with breast cancer, along the different stages of treatment. The systematic study on the subject will provide greater knowledge about the implications of the use of mindfulness, in different formats, as a strategy of care aimed at pain treatment in women diagnosed with breast cancer.

METHOD

The proposed scope review will be conducted in accordance with the Joanna Briggs Institute (JBI) methodology directed to scope reviews⁽²⁸⁾, and the review will be guided by the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR)⁽²⁹⁾. The protocol was prepared and prospectively registered in the Open Science Framework (OSF) on 05/23/2022 (DOI 10.17605/OSF.IO/Y475M).

Research question

Were MBI used for pain management in women diagnosed with breast cancer? In what clinical contexts were they adopted? What is the method of these interventions and how are they used? How were they measured, and what are the results for pain management?

Eligibility criteria

Articles with experimental and quasi-experimental study designs will be considered for inclusion. In addition, we will include systematic reviews and meta-analysis, studies with qualitative research and economic evidence, as well as the so-called grey literature, with theses, clinical guidelines of oncology, and pain organizations. Annals of events, opinion articles, traditional literature reviews, narrative reviews, retractions, websites, and advertisements will be excluded, considering that these forms of publication would not be considerably relevant to answering the research questions. No language or time filters will be used.

Eligibility criteria were developed using the PCC mnemonic (participants, concept, and context). Studies that include as participants women aged 18 years or older who have received a diagnosis of breast cancer, who are at any stage of treatment, or may have completed it, will be considered.

As for the concept, studies that used MBI as the main strategy for pain management will be included, regardless of the causes or characteristics of the symptoms. As for mindfulness-based interventions, structured programs that have teaching and practice of mindfulness, either systematically or according to protocols, will be considered, except for those programs in which most of the intervention does not involve mindfulness meditation (such as yoga or Acceptance and Commitment Therapy). The delivery format of MBI programs (face-to-face or online; synchronous, asynchronous; through platform, website, application, for example), their characteristics, and duration will be identified.

We will address the clinical context of the participants, which may mean that the intervention will be used soon after diagnosis, for example, or during chemotherapy (in the treatment sector itself), immediately after surgery, or sometime after completing treatment, or some other clinical context related to breast cancer.

Information sources

We will search in the following databases: MEDLINE (PubMed), CINAHL, Web of Science, VHL, PsycInfo, and Google Scholar. In the search for grey literature, websites of pain organizations, websites of oncology organizations, governmental and non-governmental agencies, Capes' Thesis Database, as well as Internet search engines, will be included.

Search Strategies

Following the guidelines in Peters et al.⁽³²⁾ for scope reviews, we will develop a three-step search strategy to make it comprehensive, after identifying thesauri through the Health Sciences Descriptors (DeCS) and the Medical Subject Headings (MeSH) tools. Figure 1 shows the controlled and uncontrolled descriptors, which will be used in the search strategy for the PubMed database.

Descriptors	Entry Terms
Pain	Burning Pain Burning Pains Physical Suffering Physical Sufferings Migratory Pain Migratory Pains Radiating Pain Radiating Pains Splitting Pain Splitting Pains Ache Aches Crushing Pain Crushing Pains
Breast Neoplasms	Breast Neoplasm Breast Tumors Breast Tumor Breast Cancer Malignant Tumor of Breast Breast Malignant Tumor Breast Malignant Tumors Cancer of the Breast Cancer of Breast Malignant Neoplasm of Breast Breast Malignant Neoplasm Breast Malignant Neoplasms Mammary Cancer Mammary Cancers Human Mammary Carcinomas Human Mammary Carcinoma Human Mammary Neoplasm Human Mammary Neoplasms Breast Carcinoma Breast Carcinomas
Lymphedema	Not inserted
Mastectomy	Mastectomies Mammectomy Mammectomies
Mindfulness	None
Meditation	Not inserted

Source: Prepared by the authors, 2022.

Figure 1 – Descriptors for the search strategy in PubMed database. São Carlos, SP, Brazil, 2022

In the initial stage, a search will be carried out in the MEDLINE and CINAHL databases from the previously elaborated strategy. We will analyze the words and indexing terms contained in the titles and abstracts of the articles found and add them to the search strategies adapted to each database. In the second step, we will conduct a complete search in all databases included. In the third step, the search will be carried out from the list of references of the selected material, including additional sources that are related to the eligibility criteria. Authors will be contacted for clarification if necessary.

Selection of sources of evidence

After searching databases and websites, all citations identified will be imported into the EndNote Web Referral Manager (Clarivate Analytics), and duplicate records will be removed. With the support of Rayyan, a free web application, two independent reviewers will review titles and abstracts according to eligibility criteria. After identifying potentially relevant research, the studies included will be read in full and their information will be transported to a database in the Microsoft Office Excel program. If there are differences regarding eligibility at any stage of the selection process, consensus will be sought through discussion or participation of a third reviewer. The review report will record the reasons for deleting full text studies that do not meet the criteria. The results will be reported in full and presented in a PRISMA–ScR flow diagram.

Data extraction

Data extraction from included articles will be conducted by two independent reviewers using

a tool drawn from the JBI model. The data extracted include the authors of the study, country of origin, year, research objectives, population characteristics and sample size, data collection method, type of intervention, duration and mode of delivery (face-to-face or online), instruments used to measure pain and results found in relation to pain. The extraction tool will be tested in at least three studies, to ensure that the peer reviewers become familiar with the process. The tool may be modified if necessary. In case of modifications, they will be detailed in the final report of the scope review.

The authors of the articles included may be contacted for clarification on data from the research developed, when necessary.

Data presentation

Quantitative data will be presented in descriptive analyses (percentages and frequency of concepts), while qualitative data will be mapped, and its contents will be analyzed to identify its main characteristics. Tables and diagrams will show the distribution of the studies; the results will be presented graphically and through a narrative summary that aligns the data obtained with the objectives of the review, also highlighting the gaps in the research on the subject.

CONFLICT OF INTERESTS

The authors have declared that there is no conflict of interests.

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