

The effects of body-oriented interventions in cancer-related symptoms of women who survived breast cancer: A Protocol for Systematic Review

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Submitted to: JMIR Research Protocols
on: May 02, 2025

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Largo dos Colegiais, N° 2

Évora

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Abstract

Background: Breast cancer is one of the most prevalent cancers worldwide, with a five-year survival rate exceeding 90%. Despite advances in treatment, survivors frequently experience persistent cancer- and treatment-related symptoms, that negatively impact their quality of life (QoL). Body-oriented interventions (BOI) have demonstrated effectiveness in symptom management, however, systematic reviews focused exclusively on BOI for women who survived breast cancer (WSBC) remain limited. This systematic review protocol outlines the methodology for evaluating the scientific evidence on the effects of BOI on cancer- and treatment-related symptoms in WSBC.

Objective: To examine the scientific evidence on the effects of BOI on cancer- and treatment-related symptoms in WSBC.

Methods: This protocol follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols (PRISMA-P). We will conduct searches in six electronic databases: PubMed, Cochrane, Web of Science, Scopus, APA PsycNet and Portal Regional da BVS. We will include experimental studies focusing on BOI for WSBC. The methodological quality of the studies will be assessed using the PEDro scale, and the level of scientific evidence will be measured through the Best Evidence Synthesis. Two experienced independent reviewers will conduct study selection, data extraction, methodological quality and, scientific evidence assessment. Disagreements will be resolved by a third reviewer.

Results: The anticipated outcomes will synthesize the scientific evidence on the effects of BOI on cancer- and treatment-related symptoms in female WSBC.

Conclusions: This review will systematically synthesize the effects of BOI on cancer- and treatment-related symptoms in WSBC. The findings will provide health professionals with reliable evidence and methodological guidance for further research. Clinical Trial: CRD42023452519

(JMIR Preprints 02/05/2025:76858)

DOI: <https://doi.org/10.2196/preprints.76858>

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Original Manuscript

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Discussion: This review will systematically synthesize the effects of BOI on cancer- and treatment-related symptoms in WSBC. The findings will provide health professionals with reliable evidence and methodological guidance for further research.

Trial registration: (Blinded for review)

Keywords: breast cancer survivors; complementary therapies; symptom management; mind-body, QoL

Introduction

Breast cancer is the most common cancer among women and the second most frequently diagnosed cancer worldwide [1]. The World Cancer Research Fund International reported over 2 million new cases in 2018 [2]. Advances in early detection and treatment have significantly increased survival rates, with the five-year survival now exceeding 90% [3]. However, the post-treatment phase remains challenging, as women who survived breast cancer (WSBC) often experience persistent physical and psychological symptoms related to cancer and its treatment, that impact their well-being and quality of Life (QoL) [4]. Common cancer- and treatment-related symptoms include fatigue, pain, sleep disturbances, depression, anxiety, menopausal symptoms, lymphedema, body image alterations [4,5]. Given their complexity and impact, effective management strategies are essential to enhance well-being and QoL during the survivorship phase.

The use of body-oriented interventions (BOI) as complementary approaches to cancer

treatment has increased, reflecting a growing interest on the integration of non-pharmacological methods with conventional medical care [6]. BOI are founded on the intrinsic relationship between bodily and emotional experiences, recognizing their biological connection [5,7], and encompass various approaches, including psychomotricity, play, dance, relaxation techniques, physical activity, and exercise [7]. By fostering body and emotional awareness and regulation, BOI facilitate adaptation to cancer- and treatment-related changes, in particular to bodily changes and emotional distress, contributing to symptom management, and overall health and QoL improvement [6,8]. Despite the rising interest in BOI to enhance QoL after breast cancer survival, existing systematic reviews on BOI for WSBC are limited in scope. Prior reviews focused primarily on yoga [9] or physical activity [10], excluding other BOI such as psychomotricity and relaxation techniques. Additionally, they often included women still undergoing active treatment [9,11,12], or mixed populations of cancer survivors [13-16]. Additionally, key cancer- and treatment-related symptoms, such as pain, quality of sleep, alterations in body schema and body image, have not been included in these previous reviews. To address these gaps, a systematic review will examine the effects of BOI on cancer- and treatment-related symptoms, well-being and QoL in WSBC. In this study, we describe the protocol for the systematic review.

Methods

Protocol and registration

This systematic review is registered in the International Prospective Register of Systematic Reviews (PROSPERO) under registration number CRD42023452519. Available at: https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=452519

Analysis

Plan

This protocol will be developed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols (PRISMA-P) guidelines [17], and the systematic review itself will follow the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines [18]. The PRISMA framework provides a structured approach to selecting studies, which will be visualized using a flowchart (see Fig. 1) to guide this review.

Eligibility

Criteria

(PICOS

Framework)

This review follows the PICOS framework to ensure systematic and transparent eligibility criteria:

This review follows the Population, Intervention, Comparison, Outcome, and Study design (PICOS) framework [19] to ensure systematic and transparent eligibility criteria. Studies will be considered for inclusion if they were written in English, French, Portuguese, or Spanish, with no restrictions on publication date. The following inclusion criteria must be met:

Population (P)

Women (aged 18 to 64 years old) diagnosed with breast cancer, who have completed primary cancer treatment (surgery, radiotherapy or/and chemotherapy) at least three months before study enrollment. Women undergoing maintenance endocrine/hormonal therapy will be included. Those with additional tumor diagnoses or chronic diseases affecting will be excluded.

Interventions (I)

This review will include studies assessing BOI, including psychomotor therapy, body awareness therapies, movement-oriented therapies, dance therapy, physical activity, tai chi, qigong, yoga, pilates, mindfulness, meditation, relaxation, and guided imagery.

Comparators (C)

Studies must include a control group receiving either no intervention, standard care, or a non-BOI.

Outcomes (O)

The primary outcomes of interest include pre- and post-intervention measures of cancer- and treatment-related symptoms, including fatigue, pain, sleep quality, psychological distress, body image, well-being and QoL.

Measurement of the above outcomes may be obtained by self-reported measures or researcher-administered measures.

Study

Design

(S)

Randomized Controlled Trials (RCT's), quasi-RCT's, and pilot studies will be included.

Search

Strategy

Two independent researchers will conduct searches in the following electronic bibliographic databases: PubMed, Cochrane, Web of Science, Scopus, APA PsycNet, and Portal Regional da BVS. Searches will be performed using the title, abstract, and keyword fields in each database. Search terms will include: "breast cancer survivors," "women who survived breast cancer," "cancer-related symptoms," "treatment-related symptoms," "body-oriented interventions," and "mind-body interventions". Boolean operators "AND" and "OR" will be used to combine and refine these terms.

Study

Selection

and

Data

Extraction

Two reviewers will independently select relevant literature according to the PRISMA flowchart (Fig. 1) and predefined eligibility criteria. After completing the database searches, the retrieved articles will be compiled in Endnote 20 reference manager [20] to facilitate title and abstract screening and remove duplicates.

In the initial selection process, the two reviewers will assess the titles and abstracts, screening them against the predefined inclusion criteria. Articles that do not meet the criteria will be excluded. In cases where the two reviewers disagree, a third reviewer will be consulted to resolve discrepancies.

For articles deemed potentially relevant, full text articles will be reviewed to confirm eligibility based on inclusion and exclusion criteria. A third reviewer will be resolving disagreements.

Quality

assessment

The PEDro Scale [21] will be used to evaluate the methodological quality of the included studies and to evaluate the risk of bias [22]. This scale evaluates the internal validity, and the interpretability of trial outcomes based on 11 items, of which 10 contribute to the total score,

so a sum score ranging from 0 to 10 can be obtained, with higher scores indicating better methodological quality, and according to Moseley et al. [23], a score of <5 indicates “low quality RCT” and a score ≥ 5 indicates “high quality RCT”. The first item, which is not included in the total score, relates to external validity. The PEDro scale ensures that trials meet essential criteria for methodological rigor, reducing bias and improving the reliability of the findings [24]. Two reviewers will independently score the methodological quality of each study, and a third review will arbitrate discrepancies.

Best

Evidence

Synthesis

The Best Evidence Synthesis (BES) [25] will be used to determine the strength of the scientific evidence. BES serves as an alternative to meta-analysis, focusing on applying rigorous and well-founded criteria to extract unbiased and meaningful insights from experimental studies [25]. Based on the methodological rigor and consistency of findings, studies will be classified as providing strong evidence (derived from multiple high-quality RCT's), moderate evidence (from one high-quality RCT combined with one or more low-quality RCT's), limited evidence (from one high-quality RCT or several low-quality RCT's), and no evidence (from a single low-quality RCT or studies with conflicting results) [26].

Discussion

This systematic review will synthesize the scientific evidence on the effects of BOI on cancer- and treatment-related symptoms in female WSBC.

By integrating a broad range of BOI and outcomes, this review will address limitations of previous studies that focused only on specific interventions or outcomes. The findings will support healthcare professionals in recommending evidence-based BOI and contribute to the development of targeted survivorship care strategies.

A key strength of this review is the inclusive approach, encompassing various types of BOI and cancer- and treatment-related symptoms, contrasting with previous reviews [9, 10, 27].

Principal Results

The anticipated outcomes will synthesize the scientific evidence on the effects of BOI on cancer- and treatment-related symptoms in female WSBC.

Limitations

Considering previous systematic reviews focused on the effects of BOI in survivors of all cancer types [e.g., 15, 16], challenges such as heterogeneity in intervention types, study designs, outcome measures are anticipated. To mitigate these issues, PRISMA guidelines will be followed, and methodological quality and best evidence strength will be rigorously assessed.

Conclusions

This review will provide reliable, high-quality evidence to inform healthcare professionals and future research, ultimately improving survivorship care for WSBC.

Acknowledgements

DG, GV and ACF contributed to the design and conception of this study. DG wrote the first draft of the manuscript. All authors contributed to manuscript revision, read and approved the submitted version. This research project was funded by the Fundação para a Ciência e

Tecnologia (FCT), Portugal (grant number UI/BD/154503/2022)

Conflicts of Interest

The authors declare no conflict of interest.

Abbreviations

BES: Best Evidence Synthesis

BOI: Body-oriented interventions

C: Comparators

I: Interventions

O: Outcomes

P: Population

PICOS: Population, intervention, comparison, outcome, and study design

PRISMA-P: Preferred reporting items for systematic reviews and meta-analyses protocols

PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses

PROSPERO: Prospective Register of Systematic Reviews

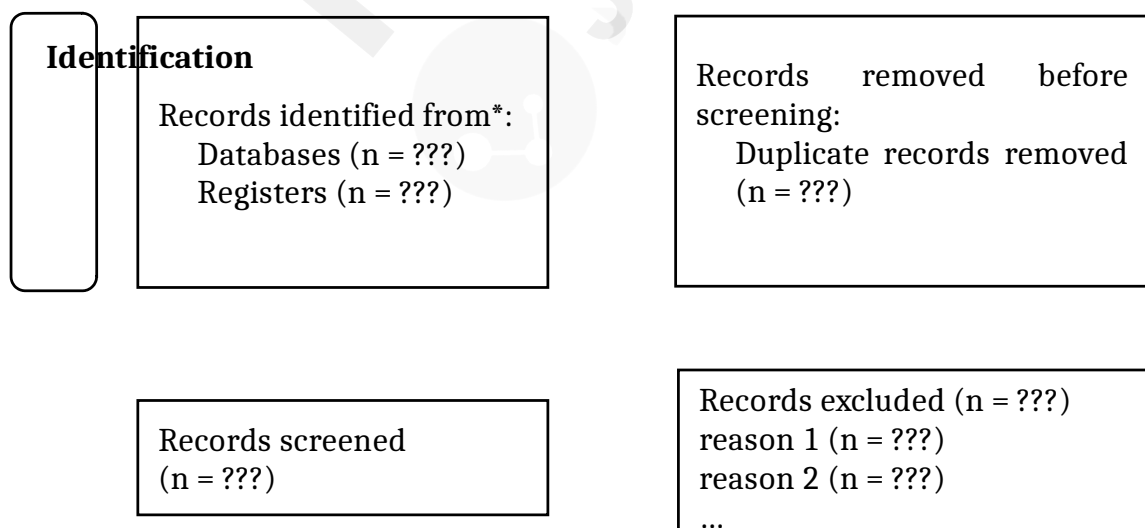
QoL: Quality of life

RCT's: Randomized Controlled Trials

S: Study Design

WSBC: Women who survived breast cancer

Figure 1 – Flow diagram adapted from PRISMA



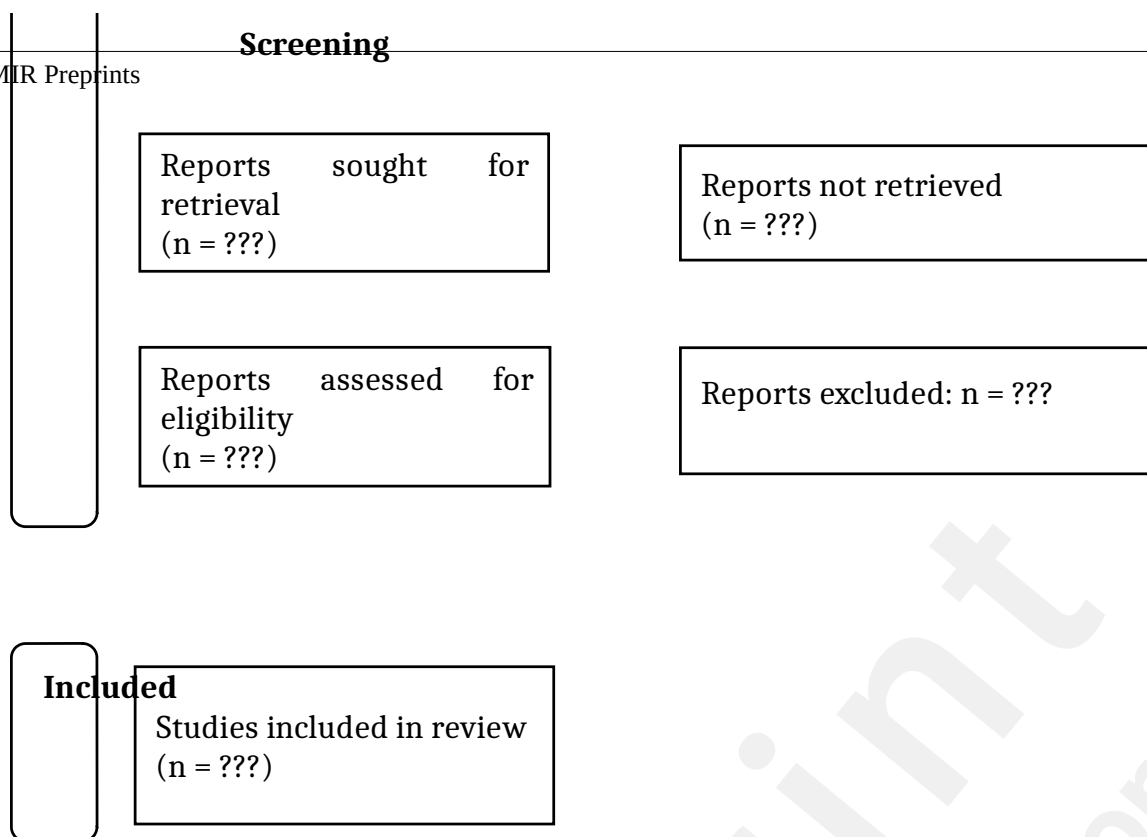


Table 1 – PICOS description

Description	Abbreviation	Elements
Population	P	Women who survived breast cancer (≥ 18 to ≤ 64)
Intervention	I	Body Oriented Intervention (BOI)
Comparators	C	Control group receiving either no intervention, standard care, or a non-BOI
Outcomes	O	Cancer- and treatment-related symptoms Well-Being Quality of Life
Study types	S	RCT's Quasi RCT's Pilot Studies

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