

Methodological quality of meta-analyses and systematic reviews on the psychological interventions for breast cancer: An Umbrella Review of Their Effects on Anxiety, Depression, Distress, and Quality of Life

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Oral presentation

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Abstract

Introduction: In the last decade, there has been notable increase on oncology population secondary studies –systematic reviews and meta-analyses–focusing on complementary and integrative methods in oncology. Uncertainty remains regarding the efficacy of psychological interventions for breast cancer patients and survivors, largely due to heterogeneity among existing systematic reviews and meta-analyses results, which often focus on specific therapies or psychological interventions without conducting comprehensive moderator analyses. Furthermore, variations in methodological rigor impact the reliability and applicability of findings, underscoring the need for a systematic evaluation of methodological quality to ensure robust evidence synthesis.

Purpose: The aim of this umbrella review is to evaluate the methodological quality of the meta-analytic evidence of psychological interventions among cancer population. Additionally the review seeks to synthesize the evidence regarding the efficacy of the interventions on reducing anxiety, depression, and distress, and on improving quality of life among breast cancer patients and survivors, as well as to classify moderators that influence intervention efficacy.

Methods: A comprehensive literature search was conducted in WoS, Medline, FSTA, Scopus and PsycInfo from inception up to December 2024. Search terms encompassed keywords related to cancer, psychological interventions, and systematic review or meta-analysis. The eligibility criteria applied to studies were as follows: 1) used systematic or meta-analytic methods, 2) included randomized-controlled trials, 3) evaluated psychological interventions (with any type of comparator), 4) focused on breast cancer survivors or patients, 5) reported on at least one of the following outcomes: anxiety, depression, distress or quality of life. To assess compliance with quality standards a modified version of the Assessment of Multiple Systematic Reviews (AMSTARMedSD2) was used.

Results: Preliminary analysis of 16 meta-analytic studies exclusively focused on the breast cancer population were conducted. The modified AMSTARMedSD2 assessments showed that the meta-analyses completely satisfied from 30.77% to 61.54% of the AMSTARMedSD2 items ($M = 50.48$, $SD = 8.14$). Quality of life was the most frequently examined outcome (81.25%), while only 37.5% of the reviews assessed all four outcomes of interest (i.e. anxiety, depression, distress, quality of life). Twenty-five percent of the meta-analyses also reviewed

additional lifestyle/wellbeing interventions (e.g., nutrition, exercise, acupuncture). Studies including interventions with at least cognitive-behavioral approaches were the most frequently reviewed (68.75%), followed by mindfulness-based interventions (25%). Across studies effect sizes indicated improvements in the evaluated outcomes for all participants. Commonly assessed moderators included type of intervention (evaluated in 50% of the studies), follow-ups (50%), and study quality (21.43%). Detailed analyses of intervention efficacy and the moderator patterns will be further discussed.

Conclusion: This umbrella review provides comprehensive evidence on the methodological quality of systematic reviews and meta-analyses evaluating psychological interventions for breast cancer patients and survivors. By identifying methodological strengths and weaknesses through AMSTAR-based assessments, this study highlights areas for improvement in future reviews. The findings provide comprehensive evidence supporting the efficacy of psychological interventions in improving psychological and quality of life outcomes among breast cancer population. These insights are expected to inform future research design and contribute to the development of guidelines for complementary and integrative treatments.

Keywords

Breast cancer; Psychological; Meta-analysis; Umbrella-review

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