Effectiveness of *mindfulness* on quality of life in women breast cancer survivors: a Systematic Review and Meta-Analysis

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Introduction

The rising incidence of breast cancer, alongside decreased mortality rates and therapeutic advances, has led to an increasing population of breast cancer survivors. These individuals are susceptible to acute and chronic psychological distress. Mindfulness-based interventions have been proposed as integrative strategies to support mental health and well-being in this population. This study aimed to evaluate the effectiveness of mindfulness practices compared to standard care in improving the quality of life among women surviving breast cancer.

Methods

A systematic review was conducted including randomized controlled trials (RCTs) involving women aged ≥18 years who had undergone treatment for breast cancer (surgery, radiotherapy, chemotherapy, or a combination), at any clinical stage, without psychiatric disorders and no prior mindfulness practice. Studies not meeting these criteria were excluded. A comprehensive literature search was performed without language or date restrictions across PubMed, Embase, Scopus, Web of Science, CINAHL, SciELO, LILACS, Cochrane Library, WHO, and grey literature sources (Google Scholar, OpenGrey, ProQuest, and direct contact with field experts). Risk of bias was assessed using the RoB 2 tool. Standardized mean differences (SMD) were calculated for pooled effect estimates using R software. The certainty of evidence was evaluated using the GRADE framework.

Results

Twelve RCTs met inclusion criteria, comprising a total of 1620 breast cancer survivors, of whom

849 received mindfulness interventions

and

771 received standard care.

Risk of bias was considered low across the included studies.

Meta-analysis revealed that mindfulness practices resulted in a small but statistically significant improvement in

quality of life

(**SMD = 0.36**; 95%CI: 0.20 to 0.53).

However, the certainty of evidence was rated as moderate due to moderate heterogeneity (I^2 = 59.9%), low risk of publication bias, and serious imprecision (confidence interval spanning small to moderate effect sizes).

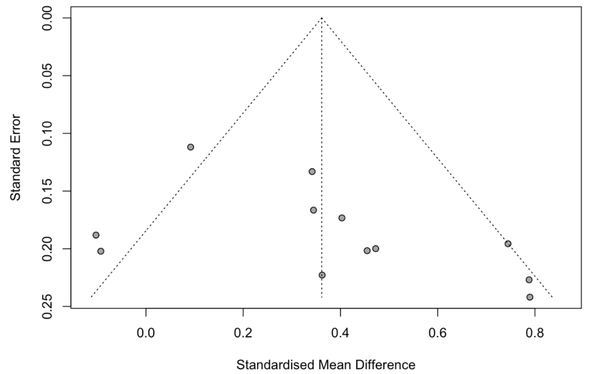


Figure 1. Funnel Chart. Egger's test p 0.097

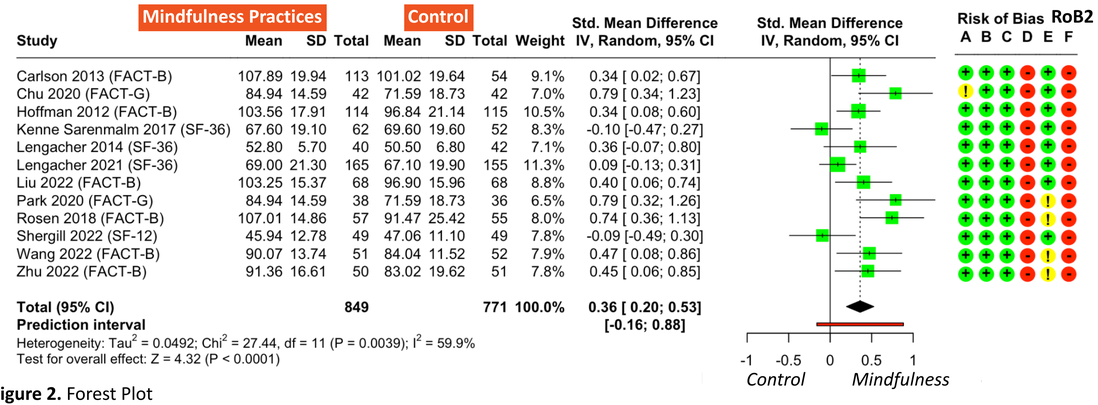


Figure 2. Forest Plot

Discussion

Key limitations of this review include study heterogeneity, the predominance of Mindfulness-Based Stress Reduction (MBSR) as the primary intervention, limited representation of patients with metastatic disease, and possibly attenuated effects in those with early-stage tumors due to less intensive treatment regimens. Despite these limitations, mindfulness practices demonstrated potential benefits in enhancing quality of life and, due to their socioeconomic accessibility, may warrant clinical recommendation as part of survivorship care in breast cancer patients.

This study did not receive external funding. The review protocol was registered with PROSPERO (CRD42024502665) on January 26, 2024.

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