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Combined Aerobic and Resistance Exercise in Breast Cancer Survivors Following Mastectomy: A Retrospective Study

Background
Breast cancer survivors following mastectomy commonly experience persistent physical and psychological impairments, including fatigue, pain, reduced endurance, and functional limitations. Although exercise oncology interventions are increasingly recommended in survivorship care, evidence from real-world community-based rehabilitation settings remains limited. This study evaluated the effects of a physiotherapist-supervised combined aerobic and resistance exercise program on physical and psychological outcomes in breast cancer survivors following mastectomy.
Methods
A retrospective observational pre-post study was conducted using rehabilitation records from a community-based cancer rehabilitation program in Canada between 2015 and 2022. Thirty breast cancer survivors post-mastectomy participated in a 10-week physiotherapist-supervised aerobic and resistance exercise intervention combined with home exercise recommendations. Outcomes included fatigue (Brief Fatigue Inventory), symptom burden (ESAS-R), pain (P4), balance (Single Leg Stance), grip strength, aerobic endurance (6-Minute Walk Test [6MWT]), and functional ability (Patient-Specific Functional Scale [PSFS]). Longitudinal changes were analyzed using linear mixed-effects models with multiple imputation for missing data.
Results
Significant improvements were observed in fatigue, aerobic endurance, and patient-specific functional ability following the intervention. Participants demonstrated improved 6-Minute Walk Test performance and Patient-Specific Functional Scale scores across follow-up assessments. Fatigue severity also decreased over time. Pain and balance demonstrated trends toward improvement; however, findings were not consistently statistically significant across observed and imputed analyses. No significant changes were observed in grip strength or overall symptom burden.
Conclusions
Combined aerobic and resistance exercise delivered within a community-based rehabilitation setting may improve fatigue, aerobic endurance, and functional ability in breast cancer survivors following mastectomy. These findings support the integration of physiotherapist-led exercise oncology rehabilitation into survivorship care. Larger controlled studies are warranted to confirm long-term effectiveness and evaluate implementation in clinical practice.

Keywords

• Exercise oncology
• Breast cancer survivorship
• Mastectomy
• Cancer rehabilitation

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

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