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Does the type of endocrine therapy influence the effect of Mat Pilates on pain, anxiety, and depressive symptoms in breast cancer survivors? A randomized controlled trial

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Background: Breast cancer survivors (BCS) undergoing endocrine therapy often experience pain, anxiety, and depressive symptoms. Although exercise has been shown to reduce these effects, there is still limited evidence on whether its benefits vary according to endocrine therapy type. **Purpose:** To analyze the effects of 24 weeks of Mat Pilates on pain severity, pain interference, anxiety, and depressive symptoms in BCS undergoing endocrine therapy, and to determine whether these effects differ according to the type of endocrine therapy, Tamoxifen (TMX) or Aromatase Inhibitors (AIs). **Methods:** This randomized controlled clinical trial consisted of supervised 60-minute Mat Pilates sessions, three times per week, for 24 weeks. Outcomes were assessed at baseline and post-intervention using the Brief Pain Inventory and the Hospital Anxiety and Depression Scale. Generalized estimating equations were applied. The Bonferroni post-hoc tests applied when appropriate. Statistical significance was set at $p \leq 0.05$, with $p \leq 0.10$ considered marginally significant for group*time interactions.

Results: Forty-three BCS were equally randomized into a control group (CG; 54.7 ± 6.6 years) and a Pilates group (PG; 55.2 ± 7.6 years). A significant group-time interaction was observed for pain severity ($p = 0.031$), with a reduction in the PG ($\Delta = -5.5$), and for anxiety symptoms ($p = 0.006$), with an increase in the CG ($\Delta = 1.7$). When stratified by endocrine therapy type, group-by-time interactions were found among AI users for pain severity ($p = 0.025$; $\Delta = -6.1$) and for anxiety symptoms, with reductions observed in the PG for both variables with no effects for BCS undergoing TMX. **Conclusion:** 24 weeks of Mat Pilates reduced pain severity and anxiety symptoms in BCS undergoing endocrine therapy. The same was observed in BCS receiving AIs only, which indicates that the benefits of this intervention may be modulated by the type of endocrine therapy.

Keywords

Breast neoplasm; Physical exercise; Pain, Anxiety Symptoms; Depressive Symptoms.

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

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