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Contribution ID: 57

Type: 1 - Scientific Poster

Exercise Interventions for Cancer-Related Fatigue and Related Symptoms in Racialized Women with Cancer: A Systematic Review

Wednesday 22 July 2026 12:55 (20 minutes)

Background: Cancer-related fatigue (CRF) is one of the most distressing symptoms experienced by individuals with cancer and significantly affects physical functioning and quality of life. Although exercise is recognized as an effective strategy for managing CRF, racialized women remain underrepresented in exercise oncology research. This systematic review synthesized evidence from randomized controlled trials evaluating exercise interventions for CRF and related symptoms—sleep disturbance, anxiety, and depression—in racialized women with cancer.

Methods: A comprehensive search of MEDLINE, Embase, CINAHL, PsycINFO, and SPORTDiscus (inception to March 2025) identified eligible randomized controlled trials. Studies included adult racialized women with cancer and evaluated aerobic, resistance, or mind–body exercise interventions versus no exercise, usual care, or waitlist controls. Two reviewers independently conducted screening, data extraction, and risk-of-bias assessment using ROB-2. Standardized mean differences (SMDs) were pooled using random-effects models. Certainty of evidence was assessed with GRADE.

Results: Five trials (N=312), all involving breast cancer survivors, met inclusion criteria. Interventions included aerobic training, resistance exercise, yoga, and Baduanjin, delivered during or after treatment. Low-certainty evidence suggested that exercise may reduce CRF (SMD -0.85 , 95% CI -1.43 to -0.26), representing a large effect. Exercise also showed a small reduction in depressive symptoms (SMD -0.36 , 95% CI -0.71 to -0.01). Evidence for anxiety (SMD -0.57 , 95% CI -1.17 to 0.02) and sleep disturbance (SMD 0.09 , 95% CI -0.44 to 0.61) was very uncertain due to small sample sizes and methodological limitations. All studies were at high risk of bias, and substantial heterogeneity was observed for CRF.

Conclusion: Exercise may reduce fatigue and depressive symptoms in racialized women with cancer; however, evidence remains limited and imprecise. Larger, culturally responsive trials are needed to strengthen the evidence base and ensure equitable access to exercise-based supportive care across diverse populations.

Keywords

Exercise oncology, cancer-related fatigue, racialized women, survivorship

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

Author: LAWRENCE, Danielle (McMaster University)

Co-authors: Ms EDWARD, Holly (McMaster University); Dr SMITH-TURCHYN, Jenna (McMaster University)

Presenter: LAWRENCE, Danielle (McMaster University)

Session Classification: Poster Session