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Effect of exercise on anxiety and depressive symptoms among men with metastatic prostate cancer: results from the INTERVAL-GAP4 randomized controlled trial

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Background: Evidence from observational studies and clinical trials suggests that exercise may reduce anxiety and depressive symptoms. However, data are limited among people with metastatic disease, who have poorer prognoses and higher mental health burden.

Methods: The INTERVAL-GAP4 study is a phase III 2-year randomized controlled trial testing the effect of high-intensity resistance and aerobic exercise vs. self-managed exercise on overall survival among men with metastatic prostate cancer. Participants in the intervention arm received 12 months supervised exercise tapering to self-managed exercise in Year 2. Between 2016-2022, 145 men were randomized (75 intervention, 70 control). A secondary aim of the trial was to evaluate the effects of the intervention on depressive and anxiety symptoms. Participants completed the Center for Epidemiologic Studies Depression Scale (CES-D) and the State-Trait Anxiety Inventory (STAI) at enrollment and every 3 months thereafter for 2 years. We examined whether change in depressive or anxiety symptoms differed over time in the intervention versus control groups using linear mixed models.

Results: At enrollment, participants had a mean (SD) age: 69.9 (8.5) years, mean (SD) depressive symptom score: 10.1 (7.6), and mean (SD) state anxiety score: 21.9 (11.1); 27 (19%) had possible clinical depression (CES-D score 16+) and 2 (1%) had possible clinical anxiety (STAI-S score of 55+). Men randomized to the intervention had lower depressive symptoms over time compared to control (time x group p-value: 0.01). The differences in change in depressive symptoms between intervention and control at each 3-month time point over the 2-year follow-up ranged from -1.2 to -4.7 points, favoring intervention at each time point. There were no significant differences between groups in anxiety symptoms.

Conclusion: Exercise reduced depressive symptoms among men with metastatic prostate cancer. This further strengthens the rationale to include exercise training in the clinical management of men with metastatic prostate cancer.

Keywords

randomized controlled trial, metastatic prostate cancer, depression, exercise

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

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