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Week-to-Week Acute Fatigue Response to Exercise During an Outpatient Cancer Rehabilitation Program

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Background/Purpose: Cancer-related fatigue (CRF) is a common, debilitating symptom among cancer survivors. Exercise-based cancer rehabilitation improves CRF over time but less is known about acute effects. This study examined week-to-week changes in CRF from before to after exercise sessions during a 12-week outpatient rehabilitation program.

Methods: As part of an observational, longitudinal cohort study, CRF was measured before and immediately after one exercise session per week using a 0-10 visual analog scale. Sessions occurred on the same day/time each week. Multilevel models predicted CRF before, after, and change (ΔCRF) across intervention weeks, with treatment status included as an interaction term and covariate, and before exercise CRF as a covariate.

Results: Participants (N=25; 62±12 years; 84% female; diagnosed with breast (16%), colorectal (12%), pancreatic (12%) or other cancer; 68% currently on treatment) completed 187 exercise sessions (M=11.3±1.7 per participant). Treatment status predicted CRF before (M=5.54±2.30 on treatment; M=0.53±0.85 off treatment; Coeff.=3.00±1.05; 95% CI=0.92, 5.03) and after exercise (M=3.45±2.16 on treatment; M=1.00±0.88 off treatment; Coeff.=2.51±1.03; 95% CI=0.49, 4.52). Average ΔCRF was M=−0.06±1.65 (range −5 to 9). ΔCRF went from M=−0.40±1.57 in week 1 to M=0.10±0.85 in week 12. CRF before exercise significantly predicted ΔCRF (Coeff.=-0.53±0.04; 95%CI=-0.62, -0.44). There was no effect of week or treatment status on ΔCRF.

Conclusions: Participants receiving treatment reported higher CRF but there was no difference in ΔCRF by treatment status. There was no effect of week of program or treatment status on ΔCRF, but higher CRF before exercise was associated with a larger ΔCRF. These findings suggest that CRF before exercise may affect the acute CRF response to an exercise session.

Keywords

Cancer; Exercise; Fatigue; Rehabilitation

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

Author: PARKER, Hannah (Colorado State University)

Co-authors: Dr GOMES, Emma (Colorado State University); Dr MARKER, Ryan (University of Colorado Anschutz Medical Campus); Dr BELL, Christopher (Colorado State University); Dr AICHELE, Stephen (Colorado

State University); Dr EAGEN, Jeff (University of Colorado Health); Dr LEACH, Heather (Colorado State University)

Presenter: PARKER, Hannah (Colorado State University)

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