Beneficial effects of high intensity exercise during chemotherapy on physiological function that last into survivorship

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The Optitrain high-intensity exercise intervention for patients with breast cancer during chemotherapy was highly effective in counteracting fatigue, maintaining body weight, and improving muscle strength 12-months into survivorship, indicating the importance of implementing supervised exercise during chemotherapy.

INTRODUCTION

Exercise is beneficial to counteract fatigue and declines in physical function for patients with cancer undergoing chemotherapy; however, whether these benefits continue into survivorship is less known. We previously found beneficial effects of the 16-week OptiTrain exercise trial for patients with breast cancer during chemotherapy.

AIM

The aim was to examine the effects 16-week intervention of resistance- and high-intensity interval training (RT-HIIT), or moderate-intensity aerobic and high-intensity interval training (AT-HIIT) conducted during chemotherapy, compared to a control group (UC), 12-months after commencement of chemotherapy on cancer-related fatigue and physiological outcome measures.

METHODS

240 women with breast cancer stage I-IIIa receiving chemotherapy were randomly allocated to 16 weeks of RT-HIIT (2-3 sets, 8-12 repetitions at 80 % of 1RM strength + 3x3 min HIIT), AT-HIIT (20 min MICT + 3x3 min HIIT), or UC. fatigue, cardiorespiratory fitness, muscle strength, and body mass were measured at baseline, 16 weeks and 12 months.

From baseline to 12 months showed RT-HIIT counteracted increases in cancer-related fatigue found in the UC group.

RT-HIIT and AT-HIIT displayed significant gains in muscle strength compared to usual care.

From baseline to 12 months, AT-HIIT counteracted the weight gain found in the UC group.

Ongoing projects: 2 and 5 year follow up assessments of the OptiTrain trial.