

2338 Board #85 May 29, 9:30 AM - 11:00 AM

Is High-Intensity Functional Training Sufficient for Improving Cardiovascular Endurance in Cancer Survivors?

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(No relationships reported)

PURPOSE: Cancer survivors are recommended to follow the 2008 Physical Activity Guidelines for Americans (PAG), although specific guidelines for appropriate exercises are lacking. High-intensity functional training (HIFT) has been shown to take less time to improve metabolic and physiological adaptations than previously tested measures. This study tested cardiovascular endurance of cancer survivors who participated in HIFT and compared their workouts to the aerobic PAG.

METHODS: Cancer survivors with last treatment within 5 years were recruited (n=8; ages 47-60, 25% male). Participants were screened for comorbidity and had approval from their primary care physician. HIFT was conducted 3 d/wk for 5 wks (60-minute sessions: warm-up and cool-down with varied workouts that included aerobic and resistance exercises averaging 12:23); 12 HIFT workouts and 4 testing sessions were completed. A pre and post 6-minute walk test (6MWT) was conducted to measure cardiovascular endurance; participants walked on a 200-meter track for six minutes and the total distance walked was calculated. Participants wore Polar heart rate monitors at all times. Max heart rate was calculated: $\text{Max}_{\text{HR}} = 207 - 0.7 \times \text{age}$ and exercise intensity was calculated: moderate (50-70% Max_{HR}), and vigorous (>70% Max_{HR}). Every minute of vigorous intensity was doubled, added to the measured time spent at moderate activity, and compared to the aerobic PAG (150min of moderate aerobic exercise per week). Two participants dropped out after HIFT workouts 1 and 4; their heart rate data for completed sessions was included. Adherence averaged 10.33±2.25 HIFT workouts; total HR observations=63.

RESULTS: The average session lasted 48:48±10:51 (vigorous intensity M=10:57±10:51; moderate intensity M=24:43±12:43). Per week, participants completed a calculated average of 139:51 of moderate intensity aerobic activity. There was a significant improvement in the 6MWT (638.3±41.2m vs 733.8±19.1m, t=3.23, p=0.39)

CONCLUSION: Based on HR data, HIFT alone for 3 d/wk did not meet the 2008 aerobic PAG; however, it was sufficient to improve cardiovascular endurance. All participants reached vigorous heart rates with HIFT. It is important to look at indicators of improvement and not only time spent active to determine what exercises are appropriate for cancer survivors.

2339 Board #86 May 29, 9:30 AM - 11:00 AM

Physical Activity Levels Among Ovarian Cancer Survivors: An NRG Oncology/Gynecologic Group Study

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INTRODUCTION: Regular physical activity (PA) has been associated with improved health outcomes in cancer survivors. Evidence suggests that PA is associated with improvements in fatigue, peripheral neuropathy, sleep, and psychosocial functioning in ovarian cancer survivors. Despite the health promoting effects of regular PA, data to date describing PA behaviors after treatment for ovarian cancer survivors are limited.

PURPOSE: This analysis characterizes recreational moderate-intensity PA and vigorous-intensity PA after treatment among ovarian cancer survivors enrolled in a lifestyle intervention trial. **METHODS:** Ovarian cancer survivors (n=312; age: 60.1 ± 9.7 years; BMI: 27.8 ± 5.8 kg/m²) enrolled in the Lifestyle Intervention for oVarian cancer Enhanced Survival study completed the validated Arizona Activity Frequency Questionnaire (AAFQ) within 6 months post-treatment. The recreational activity section of the questionnaire included 22 popular activities, such as walking, aerobics, jogging, and swimming. For each activity performed, participants were asked how many times in the past 4 weeks they participated in the activity and the duration of each activity. To incorporate frequency, duration, and intensity, metabolic equivalent (MET) values were assigned to each moderate-intensity PA (≥ 3 METs and ≤ 6 METs) and vigorous-intensity PA (>6 METs).

RESULTS: Ovarian cancer survivors participated in 11.9 ± 13.2 MET-hr/wk and 4.01 ± 6.9 MET-hr/wk of moderate and vigorous recreational PA, respectively. Normal weight survivors participated in significantly more moderate-intensity PA (13.2 ± 12.7 MET-hr/wk) compared to overweight and obese survivors (11.6 ± 12.9 and 10.3 ± 14.2 MET-hrs/wk, respectively) (p<0.05). Overall, 48% participated in ACSM recommended levels of PA defined as ≥7.5 MET-hrs/wk of moderate-vigorous intensity recreational PA. Fewer obese (35%) ovarian cancer survivors met the recommendation than overweight (53%) or normal weight (58%) survivors (p<0.05).

CONCLUSION: A majority of ovarian cancer survivors were not achieving PA recommendations. Efforts to identify barriers and facilitate PA among these women are warranted.

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2340 Board #87 May 29, 9:30 AM - 11:00 AM

Does Supervised Physical Activity Reduce Cancer-related Fatigue: A Systematic Review

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PURPOSE: Does supervised physical activity reduce cancer-related fatigue?

METHODS: Systematic review with meta-analysis of randomised trials. Participants: People diagnosed with any type of cancer, without restriction to a particular stage of diagnosis or treatment. Intervention: Supervised physical activity interventions (eg, aerobic, resistance and stretching exercise), defined as any planned or structured body movement causing an increase in energy expenditure, designed to maintain or enhance health-related outcomes, and performed with systematic frequency, intensity and duration. Outcome measures: The primary outcome measure was fatigue. Secondary outcomes were physical and functional wellbeing assessed using the Functional Assessment of Cancer Therapy FACT-Fatigue Scale, EORTC, QLQ-C30, PFS, SCFS, MFI. Methodological quality including risk of bias of the studies was evaluated using the PEDro Scale.

RESULTS: Eleven studies involving 1530 participants were included in the review. The assessment of quality showed a mean score of 6.5 (SD 1.1), indicating a low overall risk of bias. The pooled effect on fatigue, calculated as a standardised mean difference (SMD) using a random-effects model, was -1.69 (95% CI -2.99 to -0.39). Beneficial reductions in fatigue were also found with combined aerobic and resistance training with supervision (SMD = -0.41, 95% CI -0.70 to -0.13) and with combined aerobic, resistance and stretching training with supervision (SMD = -0.67, 95% CI -1.17 to -0.17).

CONCLUSION: Supervised physical activity interventions reduce cancer-related fatigue. These findings suggest that combined aerobic and resistance exercise regimens with or without stretching should be included as part of rehabilitation programs for cancer survivors. PROSPERO CRD42013005803