Authors**:** Lizzy Pope, MS, RD; Dr. Jean Harvey-Berino, PhD, RD; Patrick Savage, MS; Dr. Phil Ades, MD

Departments of Nutrition and Food Sciences (L.P. and J.H.-B.) and Cardiology (P.S. and P.A.)

Title: The impact of high-calorie-expenditure exercise on quality of life and exercise enjoyment in high-risk older adults

Abstract

Purpose: The purpose of this study was to assess the acceptability and feasibility of a high-calorie-expenditure (HCE) exercise program in older patients with coronary heart disease participating in a behavioral weight control program.

Methods: Seventy-four patients (mean age=64 years; 60 men; BMI: 32±4kg/m^2) were randomly assigned to a 5-month intervention of either HCE exercise (3000-3500 kcal/wk) or standard cardiac rehab (CR) exercise (700-800 kcal/wk). The HCE group performed 45-60 minutes of daily walking while the CR group exercised for 30-40 minutes three times/wk. Both groups received counseling to achieve a dietary caloric deficit of 3500 kcal/wk. Assessments were performed at baseline and 5-months and included self-reported measures of quality of life (MacNew; SF-36) and psychosocial variables (Perceived Stress Scale, Physical Activity Enjoyment Scale, and Geriatric Depression Scale).

Results: Weight loss was significantly greater in the HCE condition (8.2±4 versus 3.7±5kg, $p<0.001$, n=71). No baseline psychosocial or physical function variables were significantly related to weight loss or exercise outcomes. Changes from baseline to 5-months on scores of physical, emotional, and social functioning were greater for the HCE vs. CR group ($p<0.05$). HCE exercise also resulted in greater positive change in exercise enjoyment ($p=0.05$).

Conclusions: As part of a behavioral weight-loss program, HCE exercise resulted in greater weight loss and improvements in self-assessments of physical, social and emotional functioning, as well as greater increases in exercise enjoyment than standard CR. Therefore, even high-risk older adults can be successful in a rigorous exercise program and experience no adverse physical or emotional changes.

Funding Source: Work was supported by NIH grants RO1-HL72851 (Dr. Ades, principal investigator) and the General Clinical Research Center, University of Vermont College of Medicine (RR-109).