

The effects of exercise intensity on body composition, weight loss, and dietary composition in women

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OBJECTIVE: There is controversy over whether exercise and/or exercise intensity has an effect on total caloric intake or diet composition. The purpose of this study was to test the effect of exercise intensity without dietary manipulation on body composition and/or weight loss and to determine whether exercise intensity affected total caloric intake or diet composition in normal weight young women. **METHODS:** Fifteen women aged 18 to 34 years with a maximal oxygen consumption average or below on the Palo Alto norms served as subjects. Subjects were randomly assigned to: 1) low heart rate intensity exercise group (LI, N = 7) which exercised 40 to 45 minutes approximately four times weekly at a mean heart rate of 132 beats per minute (bpm); 2) high heart rate intensity group (HI, N = 8) which exercised 40 to 45 minutes approximately four times weekly at a mean HR of 163 bpm. All subjects were given a maximal exercise test prior to and during weeks eight, 12 and 16. The first 4 weeks served as a control period, followed by approximately 11 weeks of exercise. Each subject recorded her dietary intake for 1 complete week, including a weekend, during weeks 2, 6, 10 and 14 of the study. **RESULTS:** VO₂ max increased ($p < .05$) in HI (29 +/- 6 ml/kg/minute to 38 +/- 7) but did not change in LI (36 +/- 5 to 38 +/- 7). Percent fat decreased in HI ($p < .05$) (27 +/- 7 to 22 +/- 4) but was unchanged in LI (22 +/- 6 to 21 +/- 6). The weekly intake of total kcal, carbohydrate, protein and fat did change significantly for either group. The weekly intake of saturated fat declined significantly ($p < .05$) in HI (21.2 +/- 5.8 g to 14.9 +/- 5.5 g); their weekly intake of cholesterol also decreased ($p < .05$) between months 2 to 3 (249 +/- 109 mg to 159 +/- 58 mg). No other differences in dietary intake between groups were found. **CONCLUSION:** High heart rate intensity exercise training without dietary manipulation resulted in a decrease in body fat, but not weight change, as well as a decrease in the intake of saturated fat and cholesterol in normal weight young women. These changes were not observed after low heart rate intensity training.