

## The Effects of Intermittent Exercise on Physiological Outcomes in an Obese Population: Continuous Versus Interval Walking

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### ABSTRACT

This study compared the effects of 12 weeks of caloric restriction and interval exercise (INT) and caloric restriction and continuous aerobic exercise (CON) on physiological outcomes in an obese population. Forty-four individuals (BMI  $\geq 30 \text{ kg}\cdot\text{m}^{-2}$ ) were randomised into the INT or CON group. Participant withdrawal resulted in 12 and 14 participants in the INT and CON groups, respectively. All participants were on a strict monitored diet. Exercise involved two 15-min bouts of walking performed on five days per week. Interval exercise consisted of a 2:1 min ratio of low-intensity (40-45%  $\text{VO}_{2\text{peak}}$ ) and high-intensity (70-75%  $\text{VO}_{2\text{peak}}$ ) exercise, while the CON group exercised between 50-55%  $\text{VO}_{2\text{peak}}$ . Exercise duration and average intensity (% $\text{VO}_{2\text{peak}}$ ) were similar between groups. There were no significant differences ( $p > 0.05$ ) between the two groups for any variable assessed apart from very low density lipoprotein (VLDL-C), which significantly decreased over time in the INT group only ( $p < 0.05$ ,  $d = 1.03$ ). Caloric restriction and interval exercise compared to caloric restriction and continuous aerobic exercise resulted in similar outcome measures apart from VLDL-C levels, which significantly improved in the INT group only.

**Key words:** Interval training, body fat, fitness, metabolism

### Key Points

- Twelve weeks of interval exercise and caloric restriction resulted in significant improvement in very low density lipoprotein cholesterol in an

obese population, as compared to continuous aerobic exercise and caloric restriction.

- Twelve weeks of either interval exercise or continuous exercise resulted in similar improvements in aerobic fitness in an obese population.

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