The Effects of Intermittent Fasting on Endurance Performance


Introduction: Proper diet and exercise can lead to a healthy life style and weight loss. In recent years Intermittent fasting (IF) has become one of the growing fad diets in our culture. Purpose: The aim of this study was to evaluate the effects of IF on aerobic cycling performance. Methods: Five physically active (participating in 30 minutes of exercise at least three days a week) subjects volunteered for this study. Subjects were randomly assigned to an IF diet (n=3) or a normal (CON) diet (n=2) that would be carried out over the span of one week. Subjects’ body composition was recorded using a Bodpod (Cosmed, Chicago IL), along with a baseline VO\textsubscript{2}peak graded exercise test performed on a Monark cycle ergometer (Vansbro, Sweden). All subjects performed two graded cycle protocols in the fasted state, one before the start of the diet and immediately after the one-week diet. Following a five minute warm-up, subjects cycled at 50rpm with resistance increasing 3kp every 2 minutes until failure. Paired sample t-tests were used to determine significant differences between groups using Microsoft Excel (Microsoft, Redmond, WA). Significance was set at p<0.05. Results: Body fat was not different before (15.03±7.31% IF, 14.35±1.91% CON; p=0.89) or after (14.73±4.83% IF, 15.4±0.42% CON; p=0.83) the diet. VO\textsubscript{2}peak was 54.20±7.71 ml/kg/min in IF group and 45.75±8.27 ml/kg/min in CON diet group (p=0.36). Time to exhaustion was not different before (944.00±156.64 sec IF, 712.50±355.67 sec CON; p=0.52) or after (951.33±158.20 sec IF; 701.50±386.79 sec CON; p=0.52) the diet. The total caloric intake for the IF group was 1968.3±643.7 kcal, carbohydrate intake was 268.41±128.9g, protein intake was 101.05±33.6g, and fat intake was 52.7±10.3g. The CON diet group had a total kcal intake of 2172.6±486.9, carbohydrate intake of 237.6±23.4g, protein intake of 109.9±59.4g, and fat intake of 69.2±33.6g. There were no differences between groups in total calories consumed (p=0.71), carbohydrate (p=0.72), protein (p=0.87), or fat (p=0.61). Conclusion: IF induced no changes that aided in aerobic exercise performance compared to those who were not IF. IF had no ill effects on exercise performance.