Abstract

Effect of Caffeine Supplementation on Short-Term Endurance Performance

Andy McLaughlin

Faculty Advisor: Maxwell Ruby

Purpose: The purpose of this study was to examine the effect of caffeine supplementation on subjects' performance during 8 minutes of intense exercise on a cycle ergometer.

Methods: Nine endurance-trained college athletes were recruited to participate in this study. They performed the exercise trial 1-hour after either consuming 400mg of caffeine or a placebo. Seven days later they repeated the trial with the opposite intervention. This experiment was placebo controlled and double-blinded. Performance was measured by Watts, respiratory exchange ratio (RER), rating of perceived exertion (RPE), heart rate (bpm) and VO2max (ml/kg/min).

Results: Caffeine consumption significantly improved both average wattage (186 watts compared with 180 watts) and maximal heart rate (185 bpm compared with 181 bpm). There were no significant differences between interventions for RPE, VO2 and RER.

Conclusions: It was concluded that caffeine ingestion increased athletes performance during high-intensity short-duration endurance performance in endurance-trained college-aged athletes.