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Caffeine Supplementation Effects On Repeated Wingate Sprints

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PURPOSE: To determine any potential ergogenic effects of caffeine supplementation during repeated Wingate sprints. **METHODS:** Using a single-blind, placebo-controlled design, a total of 26 college aged participants (mean \pm SD; age 23 ± 2 years, mass 76.74 ± 17.73 kg, height 169.49 ± 10.34 cm) completed two exercise trials on non-consecutive days. The exercise trial was performed 45 minutes after ingestion of either $5 \text{ mg} \cdot \text{kg}^{-1}$ of body mass caffeine or placebo. The Wingate protocol was utilized to measure peak power, anaerobic capacity, average power, and anaerobic power. A paired sample *t*-test was used to examine the difference in peak power, anaerobic capacity, average power, and anaerobic power. **RESULTS:** The results indicate no significant difference in peak power between caffeinated and placebo trials 2 and 3 ($t(25) = -2.072$, $p < .05$), ($t(25) = -2.50$, $p < .05$), respectively. The results indicated anaerobic capacity was not significantly different between caffeinated and placebo trials 1, 2, 3, 4. The results indicated average power was not significantly different between caffeinated and placebo trials 1, 2, and 4 while average power was significantly different from caffeine to placebo ($t(25) = -2.20$, $p < .05$) during trial 3. The results indicated anaerobic power was not significantly different between caffeinated and placebo trials 1, 2, and 4 while anaerobic power was significantly different from caffeine to placebo ($t(25) = -2.35$, $p < .05$) during trial 3. **CONCLUSION:** The study found a moderate dosage of caffeine did not significantly affect performance. Power variables were not impacted by caffeine supplementation. This suggests caffeine supplementation may not enhance performance during high intensity interval training. In fact, caffeine may have been ergolytic in nature, though it was not statistically significant, placebo trials indicated higher power variables most noticeably during the third sprint.

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