

Effect of Pre-Workout Supplement on Vertical Jump and Anaerobic Power

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ABSTRACT

Pre-Workout (PW) supplements have been utilized to increase workout performance and efficiency. Its intended purpose is to facilitate strength gains, however, this study seeks to explore its effects on anaerobic power-output. **PURPOSE:** To determine the effects of a PW supplement on the Vertical Jump Test and the Wingate Test. **METHODS:** This was administered as a double-blind, counter-balanced study. Participant's (age = 26.3 ± 7.5 yrs., ht. = 168.5 ± 10.4 cm, wt. = 73.9 ± 19.2 kg., BMI = 25.4 ± 5.2) resting HR was measured then they consumed either a PW supplement or a placebo (PL) and waited for 15 minutes, after which HR was measured again and they then proceeded to complete a three-trial vertical jump test. After the vertical jump was completed, participants moved on to the Wingate test where they warmed-up for 4-minutes on a Monark cycle with two (3 second) sprints at a resistance of 7.5% of their bodyweight. After a two-minute break, participants completed a 30 second sprint with 7.5% of their bodyweight on the followed by a 2-minute cool-down. The participants immediately rated their exertion on the Borg RPE scale. Repeated measures ANOVA was used to assess differences between PL and PW for peak power and average power, dependent t-test was used to assess differences between PL and PW for perceived exertion and HR, and Pearson's correlation assessed the relationship between VJ and Wingate for peak and average power. **RESULTS:** There was no significant difference between conditions for vertical jump and Wingate tests ($p > .05$). There was a strong, significant relationship in power-output between the Wingate and VJ ($p < .05$). **CONCLUSIONS:** This study suggests there was not a significant effect of the PW on overall power-output. Secondary findings suggest either Wingate or VJ can reliably assess peak or average power.