

Poster presentation

Examination of a pre-exercise high energy drink on exercise performance

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from 2008 International Society of Sports Nutrition Conference and Expo Las Vegas, NV, USA. 9–10 June 2008

Published: 17 September 2008

Journal of the International Society of Sports Nutrition 2008, **5**(Suppl 1):P29 doi:10.1186/1550-2783-5-S1-P29

This abstract is available from: <http://www.jissn.com/content/5/S1/P29>

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Background

The purpose of this study was to examine the effect of a pre-exercise high energy drink on reaction time and anaerobic power in competitive strength/power athletes. In addition, the effect of the pre-exercise drink on subjective feelings of energy, fatigue, alertness and focus was also explored.

Methods

Twelve male strength/power athletes (21.1 ± 1.3 y; 179.8 ± 7.1 cm; 88.6 ± 12.1 kg; $17.6 \pm 3.3\%$ body fat) underwent two testing sessions administered in a randomized and double-blind fashion. During each session, subjects reported to the Human Performance Laboratory and were provided either 120 ml of a high energy drink (S), commercially marketed as Redline® or 120 ml of a placebo (P). The placebo was similar in taste and appearance but contained no active ingredients. Following consumption of the supplement or placebo subjects rested quietly for 10-minutes prior to completing a 4-question survey and commencing exercise. The survey consisted of 4 questions asking each subject to describe their feelings of energy, fatigue, alertness and focus at that moment. Following the completion of the questionnaire subjects performed a 2-minute quickness and reaction test on the Makoto testing device (Makoto USA, Centennial CO) and a 20-second Wingate Anaerobic Power test. Following a 10-minute rest subjects repeated the testing sequence and after a similar rest period a third and final testing sequence was performed. The Makoto testing device consisted of subjects

reacting to both a visual and auditory stimulus and striking one out of 30 potential targets on three towers.

Results

Significant difference in reaction performance was seen between S and P in both average number of targets struck (55.8 ± 7.4 versus 51.9 ± 7.4 , respectively) and percent of targets struck ($71.9 \pm 10.5\%$ versus $66.8 \pm 10.9\%$, respectively). No significant differences between trials were seen in any anaerobic power measure. Subjective feelings of energy (3.5 ± 0.5 versus 3.1 ± 0.5) and focus (3.8 ± 0.5 versus 3.3 ± 0.7) were significantly higher during S compared to P, respectively. In addition, trends towards an increased alertness ($p = 0.088$) and a decreased fatigue ($p = 0.091$) were also seen in S compared to P.

Conclusion

Results indicate a significant increase in reaction performance during exercise, with no effect on anaerobic power performance. In addition, ingestion of this supplement significantly improves subjective feelings of focus and energy.

Acknowledgements

This study was funded by Vital Pharmaceuticals, Inc. dba VPX/Redline.