Effects of Advocare Spark Supplementation On Submaximal Cycling Test

Author: Matt McLean, KINE 4400 Cardiovascular Research Laboratory, The University of Texas at Arlington, Arlington, TX; Faculty Sponsors: J.R. Wilson, Ph.D., Brad Heddins, M.S.

Abstract

The purpose of this research study was to assess the effects Advocare-Spark supplementation had on submaximal aerobic exercise. 

Methods

• Subjects
  • 5 College-age students at UTA
  • Highly active males
  • Low to moderate daily caffeine consumption

• Instrumentation
  • Polar Heart Rate Monitor, Sensormedics Metabolic Cart, Borg Scale of Perceived Exertion, Monark Cycle Ergometer. Advocare-Spark Fruit Punch. Gatorade-Fruit Punch

• Subjects consumed either 8oz. of Spark supplement or 8oz. a similar tasting placebo 30 minutes prior to testing. Single Blind

• The HRH, VO₂, and resting BP for each subject was taken 5 minutes after arrival for testing. Age, Height and weight also recorded.

Results

• Testing
  • Seat Height adjusted to fit subject
  • 1 minute warm-up
  • 30 min submaximal pedaling
  • Resistance of 1.5kp
  • RPM between 55-60 maintained
  • HR monitored throughout testing. RPE noted every 5 minutes
  • VO₂ and BP taken every 10 minutes
  • Total Distance Cycled (TDC) observed upon cessation of exercise
  • Cool Down
  • 3 minute cool down to assure a decrease in HR and SBP
  • Subject returned on separate day, consuming opposite drink
  • Testing protocol repeated

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean (SD)</th>
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<tbody>
<tr>
<td>Age (yrs)</td>
<td>21.2 (+ 1.30)</td>
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<tr>
<td>Height (cm)</td>
<td>183.6 (+ 7.91)</td>
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<tr>
<td>Weight (kg)</td>
<td>88.4 (+ 9.49)</td>
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HR - significant decrease (p = 0.00017) from 102 ± 13.9 bpm in Placebo (P) to 98 ± 15.2 bpm in Supplement (S).

RPE - values approached a significant decrease (p = 0.057), seeing a difference from 10.6 ± 2.2 (P) to 9.7 ± 2.0 (S).

BP - No significant changes were seen in blood pressure (p > 0.05) despite supplementation.

TDC- a significant increase (p = 0.0028) is seen P: 13.66 ± 0.19 km; S: 13.82 ± 0.16 km

VO₂ - values approached significant (p = 0.042) increase seeing increase from 14.4 ± 5.8 ml/kg/min (P) to 15.2 ± 5.9 ml/kg/min (S).

Conclusions

This experiment yielded a significant decrease in Heart Rate when consumption of Spark prior to testing was present. Research included in the discussion suggests similar findings from caffeinated supplements. BP saw no significant change. RPE values were not classified as significant decrease, but very close. VO₂ saw an increase which approached significance. TDC yielded a significant increase which may suggest the subject was able to subconsciously maintain a higher RPM when taking the Supplement. Testing in a more regulated environment, where secondary factors such as sleep and diet can be controlled may yield more conclusive results.