Effect of Pre-Workout Supplementation on Aerobic Endurance

Author: Mary-Catherine Wilson, KINE 4400
Faculty Sponsor: Judy Wilson, Ph.D
Cardiovascular Research Laboratory, The University of Texas at Arlington, Arlington, TX;

Abstract

Purpose

The purpose of this study was to evaluate the effectiveness of Cellucor C4 Extreme on submaximal cycle endurance by comparing five variables (distance, RPE, heart rate (HR), minute ventilation (VE), and oxygen consumption (VO2))

Methods

Subjects

There were six female University of Texas at Arlington (UTA) kinesiology students that voluntarily participated in this study, and were recreationally active. All subjects were 21-24 years old, had no contraindicated health conditions to exercise. All subjects agreed to the following criteria: (a) subjects were not categorized as obese (b) subjects have no known medical problems including but not limited to cardiovascular disease, diabetes, etc. (c) subjects are able to execute exercise from moderate to high intensity exercise (d) subjects must not be taking any pre-workout supplementation. Before onset of the study each participant was informed of procedures and their consent was acquired. All subjects were able to view a full ingredient list of the pre-workout supplement prior to consumption.

Results

Demographic Variables

<table>
<thead>
<tr>
<th>Metric</th>
<th>Mean</th>
<th>SD</th>
<th>Max</th>
<th>Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height (m)</td>
<td>1.61</td>
<td>0.45</td>
<td>1.65</td>
<td>1.57</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>59.47</td>
<td>5.52</td>
<td>65.9</td>
<td>51.4</td>
</tr>
<tr>
<td>Age (yrs)</td>
<td>22.5</td>
<td>1.0</td>
<td>24</td>
<td>21</td>
</tr>
</tbody>
</table>

There were no significant differences between the variables across time points or between supplements.

Conclusions

The results for this study conveyed that C4 Cellucor Extreme pre-workout supplementation does not influence aerobic exercise endurance when cycling. Existing data on the effectiveness of pre-workout supplementation on endurance is mainly related to local muscular endurance and endurance, and speed, and the effectiveness seems to vary with different supplement brands. There is very little data about the effectiveness of pre-workout supplementation for aerobic endurance, and much of the existing research is centered around resistance-trained men.