The Effect of Caffeine On Anaerobic Power

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INTRODUCTION: Caffeine is a stimulant used by athletes to enhance performance. Caffeine has been shown to benefit endurance performance in high intensity or power sports. It has been recommended to consume about 200 mg of caffeine 24 h before a workout. Caffeine increases adenosine and decreases fatigue due to blocking of adenosine's effects in the brain. The effects of caffeine during anaerobic power tests on performance in female athletes has not been thoroughly investigated. In this study, we examine the effects of consuming caffeine on anaerobic power for habitual caffeine consumers who consume more than 100 mg daily. The hypothesis is that consuming caffeine will not improve anaerobic power for habitual caffeine consumers. Identifying caffeine effective doses will aid in their consumption to increase benefits as opposed to their adverse effects.

METHODS: The purpose of this study was to evaluate the effects of a dose of caffeine on anaerobic exercise in regular caffeine consumers. Six women (ages 18-30 years; 65.24 ± 8.85 kg/sec). The mean power p-value for the first and second WAnT was (p= 0.67). The peak power p-value between the first and second WAnT was (p= 0.62).

Purpose

The purpose of this study was to test caffeine effects on regular caffeine consumers during exercise.

Methods (cont’d)

V. Variables Measured

• HR (bpm)
• Weight (kg)
• Height (cm)
• Blood pressure (mmHg)
• Mean power (W/kg)
• Peak Power (W/kg)

VI. Statistical Analysis

• T-test

Results (cont’d)

Table 1: Subject Demographics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (kg)</td>
<td>65.24</td>
</tr>
<tr>
<td>Height (cm)</td>
<td>159.39</td>
</tr>
<tr>
<td>Age (years)</td>
<td>23.33</td>
</tr>
</tbody>
</table>

Table 2: Data Collected

<table>
<thead>
<tr>
<th>Variable</th>
<th>1st WAnT</th>
<th>SD</th>
<th>2nd WAnT</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Power (W/kg)</td>
<td>324.02</td>
<td>37 338.87</td>
<td>50.12</td>
<td></td>
</tr>
<tr>
<td>Peak Power (W/kg)</td>
<td>382.02</td>
<td>62.16</td>
<td>396.53</td>
<td>71.98</td>
</tr>
</tbody>
</table>

Results

Ethnicity background for this group was 6:6 Hispanic females. Five out of the six participants were fit female soccer players who averaged 22.33 ± 1.37 years of age.

Average weight was 65.24 ± 11.57 kg and average height was 159.39 ± 4.26 cm. A two tailed t-test was used to determine significant difference between the first and second WAnT. The mean power p-value for the first and second WAnT was (p= 0.67). The peak power p-value between the first and second WAnT was (p= 0.62).

Conclusions

The p-values indicate that the first and second Wingate were not significantly different (p < 0.05). The results of this study indicate that the data is random and that consuming caffeine does not benefit performance during an anaerobic power test.