The Effects of Creatine Supplementation on the Upper and Lower Body Muscular Strength and Endurance

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Abstract

The purpose of this study is to evaluate the effects of 7 – days of oral Creatine supplementation during upper and lower body strength and endurance measurements.

Methods

Subjects:
- 5 UTA students
- 18 – 31 years old
- Moderate exercise active, 3 d.

No allergies to Creatine, Aspirin, or Caffeine

Protocol:
- They reported to weight training area in the MAC for 3 non-consecutive days.

First visit: protocol introduced
- Signed consent form
- 7 mins warm-up treadmill
- 1RM and 70% 1RM reps pre-test measurements in the upper and lower body
- Randomly assigned into a 7 d. placebo or Cr group.

Methods (cont’d)

- 5 g of placebo or 20 g of Cr. Per day were given to each subject to mix into 500 ml of liquid
- Instructions: workout routine 3 – 4 d. W1

Second visit: after 7d Supplementation.
- Post-test measurements collected.
- Second 7 d. supplementation were given.

Third visit: after 7 d. supplementation
- Last post-test measurements were collected.

Results

- Table 1 shows subjects information mean’s values. Upper body results are describe in table 2 and 3.
- Mean values for 1RM are detailed in table 2 and 70% 1RM are in table 3.
- For the lower body lower body results are detail in tables 4 and 5.

Table 1: Demographics

<table>
<thead>
<tr>
<th>ages (yrs)</th>
<th>height (m)</th>
<th>weight (Kg)</th>
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<tbody>
<tr>
<td>24</td>
<td>1.73</td>
<td>80.6</td>
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</table>

Conclusions

Based on the results, the creatine group had gained strength in the upper body with the seven-day supplementation which correlates with most of the previous studies in which the main function of creatine was to assist the ADP to accept a phosphate and become ATP in sustain muscle contraction in high intensity, short duration. Also, the placebo group had gained strength in the upper body, however, this could be due to the learning process involved in performing a one repetition maximum.