



## The effect of barberry juice supplementation after a single exhausting aerobic activity on level of electrical muscle activity (emphasis on the fatigue) of lower extremity and the serum malondialdehyde index in inactive male student

### Poster Presentation

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### Abstract

**Introduction:** The purpose of the present study was to investigate the effect of barberry juice supplementation after a single exhausting aerobic activity on level of electrical muscle activity of the selected muscles of lower extremity and the serum malondialdehyde index (MDA) in inactive male student.

**Methods:** Twelve healthy and inactive students (with a mean age of  $22.66 \pm 1.33$  years old, weight of  $74.25 \pm 3.20$  kg and BMI of  $23.25 \pm 0.8583$  kg/m<sup>2</sup>) participated in this study. They performed Bruce's test twice with a two weeks interval. First, blood samples were taken from the subjects and then they participated in an exhausted activity session. The second blood test was taken after 10 minutes. After a two-week intervention of barberry juice consumption, the previous steps were repeated. The muscle electrical activities of lower extremity muscles were recorded during the Bruce test protocol before and after the supplement consumption. Data were analyzed using MATLAB and SPSS software and one-way analysis of variance method.

**Results:** Results showed no significant effect on MDA supplementation ( $P > 0.05$ ), however the electrical activity of some muscles such as gastrocnemius, soleus, vastus lateralis and semitendinosus significantly decreased ( $P < 0.05$ ). There was no significant effect on biceps femoris muscle ( $P = 0.094$ ).

**Conclusion:** Exhausting exercise seems to cause free radicals in exercise activities, and the consumption of barberry juice has no effect in reducing this free radicals factors, but it can be useful and effective in reducing fatigue and exhaustion during exercise.

### Keywords

Exhausting aerobic activity; Barberry; EMG; MDA

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