

ABSTRACT

**THE EFFECT OF CITRULLINE SUPPLEMENTATION ON LACTIC
ACID BLOOD LEVEL AND OXYGEN SATURATION (SaO₂) IN
SUBMAXIMAL PHYSICAL ACTIVITY**

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An achievement in sport is one of the benchmarks of success of every athlete. One of the causes of the performance degradation is fatigue due to the formation of lactic acid. Supplements are proved to improve the performance in athletes. The purpose of this study was to determine the effect of citrulline supplementation on lactic acid levels and oxygen saturation on submaximal physical activity. Fatigue can be seen from lactic acid levels in subjects who have performed physical activity. This research method used randomized group pretest posttest group design. The subjects used were male students with age (18-23) years old, the sample size (N = 16) students of pencak silat airlangga university, was divided into two groups. The first group was given a placebo of 200ml of mineral water and the second group was given 3gram citrulline dissolved in 200ml mineral water. Each group was given the same treatment of three minutes of submaximal physical activity using an ergocycle. Before and after doing the activity the blood lactic acid and oxygen saturation of the subject was checked. The result of the data showed that lactic acid and oxygen saturation in both groups had $p < 0,05$. Citrulline supplementation had effect on lactic acid and oxygen saturation. The results of the research showed that the group given with citrulline had significant effect on lactic acid and oxygen saturation before and after treatment.

Keywords: Citrulline, lactic acid, oxygen saturation, submaximal physical activity