

THE EFFECT OF CAFFEINE CONSUMPTION ON THE NON-AEROBIC POWER, THE FATIGUE INDEX AND THE BLOOD LACTATE LEVELS IN THE MALE ATHLETE STUDENTS

Abstract

The main purpose of this research is to study the effect of caffeine consumption on the non-aerobic power, the fatigue index and the blood lactate levels in the male athlete students. Therefore, 16 individuals with the average weight ($68/1 \pm 9/1$ kg), height (173 ± 7 cm), and age (24 ± 2 years) were selected based on the simple-randomized method from among volunteer participants, and they were divided as match pairs, based on pre-examined fatigue index, into the two groups of caffeine ($n=8$) and placebo ($n=8$). Subjects were asked to refrain from having any intensive physical activity 24 hours before the test starts and avoid eating or drinking any caffeine foods or drinks 48 hours before the test. The primary RAST test (pre-test) was performed at least 4 hours after having a meal, and then the individuals blood lactate levels was measured after 6 minutes of the test. The secondary RAST test was done after a week exactly like the first session. The subjects continued caffeine consumption as usual and interrupt it 48 hours prior to the next test. In post-test, the subjects took 6mg caffeine or placebo in the form of gelatin capsules per one kilogram of their weight one hour prior to the test. The analysis of the result, with applying the statistical t-test method ($p \leq 0.05$) to the dependent and independent groups, showed that consumption of caffeine has a significant positive effect on average power; minimum power and fatigue index, while it does not have any significant effect on maximum power and the amount of blood lactate. It seems that caffeine consumption is effective in the recovery of fast short-term shuttle activities.

Key words: Caffeine, Anaerobic Power, Fatigue Index, Blood Lactate Levels, Male Athlete Students.