

THE EFFECT OF CAFFEINE ON ANAEROBIC POWER, LDH ENZYME AND Ca^{+2} ION OF YOUNG SOCCER PLAYERS' PLASMA

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Training protocol as a combined program with levels of work intensities (from sub max to high) are a few and have produced inconsistent results. The purpose of this study was to determine the role of caffeine (6mg/kg) on anaerobic power, LDH enzyme, and Ca^{+2} ion of man young soccer player's plasma during maximal and interval activity.

The population of this study were 380 young soccer players that were participated in Hamedan province of Iran young league. The samples were 22 players that divided randomly in to two groups. Half of them as an experimental and 11 of them were in control group. The health of them measured by questionnaire. Their anthropometrical and body muscle volumes measured too. 22 soccer players with mean of age, experience in formal competition, weight, and height were respectively (15.8 ± 2.2 years, 5 ± 1 years, 62.5 ± 7.5 kg, 171 ± 5.3 cm). Anthropometric dimensions were predicted in each groups. Firstly, the subjects completed a peak continue exercise, also Wingate test (30s) before Price program respectively. The physiological and bleeding variables in two groups were not significantly different before study. One hour before price protocol the subjects ingested either placebo (dextrose) or caffeine (6mg/kg) with 200cc of water. The interval program has been designed base on soccer play analyze and it consisted 30 minute with 10 set \times 3min repeats continuing, and active rest periods on a mechanical bicycle. On this basis, each stage covered 90 sec with 40% HRR, 60sec pedaling in 60% HRR intensity, RPM=60 and 15sec exercise with max power output and finally 15sec light activity (40%HRR, RPM=40) respectively. The protocol performed with average of 69% HRR intensity. Once when the test finished metabolic and physiologic variables assessed rapidly, on the other hand significant differences between placebo vs. caffeine during post test conditions were determined by using t- test. Data are presented as mean \pm SD. Statistical significance was accepted at ($p < 0.05$).

Absolute and relative anaerobic power values in experimental group increased markedly more than placebo group during 7, 9, 10th stages on price task ($p < 0.05$).

- The amount of LDH enzyme had no significant different.

-The averages of plasma Ca^{+2} ion concentration differenced significantly between caffeine and placebo conditions.

According to result it could be suggest that intake of caffeine (6mg/kg) before interval and high intensity activity caused increase Ca^{+2} ion and anaerobic power in young soccer players. Thus helps them to continue play at longer time.