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Abstract

The research aims to uncover the response of physical exercise with intervals of active and passive protection against antioxidant enzymatic systems. The sample used student Sport Science Department, State University of Malang, aged 19-21 years, body mass index (BMI) 19-23, no smoking, VO2 max 45-50 mL/kg. Data retrieval is done by people trying to pedal a bicycle ergometer intensity of 80% of Maximum Work Capacity (KKM), for 4 minutes, 4 replications, with active and passive rest interval. Active rest intervals performed by pedaling a bicycle ergometer fixed intensity of 40% of the KKM for 4 minutes at 3 times the replications (group I), whereas the passive rest interval is done by people trying to remain seated on the bicycle ergometer saddle for 4 minutes at 3 times the replications (Group II). Examination of SOD (superoxide dismutase), from blood plasma, carried out prior to physical exercise and 30 minutes after physical exercise. The data analysis performed using different test ANAVA 5% significance. Based on the results of the study there were significant differences between the SOD enzyme levels in group I with group II, F 6059 (p <0.05). Based on the research results can be concluded that physical exercise with intervals require more active enzyme levels of SOD to neutralize ROS, rather than passive physical exercise interval.

Keyword : physical, exercise, internal, maximum, working, capacity, VO2max, antioxidant,

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