A COMPARISON OF CERTAIN TRACE ELEMENTS IN WRESTLERS BEFORE AND AFTER AEROBIC AND ANAEROBIC EXERCISES

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ABSTRACT

The purpose of the study was to observe reactions of serum levels of zinc, calcium, magnesium, iron and copper during different exercise intensities (aerobic-anaerobic). Male wrestlers (N=24) with a mean age of 21.91±2.08 years, currently studying at the Physical Education and Sports Academy of Niğde University, volunteered for this research. Height and weight, body fat percentage (skinfold), maximal oxygen uptake (Astrand-Ryhming nomogram) and anaerobic values (Wingate test) were measured. The participants were given exercises performed at two different intensities until exhaustion in which subjects exercised for 30 minutes at 70% of their maximal oxygen uptake (60rpm on the bicycle ergometer) and at 125% of their VO$_{2\text{max}}$ load (60rpm on the bicycle ergometer) as an anaerobic exercise. Blood samples were taken at rest after both aerobic and anaerobic exercises. Subsequently, serum samples were measured by the flame atomic absorption spectrophotometric method. Statistically significant changes were determined in all levels of serum zinc, calcium, magnesium, iron and copper. The duration and the intensity of the exercises had significant effects on the levels of the used trace elements.

Key words: Aerobic exercise, Anaerobic exercise, Trace elements, Wrestlers.