

Effect of anaerobic interval exercises on selected biomotor and physiological variables among Hockey players

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■ ABSTRACT

There are different sports training that aim at improving sports performance through physical, physiological, psychological, social, intellectual and moral aspects thus contributing to development of all-round personality of the sports person. Researchers have proved the need for both high and low-intensity activities is more efficient to ensure the reduction of a greater number of cardiac risk variables, especially for games like Hockey. To find out the effect of anaerobic interval training, the investigator selected 40 intercollegiate level Hockey players which were randomly divided into two groups. One group formed the experimental group and the other group was control group. The experimental group was given anaerobic interval training for six weeks, consisting of speed endurance exercises, fartlek exercises, sprint intervals and stair stepper exercises and the control group was not provided with any experimental treatment. Initial scores on selected bio motor variables, agility and cardio-vascular endurance, physiological variables, resting pulse rate and vital capacity of the subjects were collected using standard tests. The results proved that six weeks anaerobic interval training significantly improved bio motor and physiological variables. It was concluded that anaerobic interval exercises can be imparted to intercollegiate level Hockey players.

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Researches have proved that interval workouts are proven to be the fastest, most time-effective way of getting faster. Intervals raise the lactate threshold, improve lactate clearance and lactate tolerance, improve sustained power, and can raise the muscle oxygen consumption ($VO_{2\text{-max}}$), vastly improving the speed. Athletes often incorporate anaerobic training into their routines to increase the performance. When trained at high levels of intensity, there was increase in anaerobic threshold, which means one can work harder for longer periods of time, all while burning more calories. For this, one should be an experienced exerciser before trying anaerobic training. A beginner wants to work up to anaerobic intervals and stay in his target heart rate zone. And advanced players must add

short bursts of high intensity exercise to one or two workouts, a week to boost endurance and burn calories.

Billat (2001) reported that studies of anaerobic interval training can be divided into 2 categories. The first category (the older studies) examined interval training at a fixed work-rate. The second category (the more recent studies) asked the participants to repeat maximal bouts with different pause durations (30 seconds to 4 to 5 minutes). These studies examined the changes in maximal dynamic power during successive exercise periods and characterised the associated metabolic changes in muscle. The studies on the long term physiological effect of supramaximal intermittent exercise have demonstrated an improvement in $VO_{2\text{max}}$ or running economy. Moreira *et al.* (2008) found an exercise programme that