

VARIOUS ALTERNATIVES OF HYPOXIC TRAINING

Original scientific paper

Abstract

The aim of the paper was to compare the influence of three different alternatives of hypoxic training (a training in higher altitude – HA, an intermittent hypoxic training – IHT, and a hypoxic tent – HT). The research was executed on 10 athletes who all took part in higher altitude training and an intermittent hypoxic training. Four of the athletes from this sample took part in a training (a sleep) in a hypoxic tent. All the three alternatives lasted for approximately three weeks. In haematological indicators the number of erythrocytes, haemoglobin and hematocrit in HA and IHT increased from 3% to 4.9%. A more significant increase (25.3%, resp. 26.2%) was measured in reticulocytes. In HT we measured the increase of reticulocytes in 17.9%; however in the remaining indicators we observed even smaller increase, namely 0.7 – 2.3%. From the point of spiroergometric indicators we observed the most significant increase in the $VO_{max.kg}$ at ANT where we measured an increase of 8.7%, resp. 9.9%. Obviously, this indicator is directly influenced by the decrease of body weight, but also in absolute rate of VO_{max} at ANT we measured an increase (7%, resp. 7.7%), which indicates the increase of oxygen usability at ANT, thus the intensity corresponding to the competition load. In HT we also measured the increase in these parameters as well as a moderate decrease of body weight (0.3%), however only from 0.3 – 1.5%. From the point of effectiveness we confirmed a positive influence of hypoxic training in all the three methods (HA, IHT, HT), but according to our findings the influence of HA and IHT was significantly higher than in HT.

Key words: *training in higher altitude, intermittent hypoxic training and hypoxic tent.*