

EFFECTS OF SIMULATED HIGH-ALTITUDE CONDITIONS ON RESPIRATORY TRACT FUNCTION IN YOUTH.

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High altitude therapy has been used for over hundred years now. Recently high-altitude normobaric hypoxia technology has been introduced. The use of normobaric hypoxia enables the reduction of the partial pressure of oxygen and oxygen concentration in the artificially created atmosphere without changes in gas pressure.

The aim of the study is to assess the effects of training in simulated high-altitude on known allergies, with the use of protein EPX in urine and questionnaire, as well as respiratory tract functions in youth.

A group of 88 children aged 10–15 (mean 12,71) took part in the study. 31 were included in two-week training period run in simulated high altitude conditions on the altitude of 2500 m. The training protocol included ten sessions of training, with the use of treadmill and exercise bike. 21 children took part in control group without exercise and 36 children was training without use of hypoxia. The spirometry test and FeNO and EPX test were performed before and after the training period.

The results showed increase in the FeNO levels (11,62 /17,75 ppm), compared to non-exercising group (4,5 /2,72 ppm) and FEV1% (84,24% /71,23%) compared to control (82,40% /76,81%). EPX was decreasing in both groups.