

## Abstract

**Title:** Possibilities of Non-invasive Control of Hypoxic Training

**Objectives:** To find out whether there is a statistically significant change in mood dynamics measured by the POMS questionnaire while staying and training in a natural hypoxic environment (LHTH), compared to staying and training in normoxy. To compare and verify other non-invasive methods of controlled training in natural hypoxia.

**Methods:** The research has the character of a quasi-experiment with a plan of repeated measurements. As a method of data acquisition, questioning was carried out using a standardized POMS questionnaire, analysis of training documentation. In the selected persons heart rate measurements and analysis of blood biochemical examination records were also done. An additional interview was included. There are two case studies.

**Results:** A statistically significant difference in mood states was observed in the second week of the training camp, when a naturally hypoxic environment reduced the Energy Index and increased the Total Mood Disturbance of athletes. Casuistic investigations did not find any correlation between athletes' reduced performance and changes in the morning resting heart rate or biochemical blood analysis. However, a correlation between the decrease in performance and the overall mood disorder was observed.

**Keywords:** Sports training, Training control, Natural hypoxia, Emotional states