

Experimental intermittent exposure at a 1500 m altitude and its influence on the aerobic exercise capacity

Camelia-Manuela Mîrza¹, Alina-Mirela Martoma²

¹ Iuliu Hațieganu University of Medicine and Pharmacy

² MIA Polyclinic Braşov

Abstract

Background. In order to improve athletic performances, Hi-Lo “living high-training low” - like programs showed the improvement of the endurance capacity at sea level.

Aims. The research aimed to show the influence of an intermittent exposure at hypobaric hypoxia at a simulated altitude of 1500 m on the aerobic exercise capacity in normobaric normoxia (Hi-Lo program).

Methods. The research was conducted on two groups of Wistar male rats: group I – control – underwent a 363 m normobaric normoxia exposure, with swimming test training performed daily; group II underwent a simulated 1500 m intermittent hypobaric hypoxia exposure, for 14 hours/day, followed by a simulated 363 m normobaric normoxia exposure, for 10 hours/ day; swimming test training was performed daily during the normobaric normoxia period (Hi-Lo program).

Results. 1500 m exposure (Hi-Lo program) leads to the improvement of the aerobic exercise capacity in comparison with the control group, during the exposure.

Conclusions. A 14 days 1500 m simulated intermittent hypobaric hypoxia exposure leads to increases in aerobic exercise capacity which do not resist in time.

Key words: hypobaric hypoxia, Hi-Lo program, aerobic exercise capacity.