Abstract

The objective of this research was to assess continuous and intermittent training load and its influences to a rock climbing performance.

Fifteen (11 M and 4 F) experienced (7- to 9 RP, UIAA) sport climbers (age 24,1 ± 2,7 years, body mass 66,4 ± 9,8 kg, height 173,1 ± 7,7 cm, HR_{max} 197,5 ± 3,7 beats .min^{-1}) were subjected to climbing test, which involved three exercises of continuous and intermittent load.

The first exercise involved 30s of climbing and 30s of passive recovery, maximum 12 repetitions. The load and recovery time in the second exercise were doubled and in the third exercise subject climbed until exhaustion. The pace of climbing was assigned 25 movements .min^{-1} at negative angle 135º or 120º, owing to their present climbing abilities. All subjects refrained from exercising at least 24h between each testing.

Significant differences in performance were found between intermittent and continuous load. Climbers achieved the highest performance (165,5 ± 45,4 steps; time of climbing 6:22 ± 1:44) during intermittent exercise 1. Worse performance (135,6 ± 80,6 steps; time of climbing 5:08 ± 3:02) was noticed in the second intermittent exercise. The worst performance (53,7 ± 14,9 steps; time of climbing 2:06 ± 0:32) among of all exercises was noticed during continuous load. Mean HR_{max} values measured during intermittent exercises were similar (ex. 1 = 174,8 ± 11,0 beats/min; ex. 2 = 173,5 ± 8,2 beats/min). However, climbers had significantly lower HR_{max} (164,7 ± 6,7 beats/min) in continuous exercise.

On the basis of these results it can be recommended to apply intermittent training method in order to improve climbing endurance. To be more effective, it is better to provide it with rather short sections of load and rest.

Key words

heart rate, continuous load, intermittent load, climbing performance