Abstract

Title: The effect of Wim Hof breathing method in relation with sport climbing performance in all-out test

Key words: sport climbing, hyperventilation, breathing exercise

Objectives: The study is aimed to determine if there is an impact of Wim Hof breathing method on power performance of finger flexors during intermittent load.

Methods: The thesis was made as an experimental study with ten volunteers, who are active sport climbers. They filled-out questionnaire and gave their consent to participate in the study. After that, they went through the all-out test of finger flexors twice. One time they did Wim Hof breathing method before their performance and one time they didn't. This succession was determined by random selection. The results of both tests were compared and assessed by Student t-test.

Results: The main outcome value, work impuls, didn't vary. The impuls without previous Wim Hof breathing method was 4477 ± 14,3 kg.s and with Wim Hof breathing method 4385 ± 13,8 kg.s. There was only one outcoming value from the all-out test, which was varying on level of significance $\alpha = 5\%$ (the repetitions of critical force). None of others 10 figures from the all-out test didn't vary. The Borg rating of perceived exertion didn't vary as well.

Conclusions: This diploma thesis didn't confirm that Wim Hof breathing method can raise performance of finger flexors of sport climbers. The thesis also didn't confirm, that Wim Hof breathing method can decrease subjective feelings of expended effort in the all-out test.