Abstract

This thesis is devoted to cardiorespiratory fitness in professional pole dancers. The theoretical part describes the specifics of pole dance exercise and its effect on human body. The thesis further contains the introduction to exercise physiology and diagnostics.

Methods: 8 performance female pole dancers competing in professional/elite category took part in the study. All probands completed two exercise tests – a laboratory and a field exercise test. Probands' cardiorespiratory fitness was assessed in a laboratory maximal exercise test. In field exercise test we investigated the exercise intensity in a simulated pole sport competition. Exercise variables were monitored in both tests using a portable metabolic analyzer VO2 Master Pro.

Results: The average values during maximal spiroergometry test were VO2peak 46,1 ml/min/kg a Wpeak 3,7 W/kg. Probands' cardiorespiratory fitness was above average ($0{,}03 < p < 0{,}04$). The average pole dance performance intensity was 89 % TFmax (158 bpm) and 79 % VO2peak (36,2 ml/min/kg), the peak values were 96 % TFmax (178 bpm) and 110 % VO2peak (50,6 ml/min/kg). More than a half of the pole dance performance was performed above the intesity of anaerobic threshold ($p = 0.019$).

Conclusions: Performance pole dancers are more fit than the average population (VO2peak is higher than normative data for different ages ($0{,}03 < p < 0{,}04$)). The pole dance performance requires significant energetic and metabolic demands, more than a half of the performance is performed above the intensity of anaerobic threshold ($p = 0.019$).