Hormonal responses to sambo exercise in women

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Abstract

The main aim of this study was to compare the hormonal status between top-level female sambo athletes and sedentary controls; in addition, we analyzed hormonal response to sambo exercise in top-level athletes. Salivary hormones were measured in 59 female sambo fighters of the Russian national team and 31 sedentary females. Participants provided saliva samples in the morning, with a second sample taken only in athletes after a sambo exercise session. This session consisted of 5 simulated fights of 5 minutes each one with 10 minutes of recovery between combats. Baseline salivary testosterone was significantly higher in sambo athletes compared with sedentary controls (37.4 ± 24.1 pg/mL vs. 14.3 ± 6.9 pg/ml; \( P <0.001 \)), while estradiol levels were lower (2.4 ± 1.5 pg/mL vs. 11.3 ± 7.0 pg/mL; \( P <0.001 \)). A significant decrease in both salivary testosterone (for 19.5%, \( P = 0.007 \)) and cortisol (for 22.2%, \( P = 0.014 \)) was reported in female athletes as a response to sambo exercise session. It seems that sambo exercise affects hormonal status both chronically and acutely in female athletes.

Key words: sport • training • motor function • injury • muscles

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