

1st World Congress on Health and Martial Arts in Interdisciplinary Approach, HMA 2015

Hormonal responses to sambo exercise in women

Patrik Drid¹, Anastasia Kondratijeva², Sergey Tabakov², Marko Stojanovic¹, Tatjana Trivic¹, Cristina Casals³, Sergej M Ostojic¹

¹ Faculty of Sport and Physical Education, University of Novi Sad, Novi Sad, Serbia

² Russian State University of Physical Education, Sports and Tourism, Moscow, Russia

³ Biomedical Research Centre, Faculty of Sport Sciences, University of Granada, Granada, Spain

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

Published online: 17 September 2015

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Contributor: Patrik Drid, Anastasia Kondratijeva, Sergey Tabakov, Marko Stojanovic, Tatjana Trivic, Cristina Casals, Sergej M Ostojic conceived the study design. Patrik Drid, Anastasia Kondratijeva, Sergey Tabakov, Marko Stojanovic, Tatjana Trivic, Cristina Casals, Sergej M Ostojic collected the data. Patrik Drid, Anastasia Kondratijeva, Sergey Tabakov, Marko Stojanovic, Tatjana Trivic, Cristina Casals, Sergej M Ostojic analysed the data. Patrik Drid, Anastasia Kondratijeva, Sergey Tabakov, Marko Stojanovic, Tatjana Trivic, Cristina Casals, Sergej M Ostojic prepared the manuscript. Patrik Drid, Anastasia Kondratijeva, Sergey Tabakov, Marko Stojanovic, Tatjana Trivic, Cristina Casals, Sergej M Ostojic secured the funding.

Funding: Departmental sources

Conflict of interest: Authors have declared that no competing interest exists

Ethical approval: Not required

Provenance and peer review: Under responsibility of HMA Congress

Corresponding author: Patrik Drid, Faculty of Sport and Physical Education, University of Novi Sad, Lovcenska 16, Novi Sad 21000, Serbia; e-mail: patrikdrid@gmail.com

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Cite it: Drid P, Kondratijeva A, Tabakov S, Stojanovic M, Trivic T, Casals C, Ostojic SM. Hormonal responses to sambo exercise in women. In: Kalina RM (ed.) Proceedings of the 1st World Congress on Health and Martial Arts in Interdisciplinary Approach, HMA 2015, 17–19 September 2015, Czeszochowa, Poland. Warsaw: Archives of Budo; 2015. p. 201
