

*Korobeynikov G., Korobeinikova L., Raab Markus,  
Korobeinikova I., Kokhanevich A., Berezhna A.*

## **STRESS, COPING AND COMPETITION AMONG ELITE WRESTLERS**

Modern Olympic kinds of wrestling are characterized by a high level of stress in competitive situation [1, 2]. Among different complex mechanism which supports the stress resistance in elite wrestlers is strain of autonomic nervous system [3]. Main link of coping stress forming is a heart rate variability property [4]. Our previous study observed the relationship between heart rate variability values and stress resistance in elite athletes [4]. But coping stress mechanisms in elite wrwestlers not studied enough

**Purpose:** to study the coping stress mechanisms in competition conditions in elite wrestlers.

### **Method**

24 Greco-Roman wresters (age 24,34+2,623) were examined. The research were carry out before and after competition. For heart rate variability research used electrocardiographic “Fazagraf” (Ukraine). Statistical and frequency parameters of heart rate variability were used.

### **Results**

Obtained results indicates a significant changes of statistical and frequency parameters in competition conditions. In particular, SDNN value decline during competitive. This is related with increase of strain of mechanisms heart rate regulation.

Frequency analysis of cardio intervals is showed a decline of meanings of LF and HF in wrestlers during competitive situation. Obtained result indicates influence of competition to autonomic nervous system regulation. The analogy dynamics observed by SD1 and SD2 parameters. In fact the parameter SD1 correlation with SDNN value. The decline of it parameters during competitive activity links with grow of tension autonomic regulation nervous system regulation.

Our purpose concerning to research of coping stress mechanisms in competition conditions among elite wrestlers. As know that during stress tension the variability of heart rate decline [5]. The competitive activity in elite wrestlers is a real model of stress situation.

### **Conclusion**

The obtained results show the mechanisms of coping stress related with increasing of strain of regulatory of autonomic nervous system. Moreover, the main link of coping stress in elite wrestlers during competitive is inhibition of sympathetic and parasympathetic part of the autonomic regulation of the heart rhythm. The coping stress mechanism characterized by strain of the heart rate regulatory due to periodic and aperiodic fluctuations in cardio intervals.

### ***Reference***

1. Chernozub A, Danylchenko S, Imas Y, Kochina M et al. Peculiarities of correcting load parameters in power training of mixed martial arts athletes. *Journal of Physical Education and Sport*. 2019;19(1):481-488.
2. Barbas I, Fatouros IG, Douroudos II, Chatzinikolaou A, et al. Physiological and performance adaptations of elite Greco-Roman wrestlers during a one-day tournament. *European journal of applied physiology*. 2011;111:1421-1436.
3. Laborde S, Mosley E, Mertgen A. Vagal tank theory: the three rs of cardiac vagal control functioning—resting, reactivity, and recovery. *Frontiers in neuroscience*. 2018;12:458.
4. Korobeynikov G, Imas Y, Korobeynikova L, Ludanov K, et al. Body Composition and Heart Rhythm Variability in Elite Wrestlers. *Sport Mont*. 2021;19(S2):147-151.
5. Kiss O, Sydó N, Vargha P, Vágó H, Czimbalmos C, Édes E, Zima E, Apponyi G, Merkely G, Sydó T, Becker D. Detailed heart rate variability analysis in athletes. *Clinical Autonomic Research*. 2016;26:245-52.