Management of the psycho-emotional state of an athlete during physical load commensurate with competitive activity, method bioresonance effects

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Introduction

The intensive development of sports in modern conditions is characterized by a constant increase in sports results and high competition in the international arena. The triumphant performance of the Russian national team at the Winter Olympic Games in Sochi was the result of the great work of the coaching staff and athletes. The growth of sports results is a consequence of persistent training with the implementation of huge training loads, which, as a stress factor, lead to the appearance of mental and emotional lability, impairment of psychomotor functions and locomotion. Such a sequence of causal relationships allows us to talk about the possibility of attracting and using, along with self-regulation methods,

The main functional manifestation of competitive activity is motor activity with a high degree of synchronization of locomotor and psychomotor functions, aimed at achieving a victorious result. Motor activity is understood as a biomechanical model of motor actions (BMDD) [4], the implementation of which is brought to automatism. At the same time, the intensity of motor actions fulfillment is comparable in intensity with the maximum working capacity during the competitive period. As a result of repeated performance of BMDD, the efficiency and speed of movement are reduced. A necessary link in the cause-and-effect relationships of the use of BMDD in the educational and training process is the use of methods for accelerated recovery of athletes to the state of initial working capacity. These methods include the non-invasive method of adaptive bioresonance therapy (BRT), which restores and synchronizes the disturbed physiological fluctuations of the human body to the state of normal. The method of adaptive bioresonance therapy is used in combination with electropunctural diagnostics using the method of vegetative resonance test (ART) "IMEDIS-TEST" [1, 2, 3]. The obtained high results of using this method in the recovery of wrestlers of the members of the Moscow national team and the Russian national Greco-Roman wrestling team prove the relevance of the application of the method of adaptive bioresonance therapy in high-performance sports [5, 6, 7, 8, 9, 10]. The method of adaptive bioresonance therapy is used in combination with electropunctural diagnostics using the method of vegetative resonance test (ART) "IMEDIS-TEST" [1, 2, 3]. The obtained high results of using this method in the recovery of wrestlers of the members of the Moscow national team and the Russian national Greco-Roman wrestling team prove the relevance of the application of the method of adaptive bioresonance therapy in high-performance sports [5, 6, 7, 8, 9, 10]. The method of adaptive bioresonance therapy is used in combination with electropunctural diagnostics using the method of vegetative resonance test (ART) "IMEDIS-TEST" [1, 2, 3]. The obtained high results of using this method in the recovery of wrestlers of the members of the Moscow national team and the Russian national Greco-Roman wrestling team prove the relevance of the application of the method of adaptive bioresonance therapy in high-performance sports [5, 6, 7, 8, 9, 10].

This article presents both the research results and the documented results of the sports achievements of the athletes of the members of the Moscow national team and the Russian national Greco-Roman wrestling team for

period from 2002 to 2013. In these athletes, in the training process, after the fulfillment of a biomechanical model of motor actions, comparable in intensity with competitive activity (DM), the method of adaptive bioresonance therapy was used to restore working capacity

The introduction of a biomechanical model of motional actions into the educational-training process combined with the method of adaptive bioresonance therapy to restore the athletes' working capacity allows us to speak about a modular-situational approach in the system of training wrestlers [4]. This allows, on the basis of modeling dynamic situations, to manage the potential capabilities of an athlete, including the psychoemotional state.

Object of study. The condition of the athlete's body after intensephysical activity, commensurate with competitive activity.

Subject of study. Psycho-emotional regulation of an athlete by the method adaptive bioresonance therapy after the fulfillment of a biomechanical model of motor actions, commensurate with competitive activity.

Research topic.Psycho-emotional state management
an athlete during physical activity, commensurate with competitive activity, through the use of bioresonance effects.

Materials and research methods

The research involved athletes, members of the national team from among the participants in the training camp at the Olympic Village in Moscow.

The studies used the IMEDIS-EXPERT hardware and software complex for electropunctural diagnostics using the method of autonomic resonance test (ART), endogenous (adaptive) and exogenous bioresonance therapy using the method of the IMEDIS Center and induction therapy - a program of brain rhythms.

Research objectives

Substantiation of the choice of a biomechanical model of motor actions in accordance with the form of the fight.

Study of the functional state of the nervous system and the neuromuscular apparatus when performing Romberg's test 3. Time of registration of indications - before and after the termination of the load during the recovery period.

Carrying out diagnostic studies of the functional state of athletes before and after the fulfillment of a biomechanical model of motor actions, comparable in intensity with competitive activity, using the ART method "IMEDIS-ART".

Comparative analysis of the results of recovery during the period of self-regulation of the use of adaptive bioresonance therapy.

Research essence

Currently, ideomotor are used in the training process,

autogenic, psychogenic means of relaxation with elements of self-regulation [11]. In the conditions of competitive activity, self-regulation is limited to the development of the activation reaction to the upper limits of the norm of the functional activity of the regulatory and protective subsystems of the body [12]. It was previously established [6] that the upper limit of the norm of the protective subsystems of the body is a state similar to the non-specific reaction of anxiety (G. Selye's stress), and after the cancellation of the external load, the state of the organism returns to the lower limit of the norm. In this case, the nonspecific reaction of the mental state of the body (mental stress indication) corresponds to the values of the 1st degree mental load (ART) and, as established earlier, corresponds to the interval of self-regulation. By this degree of the body's reaction, one can judge the effectiveness of the use of the training load.

When choosing a biomechanical model, the judgment was taken as a basis that in competitive activity during intense physical exertion, there is “synchronization of the functioning of certain structures responsible for a specific regulatory mechanism of the activity of various organs, similar to the“ bioresonance ”of the internal energy capabilities of the body, subordinating all structural and functional units "[13]. In this case, the term "bioresonance" should be interpreted as a psychomotor reaction to an environmental stimulus, which is associated with motor actions at the subconscious level.

In sports, the main motor actions are artificially formed to automatism. In this regard, the basis of the biomechanical model is the formula for the fight. In Greco-Roman wrestling for the period from 2002 to 2013, the bout formula was changed 3 times. In this case, the main movements were throws over the back and throws with a deflection. In the proposed biomechanical model, a contraction model of 2 periods of 3 minutes with an interval of 1 minute was adopted. At the same time, for every minute in the period, the wrestler must perform a series of throws with different intensity: in the first 20 seconds - 7–8 throws, for the next 40 seconds - 3-4 throws. In total there are 2 periods in the scrum and in each period there are 3 series of throws with a one-minute break between the periods of the scrum. After the entire series of throws in the fight for 15 minutes, the wrestler was restored by the method of adaptive endogenous BRT and asked to repeat the series of throws for 1 period. At the same time, the heart rate (HR) was recorded before the load, immediately after the load, and after throwing in three minutes of recovery after the load. According to the calculated pulse recovery factor (HRC), the response of the body's recovery after exercise was determined according to the formula HRC = HR (3 minutes after recovery) x 100 / HR (immediately after exercise). With this approach, the CVP less than 30% indicates a good reduction reaction [4]. According to the calculated pulse recovery factor (HRC), the response of the body's recovery after exercise was determined according to the formula HRC = HR (3 minutes after recovery) x 100 / HR (immediately after exercise). With this approach, the CVP less than 30% indicates a good reduction reaction [4]. According to the calculated pulse recovery factor (HRC), the response of the body's recovery after exercise was determined according to the formula HRC = HR (3 minutes after recovery) x 100 / HR (immediately after exercise). With this approach, the CVP less than 30% indicates a good reduction reaction [4].

The functional state of the nervous system and the neuromuscular apparatus was assessed by assessing static coordination when performing the complicated Romberg test 3: the subject stands on one leg, the heel of the other touches the patella of the supporting leg, while the eyes are closed, the arms are extended forward. Firm stability of the posture for more than 15 seconds in the absence of tremor of the fingers and eyelids is assessed as good; holding the pose for 15 seconds is assessed as stability

satisfactory [14].

The main idea of using the method of adaptive bioresonance influence in sports is that after intense stressful physical exertion, through the correct selection of the mode of exposure, it is possible to quickly restore the impaired and weakened body functions and create stable neuropsychic processes and psychoemotional state.

The adaptive bioresonance effect is based on the suppression of frequencies caused by functional disorders during intense physical exertion, and is aimed at increasing the physiological frequency spectra of oscillations and maintaining the relative synchronization of wave processes that make up the wave homeostasis of the body.

The level of adaptive bioresonance impact on the body of athletes was determined using the diagnostic method electro-acupuncture vegetative resonance test (ART) [1, 2, 3]. Diagnostic studies of the functional state of the body of athletes before and after the fulfillment of the biomechanical model of motor actions, comparable in intensity with the competitive activity, were carried out by the ART method "IMEDIS-TEST". The following criteria for assessing ART were chosen: measurement of the tone of the autonomic nervous system (ANS) - EAP of the skin hand-hand; biological index (BI) - the state of biological age, reaction to external influences; adaptation reserves (RA) of the organism to changing environmental conditions; psycho-vegetative loads
- the reaction of the autonomic nervous system - preparations "Bach Flowers"; mental state - mental stress (mental stress indication) - an indication for the use of induction programs of brain rhythms; stress loads - diagnostics through the test-preparation "Adrenal glands" to identify the target organ (psychosomatics); identification of a lack of trace elements; identification of a lack of hormones.

Research results and discussion

In studies of the biomechanical model of motor actions according to the formula of wrestlers' bout in Greco-Roman wrestling in conditions comparable in intensity with competitive activity, it does not allow an athlete to maintain the level of self-regulation. So, after performing the biomechanical model of contractions, the interval of using known methods of relaxation and drug therapy without the use of BRT is 7-10 days.

When performing BMDD under the influence of intense physical exertion, the synchronization of the functional structures of the body is manifested. This "biological effect", similar to resonance, is associated with mechanical excitation of the ANS and is associated with the release of blood into the systemic circulation. This allows you to provide a resonance-like effect in the system of motor reactions and the performance of the functional systems of the body and, as a result, the performance of the musculoskeletal system.

The research results have shown that the implementation of the biomechanical model according to the formula for the fight requires significant efforts from the athletes. And not always highly qualified athletes can perform biomechanical

a model of a fight with an intensity commensurate with the competitive load. So, after completing the first period of the fight and a one-minute break, some athletes could not complete the set number of throws in the twenty-second time interval of the second period of the fight. At the same time, athletes of the level not lower than the prize-winner of the championship and the championship of Russia overcame this "throw" barrier. In this regard, adaptive bioresonance recovery was carried out in two corresponding groups, taking into account the functionality of the wrestlers and their training class. In the first (weak) group, BRT was performed after the 1st period of the contraction with an exposure time of 15 min. In the second (strong) group, BRT was performed after the 2nd period with an exposure time of 15 min.

Generalized and averaged results of diagnostics of the functional state of athletes by the ART method with adaptive recovery BRT-4 after fulfilling the formula for the fight.

Algorithm of the fight: group No. 1 (5 people), model of the fight 1st period {40/5 - 20/7; 40/4 - 20/7; 40/4 - 20/7}; 1 minute. break. 2nd period {40/4 - 20/6; 40/4 - 20/4; 40/3 - 20/5}; ART indicators before the bout: RA - High. 2 ... X3; BI - 3/7/9; PSN = 1; STN - norm; P-P = 79 ... 89 units, PS = 55; Romberg's test 3 = 15 sec. After the bout: PS = 200; Romberg's test 3 - <15 sec. After 3 min. after completing the bout: PS = 84; Romberg's test 3 - <15 sec. RA - H 1; BI additionally appeared - 12,14,17; PSN = 6-7-8-9; STN = 5; P-P = 30 ... 50 units. To restore the wrestlers, an adaptive BRT-4 was carried out; procedure time 15 minutes; after BRT indicators PS = 55; Romberg's test 3 - 15 sec .; P-P = 70 ... 85 units. Additionally spent 1 period of the fight according to the formula - throws {40/5 - 20/7; 40/4 - 20/6; 40/4 - 20/6}; PS = 140. The calculated recovery factor was 30%. At the same time, all athletes were diagnosed with a residual level of mental load PSN = 2 ... 4. After additional diagnosis of psychosomatic functional disorder in the target organ (STN) according to indications, induction therapy was used according to programs of brain rhythms and endocrine regulation

In the process of carrying out adaptive bioresonance therapy for the regulation of psychoemotional and stressful states, the responses of the athlete were used. this made it possible to increase the resistance to nonspecific stress reactions. In the process of BRT, drugs were connected directly and with inversion, which cause a directed weakening of the intense stress load on the target organs. BRT was performed along all meridians against the background of inverse recording from biologically active zones. At the beginning of the BRT, disharmonic oscillations were simultaneously removed and recorded for 30 seconds, after which this drug was injected into the therapy circuit in inversion to synchronize the wave homeostasis. Bach Flowers, as well as some important microelements, are injected directly into the therapy circuit and sometimes,

Thus, the use of the method of adaptive bioresonance therapy combined with the diagnosis by the method of electropunctural ART "IMEDIS-TEST" allows you to quickly restore athletes and, in particular, wrestlers in the Greco-Roman wrestling after performing a biomechanical model of motor actions with an intensity comparable to competitive activity, and allows manage the recovery process of athletes to the level of repetition of an intense competitive load while maintaining locomotion, psychomotor functions and psychoemotional state.

In the final part of the article, examples of the effectiveness of using the BRT and ART methods in sports activities since 2001 are given [5, 6, 7, 8]. Since 2003, these methods have been actively used to accelerate the recovery of athletes from the Moscow national team in Greco-Roman wrestling [9, 10]. It is important to note that during this period, with the joint work of the coaching staff and the research group, impressive results were achieved, one of which was the victory and gold medal of the 2003 European champion and 2003 World champion in Greco-Roman wrestling in weight up to 74 kg A. V., a member of the national team of Moscow and Russia. Subsequent cooperation of the coaching staff and the research group on the use of bioresonance restoration in the sports training of the members of the national team of St. Moscow allowed them to form psychological and psycho-emotional stability in athletes and win prizes at high-level competitions. Thus, the champion of Russia in 2003 in Greco-Roman wrestling in the 66 kg weight category was the master of sports of international class Gromov Roman, a member of the national team of Moscow and Russia; the champion of Russia in 2005 in Greco-Roman wrestling in the weight category of 74 kg became the Honored Master of Sports Aleksey Glushkov, a member of the national team of Moscow and Russia; the champion of the Russian championship among juniors in 2006 in Greco-Roman wrestling in the weight of 74 kg became the Honored Master of Sports Konstantin Kuleshov, a member of the national team of Moscow and Russia, who in 2007 at the youth championship of Russia in Greco-Roman wrestling in the weight of 74 kg won 2nd place. Champion at the Russian Youth Championship 2010 in Greco-Roman wrestling in weight 96 kg became master of sports Arthur Shakhbanov, a member of the Moscow team and the Russian national team. Shakhbanov Artur in 2010 became a prize-winner of the Russian championship and an international master of sports. In 2010, a gold medal and the title of "World Champion" was received by a member of the Moscow team and a member of the Russian national team, Honored Master of Sports Ambako Vachadze, who used the author's method of weight reduction in the competition.

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