

Increased anxiety in high-class young athletes in complex sports disciplines

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Abstract

Objective of the study – is aimed at determining the specific characteristics of anxiety symptoms in highly qualified athletes specializing in complex coordination disciplines.

Methods and structure of the study. As part of the study, girls aged 12-14 years old, engaged in rhythmic gymnastics (n=42) and diving (n=22) at least I sports category, living in the central part of Russia, were examined. The control group consisted of 48 schoolgirls who did not play sports. The A. Kondash test adapted by E.I. Rogov (2010), which includes scales of self-assessment and interpersonal anxiety, was used to assess the level of anxiety. The data obtained were subjected to statistical analysis.

Results and conclusions. The results showed that the most pronounced level of anxiety is observed in 13-year-old female athletes engaged in highly skilled complex sports. In all age groups, the level of anxiety among athletes significantly exceeds that of girls from the control group. Maintaining an optimal level of anxiety is important for achieving high results. Trainers need to take into account the level of anxiety when planning the training process. Parents of young athletes should pay attention to the psychoemotional state of the child in order to prevent the development of serious mental and physiological disorders caused by intense physical exertion.

Keywords: *anxiety symptoms, highly qualified athletes, complex coordination disciplines, self-assessment scales, interpersonal anxiety.*

Introduction. Modern high-performance sports place extremely high demands not only on technical and tactical training, but also on the psycho-emotional stability of athletes [1].

It is especially difficult for athletes whose main activity is associated with the manifestation of not only physical abilities, but also coordination, as this mobilizes the entire spectrum of functioning of the central nervous system. Athletes need to combine their specific physical abilities with the manifestation of coordination abilities in a given period of time, in certain conditions (diving) associated with an unusual position of the human body in space; with the observance of tempo and rhythm (to music) and with various projectiles, for example, in rhythmic gymnastics. Competitive

activity causes strong emotional arousal, which is expressed in a variety of feelings, including states associated with increased anxiety. Neurophysiological personality traits of highly qualified young athletes play a certain role in the practice of sports reserve training [3].

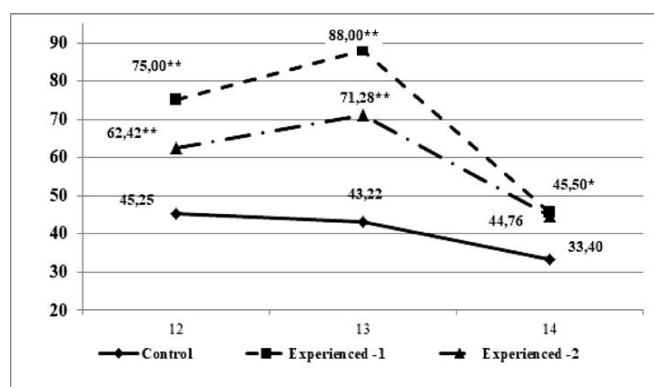
Various states of anxiety can both have a positive effect on overcoming difficulties in achieving the intended goal, and hinder it [5]. The level of anxiety reflects vegetative reactions to various life situations, neurosis-like and psychosomatic disorders [4, 7]. The problem of anxiety is particularly acute for coaches who work with adolescent athletes but already have high athletic qualifications [2, 6].

Objective of the study – is aimed at determining the specific characteristics of anxiety symptoms

in highly qualified athletes specializing in complex coordination disciplines.

Methods and structure of the study. The study of the manifestation of anxiety states in athletes and representatives of complex sports was conducted in natural conditions remotely using interactive technologies. We examined girls engaged in rhythmic gymnastics in sports schools living in the middle zone of Russia, aged 12-14 years (experimental group – 1, $n=42$) and female divers of the same age (experimental group – 2, $n=22$) with sports qualifications: at least 1-th sports category. The control group consisted of secondary school students who were not involved in sports ($n=48$). To diagnose the level of anxiety, the method of A. Kondash was used, adapted by E.I. Rogov (2010), which includes self-assessment and interpersonal anxiety scales. The results of the study were subjected to variation-statistical processing.

Results and conclusions. An analysis of the study results revealed clear age differences in athletes anxiety levels (see Figure). The maximum levels of anxiety among gymnasts and water jumpers were recorded at the age of 13, and this indicator is twice as high as among girls in the control group



Note: * $p<0.01$, ** $p<0.001$ – the significance of differences with the control group.

The anxiety level of girls involved in complex sports with high athletic qualifications

($p<0.01$ – <0.001), indicating a higher emotional background associated with prolonged exposure to stressful situations during puberty. Increased susceptibility to stress at this age is associated with both a high level of stress in many areas of adolescent life (educational and training processes) and the onset of puberty, which is accompanied by an inevitable restructuring of the hormonal and emotional-psychological background.

A decrease in the level of self-esteem and interpersonal anxiety in both experimental groups of female athletes was detected at the age of 14 (see the table). In the control group, 12-year-old girls showed the maximum level of anxiety on the studied scales, while it is at the upper limit of the norm, but significantly lower than in athletes. This allows us to draw a conclusion about the effect of high-intensity physical exertion on the state of the child's body and psyche.

Comparing the performance of female athletes engaged in gymnastics and diving, it was determined that gymnasts with high athletic qualifications at the age of 12 and 13 have a 20% higher exponent than female divers. We assume that such a difference in the level of anxiety may be due to the difference in the nature of the training process and competitions in the sports under consideration. Rhythmic gymnastics requires not only high precision in performing exercises, but also a certain artistry, which is evaluated separately at competitions. This can be an additional stress factor for young athletes, while diving is also a high-precision sport, but the emphasis is still more on technical skills.

Conclusions. As a result of the conducted research, it was determined that girls who engage in complex sports and have high athletic qualifications have the highest level of anxiety at the age of 13. Moreover, in all age groups, female athletes have significantly higher anxiety than girls in the control group.

Self-assessment (CT) and interpersonal (M) anxiety in highly skilled adolescent athletes engaged in complex sports

Age	Experienced – 1		Experienced – 2		Control	
	ST	MT	ST	MT	ST	MT
12 years	25,20±3,05*	23,60±3,92*	18,12±3,25*	13,18±1,43	15,23±0,85	14,75±1,72
13 years old	25,33±1,99*	20,00±1,62*	17,46±2,51	14,17±2,24	14,17±0,97	14,44±0,84
14 years	13,00±0,39	16,00±0,48*	16,68±2,12*	15,37±1,28*	10,17±0,65	12,39±0,91

Note: * the reliability of the differences in the average values between the control and experimental groups is $p<0.01$.



Such high levels of anxiety can indicate a real disadvantage for female athletes in the most important areas of activity and communication. Such anxiety is often experienced by quite successful teenagers, both in educational and sports activities, however, this apparent well-being is given to them at an unreasonably high price, and indicates a decrease in the functionality of the central nervous system of athletes experiencing high-intensity physical activity, and this, in turn, can further exacerbate emotional distress at a critical moment. the period of ontogenesis.

In our opinion, this should be taken into account by coaches when planning the training process in order to maintain an optimal state of anxiety and the most successful performance in competitions. It is important for parents of adolescent athletes to pay attention to the psychoemotional state of the child in order to prevent the development of serious psychological, mental and physiological disorders against the background of high-intensity physical exertion.

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