ANALYSIS OF LEVEL OF FUNCTIONAL TRAINING OF FEMALE FOOTBALL PLAYERS TEAM OF UZBEKISTAN

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Abstract: The paper analyzes the level of functional training of female football players team of Uzbekistan using innovative methods. The data on the composition of the body, the state of the functional systems of the body of highly qualified female football players were obtained. The results of the work can be used by students, masters in the preparation of graduation theses, coaches and specialists working with women's teams.

Key words: functional state control, body composition, maximum oxygen consumption, heart rate indicators, training process, highly qualified female football players.

Introduction

The development of football in the republic is a priority direction of state policy [1,2]

In conditions of high competition for leadership at the international level, an increase in the volume and intensity of training and competitive loads, it is necessary to reconsider the problem of the development of fitness and the formation of sports uniforms among highly qualified female football players [10].

Taking into account that in recent years the range of volume and intensity of motor movements performed by female players during the match has significantly increased, the requirements for the level of their physical and functional fitness, the ability to maintain a high degree of psychological stability and effectively perform technical and tactical techniques throughout the game have also increased. .

It is known that the success of the preparation and performance of women's teams in competitions directly depend on many factors, including the applied training loads and the state of various functional systems of the body of athletes.

To control and analyze various aspects of female football players' readiness, it is very important to study precisely those systems and functions of the body that provide high performance during the game, an adequate response of physiological systems, and quick recovery [6,7,9].

The state of the cardiovascular, respiratory and vegetative systems play one of the leading roles in ensuring high performance in athletes [3,5]

It has been established that a well-balanced vegetative regulation of muscular activity allows an athlete, in the presence of the proper level of motivation, to make the most of the functional reserves of the body, and also provides the necessary economization of functions during endurance work and determines the speed of recovery processes [4].

An analysis of international tournaments held through the AFC showed that the players of the Uzbekistan national team cannot compete with the leading Asian teams, as evidenced by their unsuccessful performance in the qualifying rounds of the World Cup. The players of the national team of Uzbekistan for the second time could not overcome the group stage of the qualifying round in 2021, held in Tashkent. One of the reasons for the unsuccessful performance of female football players in Uzbekistan is the insufficiently high level of functional readiness of the absolute majority of female athletes.

The study of the level of fitness of female football players is the most important component in the overall system for ensuring preparation for responsible international tournaments.

It is known that fitness is a state that characterizes the readiness of an athlete to achieve high sports results. Its level depends on the effectiveness of the structural and functional restructuring of the athlete's body (functional, special, technical-tactical, physical and psychological readiness).

Of all the variety of factors influencing the success of the performance of football players in competitions, we will focus on studying the level of their functional readiness.

The goal is to study the level of functional readiness of female football players of the national team of Uzbekistan.

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Methods, organization of the study and characteristics of the subjects.   To achieve this goal, the following methods were used: analysis of literary sources, functional diagnostics of the state of various body systems (treadmiltest, caliperometry, intervalocardiography). The level of aerobic performance was determined by the functionality of the cardiovascular and respiratory systems [2,3]. Load testing was carried out on a treadmill with a constant incline of 1% and with a constantly increasing speed of 0.5 km/h in one minute. Prelaunch speed -7 km/h for 1 minute and recovery 2 minutes at the same speed. The starting speed is 7 km/h and further work until the test subject refuses to continue the test due to fatigue. Using the MetaLyzer 3B-R2 gas analyzer, oxygen consumption and carbon dioxide release were determined, heart rate was determined by the Polar heart rate monitor.

During the test, capillary blood was sampled for lactate (La, which is intensively produced during intensive work and is the main cause of fatigue) to determine TANO. The obtained experimental data were processed by methods of mathematical statistics. The study involved 25 football players of the national team of Uzbekistan aged 22-27 years. All biomedical tests were carried out at the Republican Scientific and Practical Center for Sports Medicine.

Discussion of the results of the study. Consider the indicators of the body composition of athletes. Figure 1 shows the data on the composition of the body of the female football players of the Uzbekistan national team.
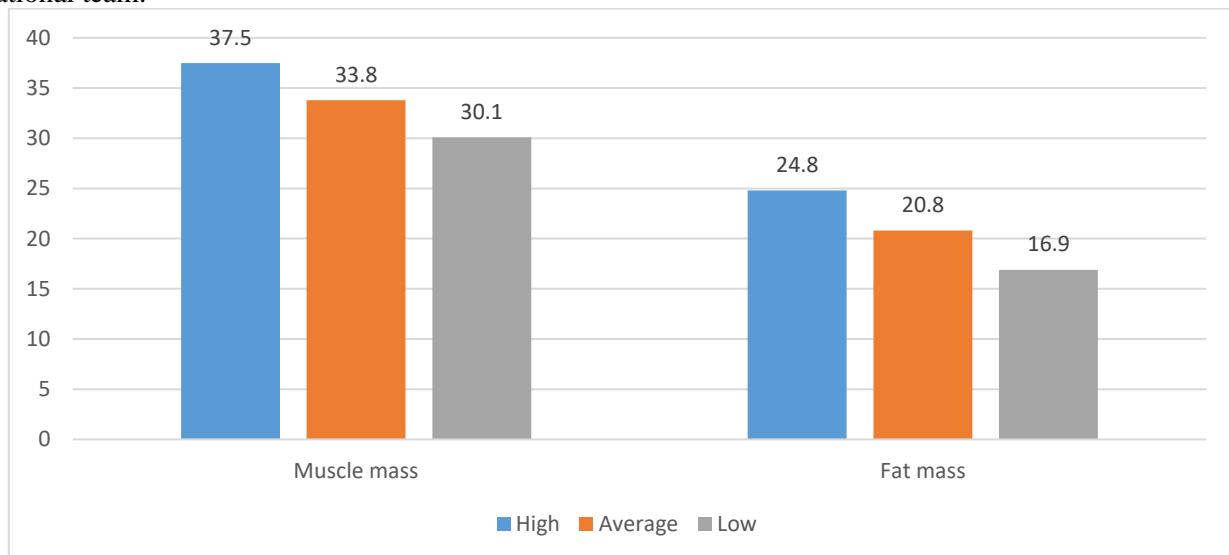

Fig. 1. Indicators of the body composition of female football players of high qualification.

The level of special preparedness of football players is reflected in morphological and functional indicators: the higher the preparedness, the higher the percentage of muscle and the lower the percentage of fat mass. The study of the dynamics of the level of muscle and fat components indicates the activity of protein synthesis and energy metabolism and is an integral marker of adaptive changes in all body systems.

Analysis of the body composition showed that on average for the team, the indicators of the muscle mass of the football players of the national team amounted to 33.8% ± 4.35, fat mass - 20.8% ± 3.72.

Indicators of muscle mass indicate a lack of energy resources in the body of athletes and the accumulated or current under-recovery, inhibition of protein synthesis. A low level of muscle mass - low activity of protein synthesis in the body, indicates the inadequacy of the load structure in the training of female football players, namely, that very few strength-oriented loads are used in the training process.

An increase in the fat component reduces the total amount of energy in the body and also leads to a decrease in efficiency and deterioration in recovery. An increased level of the fat component indicates a reduced activity of not only fat metabolism, but also a drop in the overall energy potential, the level of general endurance, a low readiness of the body to perform intense and volumetric training work (a reduced level of anaerobic threshold), an inadequacy of the intensity of training loads, and nutritional imbalance [2].

The results of testing the indicators of aerobic and anaerobic provision, performed in the "treadmill" test are presented in table 1.

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Table 1.
Indicators of functional examination of female football players of high qualification (n=25)

№	Functionalindicators	X cp.±m
1	MLV l/min	104,2±8,4
2	VC l	3,97±0,65
3	MIC ml/min/kg	38,7± 4,6
4	Vav. per MPK km/h	12,7±1,3
5	Heartratemax	187,2±12,2
6	Lactate - maxmmol/l	13,25±0,39
7	V PANO beats / min	168,5±9,1

*Note:*MLV - maximum lung ventilation. VC - vital capacity of the lungs.MPC - maximum oxygen consumption. Lactate is the level of lactic acid. PANO is the threshold of anaerobic metabolism. Vav. - speed on the MPC.

It can be seen that female football players have intergroup and interindividual differences, which indicates the heterogeneity of the level of their physical and functional fitness. Only 2 athletes have high performance and functional capabilities of energy supply systems. This is evidenced by the obtained values of the IPC (Xav.=38.7±4.6 ml/min/kg).

Insufficiently high efficiency of the function of external respiration and pulmonary gas exchange was revealed (VC Xav. 3.97±0.65 l; MLV 104.2±8.4 l/min). The maximum heart rate on average in the group was 187.2 ± 0.6 beats/min; for some football players - 198 beats / min. Blood lactate after exercise - 13.25 ± 0.39 mmol / l. V PANO beats / min.

The study of the state of functional systems by the method of intervalocardiography revealed that the female football players had different degrees of tension in the regulatory systems of the heart rhythm (Fig. 2).
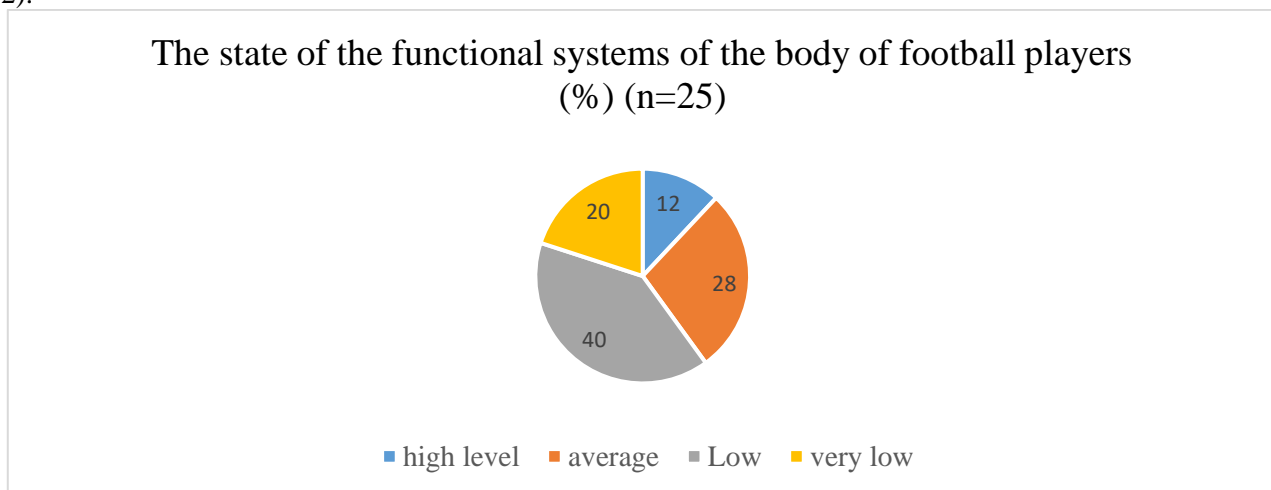

Fig. 2.Indicators of intervalocardiography of football players.

The analysis of the female football players' heart rate indicators made it possible to give a physiological interpretation and a quantitative and qualitative assessment of the state of the circulatory regulatory apparatus from the standpoint of the theory of biological regulation.

It can be seen that only 12% of female football players had a good adaptation of the body at rest and after a standard load, accompanied by an optimal tension in the mechanisms of heart rhythm regulation.

In 20% of female football players, a state of tension was noted, which manifests itself in the mobilization of protective mechanisms, including an increase in the activity of the sympathoadrenal and

other body systems responsible for adaptation. This fact indicates the initial signs of fatigue in this group of athletes.

40% had an inadequate response to a standard load and insufficiency of adaptive mechanisms, which indicated a more pronounced degree of fatigue of the body of athletes.

And 20% of female football players experienced a state of failure of the mechanism of adaptive-compensatory capabilities, their inability to provide an adequate response of the body to a standard load, which characterizes the state of overstrain of functional systems, a slowdown in the recovery process and, in general, indicates a low level of fitness.

Thus, a survey of female football players of the national team of Uzbekistan showed that the level of functional state is not high enough.

Conclusion

1. In order to monitor the level of fitness of football players, it is necessary to conduct an examination with the study of various functional systems of the body using the innovative methods of "Polar", "Cardi", "Pulsar" with the gas analyzer "MetaLyzer 3B-R2".

2. Analysis of functional readiness showed that the level of BMD in female football players of the national team is on average 38.7 ± 4.6 ml/min/kg. This level does not meet the requirements for highly qualified athletes.

3. The study of intervalocardiography indicators revealed that 12% of football players had a high adaptation and an adequate response to a standard load, which indicates a high level of the state of the functional systems of the body; - 20% had initial signs of fatigue; - 40% have a pronounced degree of fatigue; - 20% showed overstrain of functional systems, slowdown in the recovery process, low degree of fitness.

4. It is necessary to individualize the training loads in the process of preparing football players and to carry out operational control of the tolerance of these loads by the body of athletes.

5. Carry out a complex of rehabilitation measures using the entire arsenal of pedagogical and pharmacological means.

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