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CHARACTERISTICS OF MORPHOFUNCTIONAL PROPERTIES OF FEMALE ATHLETES LIVING IN THE REPUBLIC OF KARAKALPAKSTAN

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ABSTRACT
The article presents the characteristics of the morphofunctional properties of female athletes living in the Republic of Karakalpakstan. A thorough and in-depth study of the morphofunctional characteristics of female athletes of the Republic of Karakalpakstan, as well as the use of the obtained information to develop personalized support programs is the basis for their success in sports and life.
KEYWORDS: *properties, parameters, physiology, anthropometry, biochemistry, sports, analysis.*

To study the morphofunctional properties of female athletes living in the Republic of Karakalpakstan, it is necessary to conduct a thorough analysis of various parameters, including anthropometric, physiological and biochemical measurements. In Karkalpakstan, as elsewhere, sport plays an important role in the formation of health, physical fitness and functional capabilities of young girls.

Anthropometric studies include measurements of height, body weight, chest, waist, hips and limbs. These parameters allow us to determine the proportionality of the body, muscle mass and percentage of fat tissue. It is important to note that female athletes involved in different sports may differ significantly in these parameters. For example, gymnasts, as a rule, have lower body weight and thin limbs, while female athletes involved in weightlifting may have more developed muscle groups and greater body weight.

Additionally, anthropometric data can be used to analyze the impact of the training process on the physical development of female athletes. Regular measurements allow you to track progress and adjust training loads to achieve optimal shape and prevent injuries. The season of observations also plays an important role: during the competitive period, the indicators may differ from the off-season, when active recovery and weight gain occur.

In addition, differences in anthropometric parameters may depend on genetic factors, age of initiation of sports and intensity of training. For example, swimmers usually have long limbs and developed shoulder girdle muscles, which improves their hydrodynamic qualities. In contrast, long-distance runners may have a lower percentage of fat tissue and more pronounced muscular motor coordination.

In recent years, there has been growing interest in the use of modern technologies in anthropometry, such as 3D body scanning and image analysis software. These methods allow for greater measurement accuracy and a more detailed picture of body structure. They also open up new opportunities to study the influence of various factors, such as age, gender, lifestyle, and genetics, on anthropometric measurements.

Physiological studies include determining the parameters of the cardiovascular system, respiratory system and muscular endurance. One of the key parameters is the heart rate at rest and after physical exertion. Normally, the heart rate of female athletes at rest is lower than that of their non-training peers, which indicates a high level of cardiovascular fitness. It is also necessary to measure the lung capacity and maximum minute ventilation to assess the functional state of the respiratory system.

Biochemical tests include blood and urine analysis to determine levels of various metabolites and hormones that play an important role in regulating energy metabolism and recovery processes. For example, hemoglobin and red blood cell levels can indicate the degree of tissue oxygenation and overall endurance of the body. Levels of creatine phosphokinase and other muscle enzymes will provide an idea of the extent of muscle damage after intense training.

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In addition, it is important to consider the psycho-emotional state of female athletes. Stress associated with training and competitions can have a significant impact on physical condition and athletic performance. Therefore, the psychological aspect of the training process should also be included in the comprehensive study.

Based on the data obtained, it will be possible to give a full description of the morphofunctional properties of female athletes living in the Republic of Karakalpakstan. This will allow not only to optimize the training process, but also to develop individual recommendations for nutrition, recovery and psychological support, which will ultimately lead to improved athletic performance and overall health.

It is important to note that a comprehensive approach to the study and interpretation of morphofunctional parameters includes not only anthropometric measurements, but also the analysis of physiological indicators, such as the level of physical fitness, endurance, strength and recovery rate after exercise. This will create the basis for a personalized approach to each athlete, which is especially important in the context of high-intensity training and competitions.

Particular attention should be paid to the impact of social and environmental factors on the health and athletic performance of female athletes. In the conditions of the Republic of Karakalpakstan, with its unique climate and socio-economic conditions, these aspects play a key role. The creation of individual programs that take these parameters into account will not only increase the effectiveness of the training process, but also reduce the risk of injury and chronic diseases. Ultimately, this will contribute to achieving the highest results in regional and international competitions, strengthening the health and well-being of athletes, and promoting the development of sports culture in the region.

In addition, it is important to consider psychological aspects - motivation level, emotional state, stress resistance and other personal characteristics that play an important role in achieving high sports results. Professional psychological support and counseling, along with physical and medical recommendations, will help create harmonious conditions for the development and self-realization of female athletes.

Modern approaches to training female athletes include a comprehensive analysis of their psychophysical state. This allows for the training process to be adjusted taking into account individual characteristics, which in turn contributes to more effective achievement of the set goals. Sports psychologists work to strengthen self-confidence, improve concentration, and develop stress management and emotion management skills in competitive conditions.

No less important in working with young athletes is attention to their social environment. Support from family, coaches and the team has a significant impact on the formation of their motivation and self-discipline. A harmonious combination of all these aspects allows not only to achieve high sports results, but also promotes personal growth and self-realization of athletes in life.

A multifaceted approach, including psychological, physical and social components, is becoming a key element in the preparation of female athletes. It is important to remember that each of these aspects requires a careful and professional approach to create optimal conditions for successful development and achievement of high results in sports.

Thus, a comprehensive and in-depth study of the morphofunctional properties of female athletes of the Republic of Karakalpakstan and the use of the obtained data to create individual support programs is the key to their success in sports and life.

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