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FEATURES OF THE MORPHOPHENOTYPE AND CHARACTERISTICS OF THE PHYSICAL PERFORMANCE OF YOUNG FOOTBALL PLAYERS AND THEIR RELATIONSHIP WITH THE PLAYING ROLE

(Review article)

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✓ ***Resume***

In football players, sportsmanship largely depends on factors such as weight, body length, physical performance, speed-strength qualities and speed. Physical performance is an expression of human activity, which is based on movement. This manifests itself in various forms of muscle activity, and this, in turn, depends on the weakness and motivation of a person for professional activity. Anthropometric indicators of weight, height, total body size and proportions, somatotype, significantly affect physical performance, sports activity and the choice of sports specialization.

Key words: physical performance, peculiarities of morphophenotype, young football players, playing role, sports success.

YOSH FUTBOLISTLARDA MORFOFENOTIPIK XUSUSIYATLAR VA JISMONIY FAOLIYAT KO'RSATKICH XARAKTERISTIKASI, HAMDA ULARNING O'YIN AMPLUASI BILAN ALOQADORLIGI

(sharhlovchi maqola**)**

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✓ ***Rezyme***

Futbolchilar uchun sport mahorati asosan vazn, tana uzunligi, jismoniy ishlash, tezlik-quvvat fazilatlari va tezlik kabi omillarga bog'liq. Jismoniy ishlash - bu harakatga asoslangan inson faoliyatining ifodasidir. Bu o'zini mushak faoliyatining turli ko'rinishlarida namoyon qiladi va bu, o'z navbatida, odamning kasbiy faoliyatga bo'lgan zaifligi yoki motivatsiyasiga bog'liq. Og'irligi, bo'yi, tana umumiy hajmi va nisbati, somatotipning antropometrik ko'rsatkichlari jismoniy ko'rsatkichlarga, sport faoliyatiga va sport ixtisosligini tanlashga sezilarli ta'sir qiladi.

Kalit so'zlar: jismoniy ishlash, somatizm turi, yosh futbolchilar, morfofenotip

ОСОБЕННОСТИ МОРФОФЕНОТИПА И ХАРАКТЕРИСТИКА ФИЗИЧЕСКОЙ РАБОТОСПОСОБНОСТИ ЮНЫХ ФУТБОЛИСТОВ И ИХ ВЗАИМОСВЯЗЬ С ИГРОВОЙ АМПЛУА

(обзорная статья)

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✓ ***Резюме***

У футболистов спортивное мастерство в большой мере зависит от таких факторов, как масса, длина тела, физическая работоспособность, скоростно-силовые качества и быстрота. Физическая работоспособность является выражением жизнедеятельности человека, имеющим в своей основе движение. Это проявляется в различных формах мышечной активности, а это в свою очередь зависит от слабости и мотивации человека к профессиональной деятельности. Антропометрические показатели вес, рост, тотальные

размеры и пропорции тела, соматотип, существенно влияет на физическую работоспособность, спортивную деятельность и выбор спортивной специализации.

Ключевые слова: физическая работоспособность, соматитип, юные футболисты, морфофенотип

Relevance

At the present stage of the development of the training process in youth football, it is very important to have information about the structure and the totality of essential connections between the components, types and forms of the internal organization of the physical fitness of football players. The sportsmanship of football players largely depends on the weight and length of the body, physical performance, speed-strength qualities and speed. Sports genetics is still at the beginning of the journey, but at the same time it is opening. Physical performance is the most important component of an athlete's readiness for competitions and is largely determined by the level of the athletes' functional state [33]. The physical development of a person is influenced by heredity, the environment, socio-economic factors, working and living conditions, nutrition, physical activity, and sports [19]. Each game sport requires high basic indicators: the level of endurance, speed-power qualities, technical and tactical skill, stable psyche, team communication and the level of interaction [20].

Physical development is a set of morphological and functional signs that allow to determine the reserve of physical strength, endurance and working capacity of the body. Physical development is largely due to hereditary factors (genotype), but at the same time, its state after birth (phenotype) to a greater extent depends on living conditions and upbringing. Physical development is one of the indicators of the health status of a football player [12].

Physical fitness is a process during which one or another level of physical fitness is achieved. General physical training is aimed at increasing the level of physical development, broad motor readiness as prerequisites for success in various types of activity.

Special physical training is a specialized process that contributes to success in a specific activity (type of profession, sport, etc.), which makes specialized requirements for a person's motor abilities. The result of physical training is physical fitness, reflecting the achieved performance in the formed motor skills and abilities, contributing to the effectiveness of the target activity (to which the training is oriented).

Physical development is the process of formation, formation and subsequent change during the life of an individual of the morphological and functional properties of his body and the physical qualities and abilities based on them.

Physical development is characterized by changes in three groups of indicators:

- Indicators of physique (body length, body weight, posture, volume and shape of individual parts of the body, the amount of fat deposition, etc.), which characterize, first of all, biological forms, or morphology of a person.
- Indicators (criteria) of health, reflecting morphological and functional changes in the physiological systems of the human body. The functioning of the cardiovascular, respiratory, autonomic and central nervous systems, digestive and excretory organs, thermoregulation mechanisms, etc. is of decisive importance for human health.
- Indicators of the development of physical qualities (strength, speed abilities, endurance, etc.). The biological law of exercise and the law of the unity of forms and functions of the organism in its activity are of great importance for the management of physical development in the process of physical education. These laws are the starting point for choosing the means and methods of physical education in each specific case [18,24].

Currently, the task of preparing a highly qualified reserve for professional football is being actualized. The most important task of all sports training is the formation of a high level of functional capabilities of those who go in for it, since it serves as the basis for the growth of sportsmanship and special physical working capacity [17].

The selection of gifted and promising athletes is of particular importance for achieving high results in sports. According to R.N. Dorokhova [15,16], sports morphologists and anthropologists are currently facing the task of finding new criteria for selection, orientation and improvement of the training process. Achieving high results in any kind of activity depends on many factors, the main of which is the maximum correspondence of individual characteristics of a person to the requirements of the chosen specialization. In this regard, taking into account the requirements of a particular kind of sport for the human body is the most important condition for the education of highly qualified athletes [1, 3, 4, 32].

It is well known that all physiological and formally physiological characteristics are due to the human constitution, which is a functional unity of all physical and physiological properties of the human individual. When it comes to the constitution, we mean the integrity, unity, stability of the nature of the features under consideration.

The principle of a holistic study of a person does not raise doubts among researchers, however, this approach is either not used in the sports contingent, or is implemented partially in a more methodological way. It is not known to what extent the somatic and physiological characteristics of athletes of different specializations mutually condition each other. Do these indicators combine the same factors in the structure of athletes' physical performance or do they exist relatively independently of each other? There is still no algorithm for the reliable assignment of athletes at the stage of sports improvement, taking into account the informative psychophysiological complex, to the kind of sport, to which they are more consistent [11, 23].

Assessment of physical development (RF) of a person is of great practical importance in improving the system of physical education and sports training [21, 36, 38], and is also one of the informative indicators of the level of health of the population [31]. The morpho-phenotype of the constitution (somatotype, somatic type, body type) is the most accessible to research, relatively stable in ontogenesis and genetically determined characteristic of the integrity of the organism. Recently, in our country, the method for determining the somatotype of R.N. Dorokhova (1985, 1991). In the studies of R.N. Dorokhov's constitutional diagnosis is based on the priority of morphological features, and the constitution itself is considered as a set of general and particular constitutions. Somatotype is understood as the equivalent of the term "constitution" [22, 36].

The morphophenotype of the constitution (somatotype, somatic type, body type) is the most accessible to research, relatively stable in ontogeny and genetically determined characteristic of the integrity of the organism. Recently, in our country, the method for determining the somatotypes of R.N. Dorokhova (1985, 1991).

To assess the constitution of a person, the scheme of Stefko and Ostrovsky (1929) is used [31, 39]. The proposed scheme provides for the allocation of pure (asthenoid, thoracic, muscular, digestive and abdominal), mixed (combination of elements of pure types) and undefined types of constitution. However, this typology is based on somatic characteristics, which makes a significant subjective part in the assessment of indicators. For decades, scientists have been working on the creation of a fundamentally new system for assessing constitutional types using signs that have a quantitative, metric expression, which makes it possible to predict the duration of individual periods of development, which serves as the basis for predicting the definitive body size, its component composition and motor qualities of an athlete.

The proportions of the physique are determined by the ratio of individual parts of the body and its length, i.e. the indices of the relative length of the lower and upper extremities, the width of the shoulder, pelvis, etc. are calculated. It is customary to distinguish 3 main types of proportions - dolichomorphic, brachymorphic and mesomorphic. In somatotyping, it is proposed by different authors to use the Rohrer, Pirquet, Rhys-Eysenck, Erisman, shoulder-growth indices; available food indices - Quetelet and Quetelet II; the ratio between the upper and lower body segments [34, 37]

The morphological, functional and motor parameters of a person are determined by the type of his constitution, which is the medical and biological basis for a differentiated approach in the system of physical education, which implies the need to develop new pedagogical technologies, taking into account the individual typological characteristics of the human body.

Football as a sport places high demands on various types of training for young football players [14]. One of the most important aspects of training is the special physical training of young football players [25]. It is known that in the process of competitive activity, football players of different roles (goalkeeper, defenders, midfielders, forwards) perform loads of different volume and intensity. The role of a football player also determines the required level of development of physical abilities. In this regard, in our opinion, when developing physical abilities in the process of training activities, it is necessary to take into account the playing role of young football players.

Among the many indicators of the individual characteristics of the body of athletes, anthropomorphological signs are of great interest, since they can determine the manifestation of strength, speed, endurance, etc. [24, 26, 29].

Anthropometric measurements allow obtaining objective data on important morphological parameters of the body - length, mass, chest circumference, etc. They are the basis of somatometric methods for studying the physical development of a person [23, 27, 28,30]. The data of many studies in various countries of the world show that height, body weight and other morphological indicators play an important role in

human physiology, his health directly depends on these indicators [2, 5, 6, 9,10]. Thus, the low growth of a number of peoples in tropical countries is a consequence of a lack of protein in food. Being overweight significantly reduces life expectancy. In children and adolescents in high mountains, the processes of growth and puberty are greatly slowed down in comparison with residents of lowland and low mountain regions. Geographic conditions of any region leave their mark on the body of athletes [7, 8, 13, 38].

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