



**AGE ASPECTS OF ADAPTATION OF YOUNG ATHLETES' BODY TO PHYSICAL
ACTIVITIES**

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Annotation: This article discusses the age-related features of the functional and physical development of young athletes involved in football and martial arts. The study involved 84 athletes (42 athletes involved in football and 42 athletes involved in martial arts between the ages of 8-15 years old. Assessment of physical development included the measurement of morphological and functional indicators (body weight, height, waist and hips, body mass indices). The obtained data on age periods are compared, and the effects of various sports on the body of children and adolescents are revealed.

Key words: football, martial arts, athletes, bioimpedance analyzer.

Relevance: Physical education is an essential element in the human upbringing system. In this aspect, physical education is an educational process and is characterized by the principles inherent in the pedagogical process. Recently, ideas of an individual and personal approach to a teenager have been expressed in pedagogical and psychological practice. A special feature of youth sports is the need to ensure the harmonious physical development of athletes engaged in intense physical activity, which is associated with the anatomical and physiological characteristics of the body in different age periods.

The purpose of the study. To study the age-related features of the physical development of young athletes in Samarkand.

Materials and methods of research. We examined 42 football and 42 martial arts athletes aged 8-15 years. All athletes were divided into 2 age groups: group 1 – 8-11 years old, group 2 – 12-15 years old. The examination program included the following indicators: height of anthropometric points above the floor; transverse body dimensions; girth dimensions; thickness of skin and fat folds; body weight. The Inbody 230 bioimpedance analyzer (South Korea) was used to determine the parameters of the component composition. The following parameters were determined: weight, total muscle mass (TCM), body fat mass, total body fluid level (TCM), body mass index (BMI), fat percentage (BMI), waist/hips (T/W) and basal metabolic index.

The results of the study. Of the greatest interest is the comparison of the data obtained by age periods, as well as the identification of the effects of various sports on the body of children and adolescents. Among the morphological indicators considered are body length, body weight, waist and hip circumferences, body mass indexes and waist/hip indexes express data on the total body size. It can be seen that children of primary school age involved in football have the highest parameters: on average, body length was 150 cm, body weight was 45.6 kg, waist circumference was 58 cm, hip circumference was 78 cm, compared with boys involved in martial arts, who had lower physical development indicators: body length – 128.0–145.0 cm, body weight – 32-45 kg,



waist circumference – 58.5–63.3 cm, hip circumference – 68.3–75.6 cm. In adolescence, football players with an average body length of 160.2 cm, body weight of 54.1 kg, waist circumference of 65.2 cm, hip circumference of 82.5 cm are distinguished by higher parameters of physical development, compared with similar indicators of children of the same age engaged in martial arts. These parameters are shown in tables number 1 and number 2.

Table 1

Parameters	Boys of primary school age playing football	Boys of primary school age engaged in martial arts
Height	150 cm	128.0 – 145.0 cm
Body weight	45.6 kg	32 – 45 kg
Hip circumference	78 cm	68.3 – 75.6 cm
Waist circumference	58 cm	58.5 – 63.3 cm

Table 1

Parameters	Teenagers playing football	Teenagers engaged in martial arts
Height	160.2 cm	154 cm
Body weight	54.1 kg	50 kg
Hip circumference	82.5 kg	79.6 cm
Waist circumference	65.2 kg	64.3 cm

As you know, the size and speed of growth, on the one hand, are regulated by hereditary factors, and on the other hand, they develop under the influence of the environment. Boys and boys involved in football are characterized by being tall and having a leptomorphic body type. Young martial artists are characterized by shorter stature compared to football players, larger chest circumference, and a brachymorphic body type.

Conclusions: Thus, knowledge of the age-related features of children's physical development allows for a holistic approach to the issue of harmonious physical development of children, excluding the forced or unilateral development of a particular indicator. It should be noted that sports have a positive effect on the formation of body composition and health indicators of children and young people.

The study of the body component composition in young athletes seems to be particularly promising in the monitoring mode to assess their functional state, physical development, as well as the adequacy of the applied physical exertion during training.

The analyzed characteristics of athletes' body composition should also be used to predict athletic performance and selection in various sports.



Used literature:

1. Kamalova Yo. A. Features of physical rehabilitation in the complex therapy of osteoarthritis
2. Kamalova E. Studying the temperament of athletes involved in football and basketball //Journal of Biomedicine and Practice. – 2021. – Vol. 1. – No. 1. – pp. 276-280.
3. Kamalova E. A., Jumanov Zh. A. The importance of therapeutic gymnastics in the complex of methods of physical rehabilitation of patients with osteochondrosis of the lumbar spine //Bulletin of science and education. – 2020. – №. 23-3 (101). – Pp. 66-70.
4. Kayumova G.G. Mechanisms of hormonal regulation of muscular activity in children and adolescents / Shaykhelislamova M.V., Dikopolskaya N.B., Kayumova G.G. // Collection of scientific papers based on the materials of the International scientific and practical conference. Tambov, 2013. pp.88-89.
5. Makarova G.A. "Sports medicine" Moscow. 2003. p. 479
6. Guidelines for sports medicine. Edited by V.A. Margazin, Publishing house of Spec.Lit, St. Petersburg, 2012.
7. Matveev L.P. Theory and methodology of physical culture: an introduction to general theory. Moscow: RSUFG, 2002 (second edition); St. Petersburg- Moscow-Krasnodar: Lan, 2003 (third edition).
8. Solomka, T.N. The level of morphofunctional development and physical performance under loads performed in different power zones in young football players aged 13-14 / T.N. Solomka, L.G. Kharitonova // Proceedings of the All-Russian scientific and practical conference "Modern technologies in sports games", Omsk: SibGUFC Publishing House, 2005-pp. 115-117.