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Features of Anthropometric Indicators of Athletes and Students who do not Play Sports in Men in The Conditions of Karakalpakstan

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Annotation. The article considers the features of somatometric indicators in men engaged in sports in the environmental conditions of the Republic of Karakalpakstan.

Keywords. Physical development, anthropometric indicators, sports, student-athletes, students not involved in sports, the Republic of Karakalpakstan.

Introduction

At present, health promotion in the world by increasing the physical and functional capabilities of the body, the development of a health improvement program for extreme natural climatic conditions, as well as the study of their theoretical and scientific foundations, is one of the urgent problems all over the world. In addition, to date, inactivity, improper nutrition, namely nutrition in excess of the norm, lead to the functional development of the body, as well as to the imperfection of its morphometric parameters and a decrease in health. In this regard, the development of measures to improve the indicators of morphofunctional, physical and functional development of the body in extreme conditions is of great practical importance. [1, 5].

The environmental consequences of the crisis in the Aral Sea region, caused by the intensive drying of the Aral Sea, have led to pollution of the atmospheric air, ground and surface waters, including drinking water, soil, as well as crop and livestock products. The consequence of this was a deterioration in the quality and conditions of life, an increase in morbidity, low life expectancy of the population. [1, 7]. Already early medical and environmental studies showed that the negative impact of the environmental situation, combined with medical, social, economic problems in the Aral catastrophe zone, was reflected in an increase in the level of maternal and infant morbidity. [1, 4, 6].

In recent years, in the course of research on the influence of the degree of motor activity on the physical development and vegetative indicators of student athletes, special attention is paid to the development of large-scale measures and the implementation of the achieved positive results into practice. In this regard, certain results have been achieved in the field of adapting the organism of student athletes to adverse environmental factors of the external environment, as well as improving the indicators of their physical development in the Aral Sea region. [1, 3, 4].

Today, student youth is an active social group that largely determines the future of any state. Identification of the general regularities of physiological mechanisms during active physical activity in the process of adaptation to physical loads should be the basis for the selection of adequate means of targeted impact on the body of students [4, 5, 7].

In youth sports, there is a significant increase in sports achievements against the background of increased training loads. This circumstance certainly determines the solution of issues of improving physical activity while ensuring a more complete mobilization of the body's functional capabilities, while preventing the violation of ontogenetic processes. [2, 4, 6].

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Material and research methods.

The study involved 157 practically healthy male students of Karakalpak State University aged 18-21 years. 2 groups of students were examined. The first group included 75 students studying in the specialty "physical culture and sports", the second - 82 students of humanitarian faculties (Table 1).

Table 1
Distribution of the examined persons by age groups

Age, Years	Student athletes	Students not involved in sports
18	17	20
19	20	20
20	18	20
21	20	22
Total	75	82
	n=157	

Height was measured in a standing position using a medical stadiometer with an accuracy of 0.5 cm. Body weight was measured with a special medical balance scale with an accuracy of 50 g. In a standing position, the chest circumference was measured with a plastic tape with an accuracy of 1 mm.

Results and its discussion.

The results of the study of the somatic development of 20-year-old boys did not reveal significant differences in body length among athletes and students who do not go in for sports. The conducted comparative analysis showed that students of 19 and 21 years old who are not involved in sports have a growth retardation compared to students involved in sports (2.3 cm and 0.6 cm). Starting from the age of 18, there is a decrease in body growth indicators among students who do not go in for sports. In each age group of students, an increase in the level of growth in students involved in sports relative to students not involved in sports. The standard deviation was 1.6%. We also note that at the age of 19, there is a sharp increase in student-athletes to 164.2 cm, while, in students of the humanities, there is a lag in growth compared to student-athletes (2.3 cm).

The analysis showed that at the age of 18 there were practically no differences in body weight indicators of an athlete and non-athletic students (0.7 kg), body weight of student-athletes aged 19-20 and 21 years, some infection from non-athletic students (1.7- 2.4 and 1.9 kg). The analysis showed that of all ages, the indicators of deviation of student-athletes from the indicators of students who do not go in for sports regularly increased by 0.7-0.9%. It was noted that in a 21-year-old athlete, the body weight indicators of students were slightly higher compared to other age groups (6.2 kg) ($p<0.001$). In comparative terms, weight gain in student-athletes aged 18 to 19 years was 2.2 kg, and at the age of 20-21-1.1 kg. Based on the information provided, it can be concluded that non-athletic students are slightly behind in body weight gain compared to student athletes.

A comparative analysis of the indicators of chest volume (WGC) showed that all the examined students have an age-related increase in chest volume. At the same time, I would like to note that in all age groups, students who do not go in for sports had OGK indicators slightly lower than those of their peers - athletes ($p<0.05$).

Considering the differences in the parameters of OGK among the examined student-athletes, it was found that at the age of 19 and 21 they have a small difference, which was 3 cm and 1.4, respectively. Comparative assessment of the chest circumference index between students not involved in sports and students involved in sports showed that the greatest difference was observed in 18-year-old boys (7.6 cm, $r<0.001$).

Conclusions

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1. It has been established that in the age dynamics of student athletes, the body growth indicators in comparison with the body growth indicators of students and above, and that students who do not regularly go in for sports, significantly (who do not go in for sports at the age of 19 and 21) lag behind in body growth rates.

2. It was found that due to regular sports and physical activity, the chest circumference of student-athletes is 5.27% wider compared to students who do not go in for sports.

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