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RESEARCH OF ECOLOGICAL FACTORS ROLE IN CHANGING ANTHROPOMETRIC INDICATORS OF YOUNG PEOPLE IN THE REPUBLIC OF KARAKALPAKSTAN

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Relevance: Environmental pollution against the backdrop of harsh climatic conditions greatly worsens the ecological situation of the external environment, creates more difficult conditions for human life, reduces the reserve and adaptive capabilities of the body; one of the regions is the Aral Sea region.
Key words: Aral Sea region, anthropometric, ecological factors

Relevance of the work. Continuously occurring processes of metabolism and energy in the human body determine the characteristics of its physical development. The rates of change in weight, height, and body circumference at different age periods of life vary markedly. It has been proven that human somatometry is to a decisive extent (more than 80%) determined by genetic factors and only to a small extent (20%) depends on the quality of life and biological status of the individual [1,2] Some of the exogenous factors, such as social conditions, a sedentary lifestyle, poor nutrition, the presence of diseases, and unfavorable environmental conditions can not only disrupt the sequence of development, but also cause irreversible changes. [4]

Purpose of the study. This study analyzed the weight and height of athletes and students not involved in sports, aged 17 to 22 years. All the surveyed young men were born and currently live in areas of the Republic of Karakalpakstan with varying degrees of environmental pollution.

Materials and methods of research: The results of studying the somatic development of the examined young men did not reveal significant differences in body length among athletes and students not involved in sports of all age groups. (Pic. 1). The comparative analysis showed a slight lag in the body growth of students who do not go in for sports compared to athletes from the northern and southern regions in all age groups.[5] A natural deviation in the body height of athletes from the northern zone was revealed relative to students who have not been involved in sports since the age of 17 years (the percentage of deviation in all age groups was 0.6%). The body growth indicators of athletes from the southern regions, starting from 17 years old, naturally increase with age. At the age of 18-20 years, their level is slightly higher than the body growth indicators of students who do not engage in sports. The percentage of deviation was 1.8%, respectively, in all groups.

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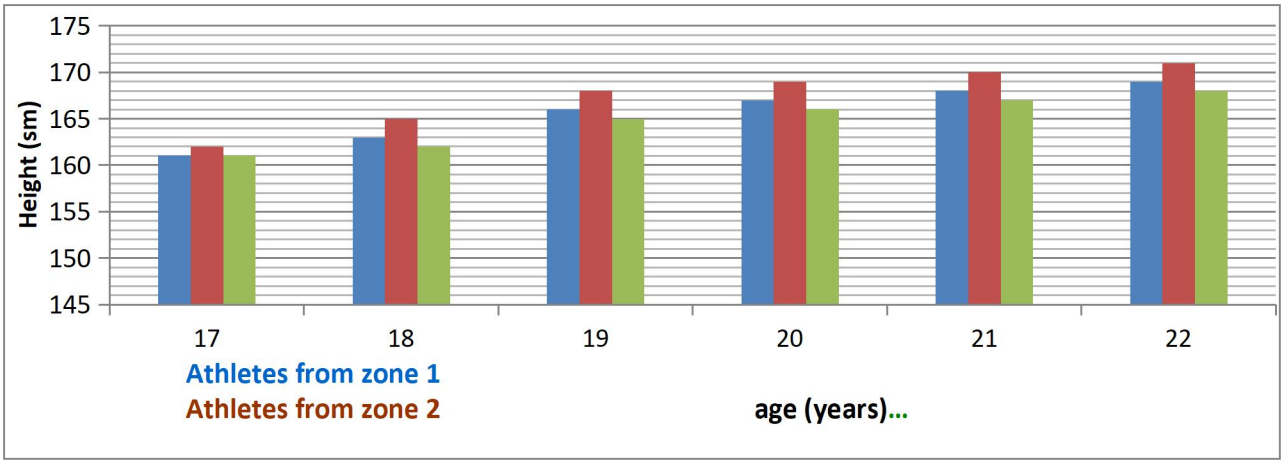

Picture 1. Body growth indicators for athletes and students not involved in sports in the Republic of Karakalpakstan.

As the analysis showed in the age groups of 21-22 years, the body growth of athletes from the southern and northern regions also exceeds the body growth of students who do not engage in sports.

Thus, it has been established that the age-related dynamics of body growth indicators for athletes from the northern and southern regions exceeds the body growth indicators for students who do not go in for sports. [5] The average annual increase in height was: for athletes from the northern regions - 2.04 cm, from the southern regions - 2.22 cm. The data obtained on the state and dynamics of growth make it possible to conclude that there is a general natural lag in the body growth of students who do not go in for sports , from athletes from the northern and southern regions (the percentage of deviation was from athletes from the northern regions - 0.6%, from athletes from the southern regions - 1.8%).

The comparative characteristics of the body weight indicators of all subjects showed that in all age groups of athletes from the northern and southern regions under consideration, there is a significant excess compared to the body weight indicators of students not involved in sports ($P<0.001$).

In a comparative analysis of body weight indicators of two groups of athletes living in different regions of Karakalpakstan, it was revealed that at the age of 17 - 18 years there were almost no significant differences, but starting from the age of 19, the body weight of athletes from the northern regions is slightly lower than that of athletes from the southern regions. [5]

The analysis showed that from the age of 19 there is a natural increase in the body weight of athletes in comparison with those of students who do not go in for sports. At the same time, the highest percentage of deviation of indicators among athletes from the southern zone from students who do not go in for sports is observed in the age groups of 21 and 22 years (9.0 and 9.6%, respectively). Athletes from the northern regions aged 19-20 years showed an excess of some indicators compared to students not involved in sports (5.8 and 5.2%, respectively).

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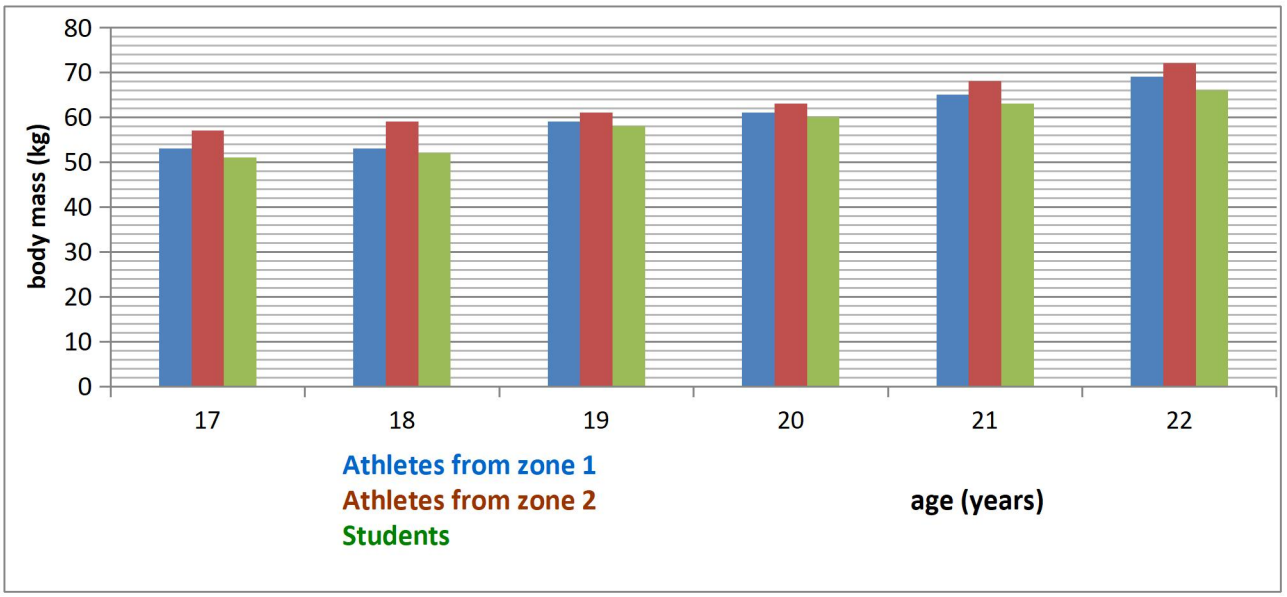

Picture 2. Body weight indicators of athletes and students not involved in sports in the Republic of Karakalpakstan.

In a comparative aspect, weight gain among athletes from the northern regions in the age period from 17 to 19 years was on average 4.6 kg for three age groups for athletes from the northern regions, and 9.5 kg for athletes from the southern regions. In the age period from 20 to 22 years, according to the regions, 2.6 and 2.9 kg.

Based on the data presented, we can conclude that athletes from the northern regions have some lag in the development of body weight compared to the indicators of athletes from the southern regions. A more pronounced lag is observed among athletes from the northern regions aged 21 and 22 years.

Students who are not involved in sports also show some lag in body growth indicators compared to all examined athletes in all age groups.

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