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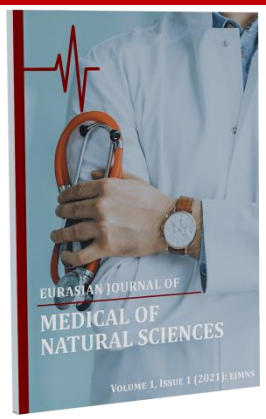

COMPARATIVE ANALYSIS OF CRANIOMETRIC PARAMETERS OF PATIENTS WITH MYOPIA AND HEALTHY CHILDREN

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ABSTRACT

Visual impairment is one of the most common diseases in the world. According to the World Health Organization (WHO), myopia has spread to 1.6 billion people in recent years and is predicted to reach 5 billion by 2050. Carrying out a number of studies in case of dysfunction of a particular organ allows us to determine changes in special topographic areas of the musculoskeletal system against the background of diseases. Craniometry is considered one of the important sections of anthropometry, and the determination of anatomical changes in craniometric parameters is of great importance for theoretical and practical medicine. Today, craniometric studies are actively used in scientific research in otorhinolaryngology, neurology, dentistry and ophthalmology and help find reasonable solutions to the problems of these areas. One of these tasks is to find a solution for studying the formation of the eyeball with varying degrees of severity of myopia, which is the most common refractiveVisual impairment is one of the most common diseases in the world. According to the World Health Organization (WHO), myopia has spread to 1.6 billion people in recent years and is predicted to reach 5 billion by 2050. Carrying out a number of studies in case of dysfunction of a particular organ allows us to determine changes in special topographic areas of the musculoskeletal system against the background of diseases. Craniometry is considered one of the important sections of anthropometry, and the determination of anatomical changes in craniometric parameters is of great importance for theoretical and practical medicine. Today, craniometric studies are actively used in scientific research in otorhinolaryngology, neurology, dentistry and ophthalmology and help find reasonable solutions to the problems of these areas.

One of these tasks is to find a solution for studying the formation of the eyeball with varying degrees of severity of myopia, which is the most common refractive anomaly in a growing body.

The purpose of the study is to conduct a comparative analysis of craniometric indicators of the head, especially the eyeball, and physical development in children diagnosed with myopia by age and gender.

Materials and methods: The study was conducted on 216 children diagnosed with myopia aged 4 to 7 years and students in grades 1-6 of 44, 45, 46 secondary schools of 4 preschool educational institutions in Andijan region aged 7 to 13 years. . When examining these patients in the above institutions, that is, out of 2112 children, refractive problems were observed in 427 (20.22%) children as a result of a comprehensive ophthalmological examination, and 216 patients selected for the study were divided into 3 groups (Martirisova E.T. .). Children with other congenital and chronic diseases were not included in the study groups.

Group 1 included 74 children with the least severe mild myopia;

Group 2 - 98 patients diagnosed with moderate myopia;

The 3rd group included 44 students with severe myopia;

80 children without problems with visual acuity of the same age as the children of the main group were selected as a control group.

Results of the study: Anthropometric indicators of physical development of children diagnosed with myopia and healthy children are presented in Figures 1 and 2.

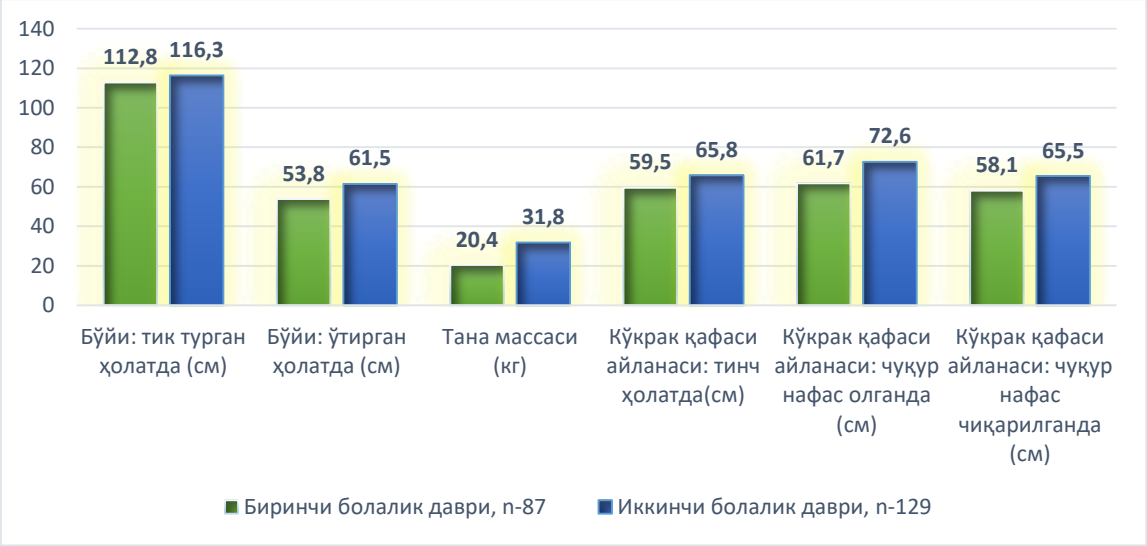

Figure 1. Description of indicators of physical development of children with myopia.

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Figure 2. Indicators of physical development of healthy children.

There were no significant differences in the physical development of myopic and healthy children in childhood. When analyzing the length of the first child, the comparative figures were 112.8 cm and 115.3 cm, respectively, and the difference between them in the sitting position (53.8 and 56.1 cm) was -2.3 cm.

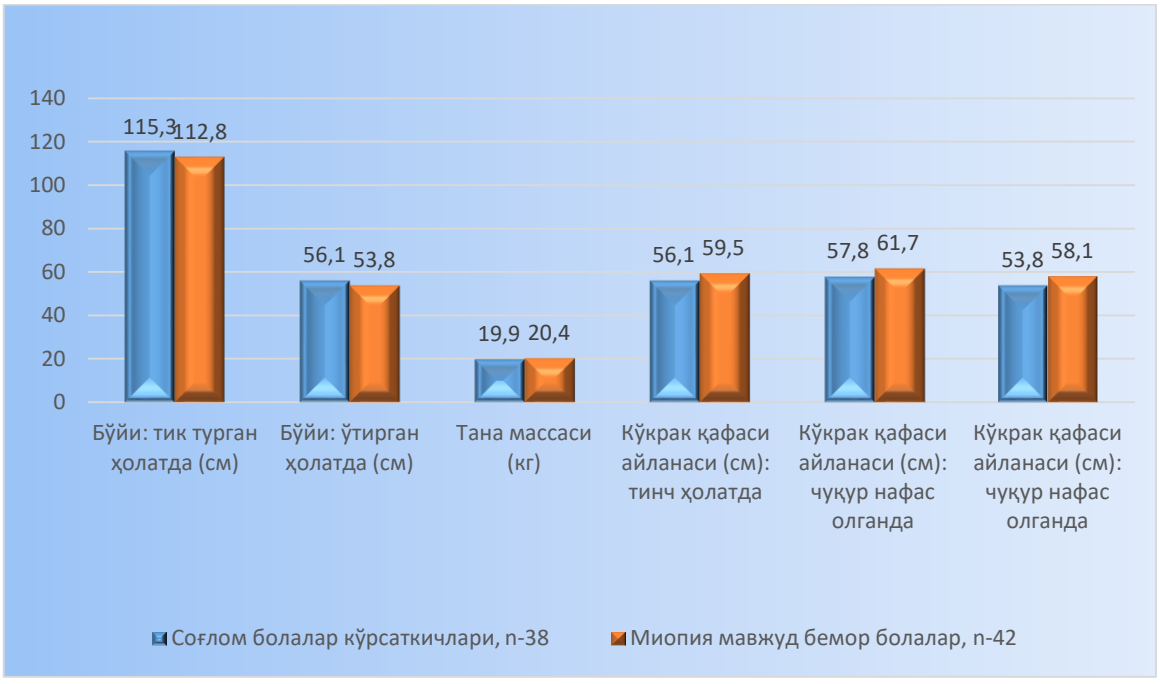

Figure 3. Comparative characteristics of physical development indicators of the main and control groups in early childhood.

Body weight indicators showed a smaller difference (0.5 kg) in the initial observation period (20.4 and 19.9 kg) (<0.05), and in later childhood a difference of 1.7 kg was found between the myopia group and the comparison group. The dimensions of the chest in all physiological states were observed in myopic and healthy children in their first childhood. Specifically, it was

noticed that children with myopia have a relatively large body weight, chest width and, finally, short stature.

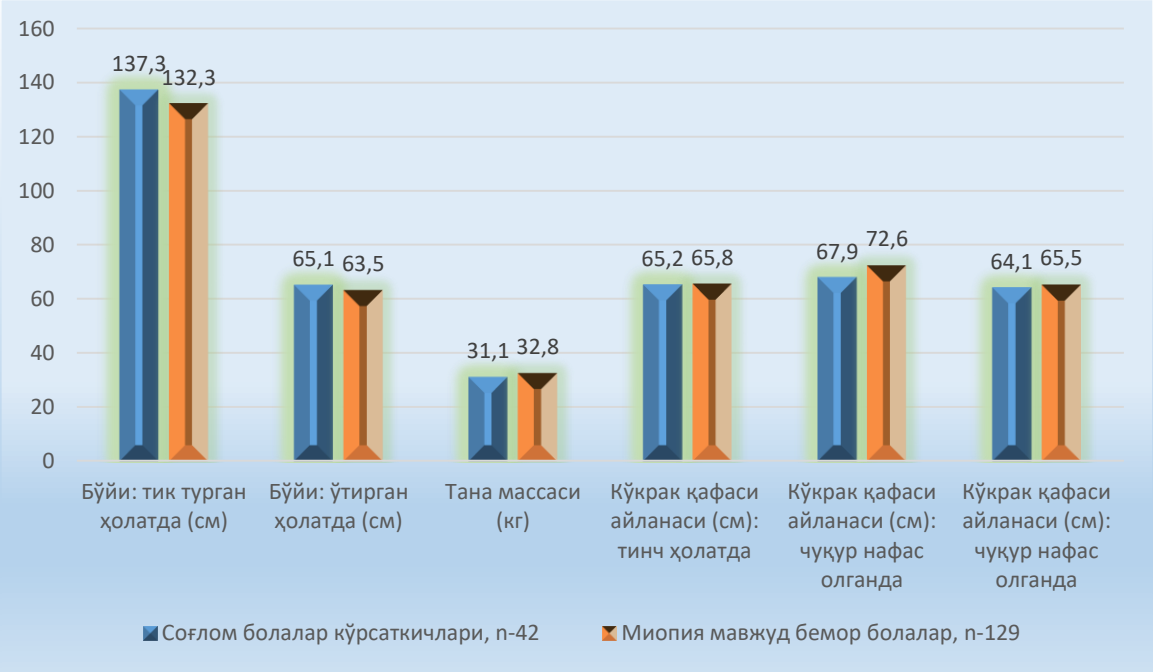

Figure 4. Comparative characteristics of physical development indicators of the main and control groups in second childhood.

In recent periods of observation (second childhood), with myopia, a decrease in height dimensions (standing and sitting) and indicators of physical development by 3.6% was noted. On the other hand, it was found that other parameters were higher in myopia (body weight - 5.2% (<0.05), chest circumference at rest - 0.9%, respiration - 6.5% (<0.01), exhalation - 2.1%).

Table 4

Dimensions of the skull of children with myopia at an early age

Indicators	myopia, n=87	control, n=38
Head circumference, cm	47,1±0,13	51,2±0,21
Longitudinal head size, cm	13,2±0,07	15,1±0,12
Transverse head size, cm	10,8±0,2*	9,1±0,3
Transverse forehead size, cm	6,3±0,3*	5,8±0,04
Vertical forehead size, cm	9,2±0,2	9,9±0,06
Head base length, cm.	11,5±0,08	12,9±0,12
Width of head base, cm.	9,6±0,2	9,8±0,08

Note * - results were considered reliable at r<0.05.

Table 5

Dimensions of the skull of children with myopia of the second age

Indicators	myopia, n=129	control, n=42
Head circumference, cm	51,2±0,12	55,2±0,14
Longitudinal head size, cm	13,9±0,04	15,7±0,03
Transverse head size, cm	9,2±0,2	10,3±0,06

Transverse forehead size, cm	6,8±0,2	6,5±0,03
Vertical forehead size, cm	9,4±0,3	10,8±0,04
Head base length, cm.	13,2±0,04	14,6±0,02
Width of head base, cm.	10,4±0,04	10,8±0,04

Note * - results were considered reliable at r<0.05.

Summary. In the first and second periods of childhood, all parameters of the head and eyeball have age and gender differences, and the main growth in the first period of childhood was observed in the size of the head, especially in the size of the orbits. The height and width of the eyeball entrance are higher than the control indicators. In the second period of childhood, physical development indicators for myopia decreased by 3.6% in height dimensions (standing and sitting position). On the other hand, it was found that other parameters were higher in myopia (body weight - 5.2% (<0.05), chest circumference at rest - 0.9%, respiration - 6.5% (<0.01), exhalation - 2.1%). When analyzing craniometric indicators depending on the severity of myopia (myopia I, myopia II, control), the values of the horizontal head circumference change to almost the same level, and in the third group of children with grade III myopia this indicator significantly increased to 54.6 cm A similar trend was observed for other craniometric parameters, including transverse and longitudinal diameters of the head.

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