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CHARACTERISTICS OF ANTHROPOMETRIC PARAMETERS OF THE UPPER EXTREMITIES IN CHILDREN AND ADOLESCENTS WITH SCOLIOSIS

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Abstract
Scoliosis is a lateral curvature of the spine, which is dangerous for severe complications, especially for a growing child's body. Disorders that occur in the musculoskeletal system during the growth and development of the child's body are dangerous because they are most often irreversible if they are not detected in a timely manner. The purpose of our study was to characterize the anthropometric features of the parameters of the upper extremities depending on the gender and age characteristics of children from 3 to 12 years old.

Keywords: scoliosis, children, upper limb, anthropometric parameters, spine.

Scoliosis is a disease that is not only accompanied by curvature of the spine, but also causes various deformities in other parts of the child's body. Various kinds of disorders of the musculoskeletal system occur, as a rule, at an early age, when there is a rapid growth of the body as a whole. There are so-called critical periods in the formation and development of the musculoskeletal system: the first year of a child's life (the moment of birth, the formation of physiological bends of the spine and further development) and the puberty period (in girls between the 5th and 10th year, in boys between the 5th and 12th year, when acceleration of spine growth). It is during these periods that the spine is most susceptible to various changes [1, 2].

Anthropometric parameters of different parts of the child's body of the same age fluctuate in younger or older children, which are called transgressive variability, which necessitates quantitative definitions [2]. According to modern literature, the severity and prevalence of scoliosis in girls is higher than in boys [3].

The results of growth dynamics are the basis for the improvement and development of anthropometric methods of early diagnosis and treatment of this contingent. It is impossible without determining the variability in the body between healthy children

and children with various pathologies of the same age, the primary diagnosis of delay or advance of the development of the child's body [4,5,6].

Objective:

To determine the growth dynamics of the anthropometric parameters of the upper extremities of children with posture disorders and scoliosis, and also to compare these data with the parameters of healthy children.

Materials and Methods

250 children aged from 3 to 12 years were examined, 150 of them were healthy children and 100 children with scoliosis. Anthropometric measurements were carried out according to the methodological recommendations of N.H. Shomirzaev, S.A. Ten and I. Tukhtanazarova (1998). The studies were conducted at secondary school No. 2 and boarding school No. 23 in Bukhara for children with scoliosis. When measuring the length of the upper limb, the length of the shoulder, shoulder, forearm, hand, and shoulder girth, a centimeter tape was used, and when measuring the width of the shoulders, a tasometer was used.

Results

During the studies, it was revealed that the length of the upper limb in newborn male children ranged from 35.3 cm to 40.1 cm, shoulder length from 10.8 cm to 13.6 cm, forearm length from 8.2 cm to 11.7 cm, hand length from 7.6 cm to 10.8 cm, Shoulder width varied from 12.5 cm to 15.5 cm, shoulder girth at rest from 5.0 cm to 6.5 cm, shoulder girth at stress from 5.1 cm to 7.0 cm.

Studies have shown that the length of the upper limb in children of the first period of male childhood varied from 40.3 cm to 57.2 cm, shoulder length from 18.6 cm to 22.0 cm, forearm length from 14.7 cm to 19.6 cm, hand length from 10.9 cm to 13.7 cm, shoulder width ranged from 18.5 cm to 22.8 cm, shoulder girth at rest from 16.0 cm to 20.1 cm, shoulder girth at stress from 16.5 cm to 21.5 cm.

The results of the studies showed that the length of the upper limb in children of the second period of male children ranged from 51.3 cm to 80.0 cm, shoulder length from 22.1 cm to 36.1 cm, forearm length from 16.0 cm to 28.1 cm, hand length from 13.3 cm to 20.5 cm. When measured, the shoulder width ranged from 21.2 cm to 32.5 cm, shoulder girth at rest ranged from 13.5 cm to 29.8 cm, shoulder girth at stress from 19.1 cm to 31.8 cm.

Studies have shown that the length of the upper limb in newborn female children ranged from 35.5 cm to 39.8 cm, shoulder length from 10.2 cm to 12.3 cm, forearm

length from 8.5 cm to 11.0 cm, hand length from 7.1 cm to 9.8 cm. Shoulder width varied from 11.8 cm to 15.1 cm, shoulder girth when calm condition from 4.5 cm to 6.1 cm, shoulder girth when stressed from 4.7 cm to 6.8 cm.

It was found that the length of the upper limb in children of the first period of female childhood varied from 38.6 cm to 56.5 cm, shoulder length from 15.7 cm to 26.2 cm, forearm length from 11.1 cm to 18.7 cm, hand length from 9.6 cm to 15.2 cm, shoulder width ranged from 16.5 cm to 24.7 cm, girth shoulder in a calm state from 15.4 cm to 20.5 cm, shoulder girth in a tense state from 22.2 cm to.

The length of the upper limb in male children of the first period of childhood with scoliosis varied from 39.1 cm to 56.7 cm, shoulder length from 17.7 cm to 21.0 cm, forearm length from 13.0 cm to 18.4 cm, hand length from 9.5 cm to 12.8 cm, shoulder width ranged from 17.5 cm to 20.8 cm, shoulder girth at in a calm state from 15.5 cm to 19.2 cm, shoulder girth in a tense state from 16.0 cm to 20.5 cm.

The studies revealed that the length of the upper limb in male children of the second period of childhood ranged from 50.0 cm to 77.2 cm, shoulder length from 20.1 cm to 32.3 cm, forearm length from 14.5 cm to 28.0 cm, hand length from 11.3 cm to 19.0 cm, shoulder width ranged from 19.6 cm to 30.7 cm, shoulder girth at rest in the range from 16.0 cm to 27.7 cm, shoulder girth at stress from 17.4 cm to 28.4 cm.

It was found that the length of the upper limb in children of the first period of female childhood varied from 34.2 cm to 56.1 cm, shoulder length from 13.8 cm to 22.2 cm, forearm length from 10.1 cm to 18.0 cm, hand length from 8.7 cm to 13.8 cm, shoulder width ranged from 14.7 cm to 22.0 cm, girth shoulder in a calm state from 14.5 cm to 19.0 cm, shoulder girth in a tense state from 15.8 cm to 20.2 cm.

The length of the upper limb of children of the second period of female childhood ranges from 55.3 cm to 75.6 cm, shoulder length from 20.1 cm to 29.7 cm, forearm length from 18.2 cm to 23.8 cm, hand length from 13.0 cm to 16.8 cm. Shoulder width ranged from 20.0 cm to 26.6 cm, shoulder girth at rest in the range from 18.3 cm to 23.3 cm, shoulder girth under stress from 18.8 cm to 24.8 cm.

Conclusions

As a result of the research, it was revealed that the smallest increase in the length of the upper limb is observed at the age of 12, unlike girls with scoliosis, in whom the slowdown in the growth of these parameters was noted at the age of 5-6.

The indicators of the upper limb of healthy and scoliotic boys were the lowest at the age of 7-8 years. It follows from this that the slowdown in the growth of the upper limb indicators in girls was expressed in the first period of childhood (5-6 years), unlike boys (7-8 years).

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