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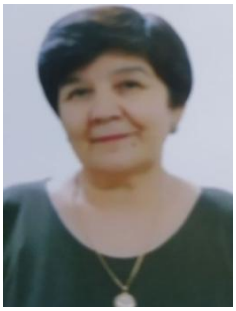
ANTHROPOMETRIC DATA ON THE PHYSICAL DEVELOPMENT OF CHILDREN AND ADOLESCENTS IN SAMARKAND

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САМАРҚАНД ШАҲРИ БОЛАЛАР ВА ЎСМИРЛАРНИНГ ЖИСМОНИЙ РИВОЖЛАНИШИНИ АНТРОПОМЕТРИК КЎРСАТКИЧЛАРИ

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АНТРОПОМЕТРИЧЕСКИЕ ДАННЫЕ ФИЗИЧЕСКОГО РАЗВИТИЯ ДЕТЕЙ И ПОДРОСТКОВ ГОРОДА САМАРКАНДА

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Резюме. *Ушбу мақолада Самарқанд шаҳрида яшовчи болалар ва ўсмирларнинг жисмоний ривожланиши ва антропометрик кўрсаткичлар орасидаги ўзаро корреляцион боғликликни ўрганилди.*
Калит сўзлар*: Болалар, ўсмирлар, жисмоний ривожланиш, антропометрия, корреляцион боғлиқлик.*

Abstract. *This article gives, the correlation between physical development and anthropometric parameters of childrens and adolescents living in the city of Samarkand*
Keywords: *Children, adolescent, physical development, anthropometry, correlation connection.*

Introduction: The harmonious development of children can be judged on the basis of anthropometric studies conducted comprehensively, rather than based on the study of individual body parameters

Material and methods of research. Anthropometric studies were conducted in kindergartens and schools in Samarkand. 100 boys and 100 girls of each age were studied. A total of 2600 children were studied.

Body length, body weight, length of upper and lower limbs were measured. The measurements were made by the method proposed by G. G. Avtandilov (1990). Digital data were processed by the method of variation statistics.

The results of the study and their discussion. It was found that the body length of girls from 3 (93.14±1.63 cm) to 15 years (159.63±1.89 cm) increased by 65.89 cm.

As can be seen from the table (see Table 1), the greatest increase in body length of girls is observed at the age of 13 years, compared to 12 years, this size increases by 10.69 cm. By 15 years of development the increase is 0.72 cm.

As can be seen from the table (see Table 2), in boys, the body length from 3 (94.82±1.49 cm) to 15 years (165.88±1.96 cm) became larger by 71.06 cm.

Body weight of girls from 3 (13.96±0.44 kg) to 15 years (50.58±2.04 kg) increased by 36.62 kg.

Body mass of boys from 3 (15.02±0.44 kg) to 15 years (51.17±2.16 kg) increased by 43.65 kg.

Upper limb length in girls from 3 (39.29±0.52 cm) to 15 years (70.47±0.77 cm) increased by 31.18 cm.

The length of the upper limb in boys from 3 (40,58±0,55 cm) to 15 years (74,03±0,92 cm) increased by 33,45 cm, i.e. 1,8 times.

The length of the lower limb in girls from 3 (45,09±0,70 cm) to 15 years (86,14±0,97 cm) increased by 41,05 cm.

The length of the lower limb in boys from 3 (45.29±0.68 cm) to 15 years (90.09±1.13 cm) increased by 44.8 cm, i.e. 1.98 times (see Table 2).

When comparing the growth of body length and body weight of girls, it can be seen that the greatest increase in both body length and body weight was observed at the age of 13 years, but by the age of 15

years of development, with a significant slowdown in the growth of body length, there is a more intensive increase in body weight. Body length from 3 to 15 years of age increases 1.7 times, and body weight 3.6 times. The growth of body length is uneven, while the growth of body weight is more uniform from 8 (by 2.68 kg) to 11 years (by 2.47 kg). The smallest increase in body length of girls is observed at 9, 12 and 15 years of age, and body weight at 7 years of age.

It was found that the correlation between body weight and body length increases in girls from 3 to 7, 9 and 12 years of age, and decreases at 8, 10 and 15 years of age.

Comparison of body length and body weight of boys showed that the maximum increase in body length is observed at the age of 13 and 14 years, and body weight at the age of 14 and 15 years. The smallest increase in body length was observed at the age of 12 years, and in body weight at the age of 4 years.

The body length of boys from 3 to 15 years of age increases only 1.7 times and body weight 2 times.

It has been revealed that from 3 to 5 years of age the correlation between body weight and body length of boys is almost stable, from 6 to 7, 9, 12 and 15 years of age it is increased, in 8, 10, 11, 13 and 14 years of age its decrease is noted.

When comparing the length of the upper limb with body length in girls, we can see that from 3 to 15 years of age both parameters increase by 1.7 times.

Correlation dependence of upper limb length growth on body length in girls at the age of 3 to 6, 8 and 11 years is reduced, at the age of 7 and 9 years its increase is observed.

When comparing the length of the upper limb with body length in boys, it is seen that the length of the upper limb from 3 to 15 years of age increases 1.8 times, and body length 1.7 times. The most intensive growth of the length of the upper limb is revealed at the age of 14 years, body length at 13 and 14 years. The least growth of the upper limb length and body length is observed at the age of 12 years.

Correlation dependence of the growth of the upper limb length on the body length in boys at the age of 3 to 4, 6, 9, 11 years is increased, at the age of 5, 10, 13 and 15 years it is decreased.

Comparison of lower limb length with body length in girls showed that the length of the lower limb from 3 to 15 years of age increases by 1.9 times, and body length by 1.7 times. The greatest growth of lower limb length was found at the age of 13 years, and its smallest growth at the age of 15 years.

Comparison of growth of upper and lower limb length in girls showed that the length of the upper limb from 3 to 15 years of age increased 1.7 times, and the length of the lower limb 1.9 times.

When comparing the length of the lower limb with body length in boys, it is seen that acceleration of growth of both the length of the lower limb and body length is observed at the age of 13 and 14 years. The smallest growth of both body parameters: body length and lower limb length is revealed at the age of 12 years.

Correlation dependence of growth of the lower limb length on the body length in boys from 3 to 4, 6, 9, 11 and 12 years of age starts to increase, at 5, 7, 10, 13-15 years of age it is reduced.

Comparison of the length of the upper and lower limbs in boys showed that the length of the upper limb from 3 to 15 years increased 1.8 times, and the length of the lower limb 1.9 times, i.e. the lower limb grows faster than the upper limb.

As it can be seen from the table (see Table 1), at the age of 4 years girls have the most pronounced growth of body length and length of the lower limb.

At age 5, girls have more accelerated growth in body length and lower limb length. However, at age 5, body length gain is less than at age 4.

At the age of 6 years, girls have predominant growth in body length and lower limb length, weight gain is more (2.49 kg) than at the age of 3 to 5 years.

At the age of 7 years, girls have a slight decrease in body length and weight gain in relation to the age of 6 years. Growth of length of upper and lower limbs from 3 to 7 years of age occurs by almost the same amount.

At the age of 8 years, girls have a pronounced increase in body length with a decrease in the growth of upper and lower limb length. The length of the upper limb increases by 2.27 cm, the mass by 2.24 kg of the body. At this age, compared to the age of 3 to 7 years, there is a slight decrease in the growth of the length of the lower limb.

At the age of 9 years, as compared to the age of 8 years, the growth of body length decreases.

As can be seen from the table (see Table 1) the growth of girls' body length (by 3.13 cm) and lower limb length is almost the same (by 3.19 cm). Body weight growth increases by 2.68 cm, lower limb length by 2.78 cm.

At 10 years of age, of all body parameters, body length increases the most (by 6.44 cm), while lower limb length becomes larger by 4.58 cm, upper limb length by 2.68 cm, and body mass by 2.84 kg.

At 10 and 11 years of age, body length and upper limb length increase by the same amount, except for the length of the lower limb. The growth of body weight at 10 years of age was 2.84 kg, at 11 years of age 2.47 kg.

At 12 years of age, there is a decrease in the growth of body length, upper and lower limbs with a slight increase in weight

At the age of 13, with the onset of puberty, girls show the greatest growth of all body parameters: body length (by 10.69 cm), body weight (by 6.76 kg), upper limb length (by 5.02 cm), lower limb length (by 5.04 cm).

At age 14, compared to age 13, there is a slowdown in the growth of body length, upper and lower limb lengths, with a slight decrease in the growth of body weight.

At age 15, there is an even greater slowdown in the growth of body length, upper and lower limb length. Body weight gain decreases insignificantly.

When analyzing the age dynamics of boys from 3 to 15 years of age, as can be seen from the table (see Table 2), the body length of boys from 3 to 6 years of age grows uniformly. The length of the upper limb up to 7 and the length of the lower limb up to 8 years of age increase by the same amount.

The body mass of boys between the ages of 6 to 7 and 8 to 12 years increases by the same amount.

At the age of 3 to 8 years, boys have the most intensive increase in body length and lower limb length. At the age of 9 years the increase in body length of boys if only 2.91 cm, at the age of 10 years 8.69 cm, by the age of 12 years the increase in body length is 1.22 cm, and at the age of 13 years it becomes greater by 7.97 cm, at the age of 14 years the body length increases by 9.83 cm, at the age of 15 years by 4.6 cm.

From 13 years of age, boys have an increase in body weight gain (by 4.06 kg), by 15 years of age it increases by 6.28 kg. Growth of the length of the upper limb of boys accelerating from 13 years of age, by 15 years slows down. Its greatest growth is noted at the age of 14 (4.14 cm).

Growth of the lower limb length is more pronounced at 13 and 14 years of age.

Thus, the greatest growth of body length of girls is noted in 4, 8, 13 years of age, and in boys in 10 years, 13 years and 14 years. In boys, the smallest growth of body length and upper limb length was found at 9 years of age, and at 12 years of age, body length and length of upper and lower limbs. In girls the smallest growth of body length was found at 9, 12 and 15 years of age. The smallest growth in length of the upper limb of girls was noted at 12 and 15 years of age, the lower limb at 12, 14 and 15 years of age.

The most intensive growth of body weight in girls and boys is observed in the period from 13 to 15 years.

The greatest increase in the growth of upper and lower limb length in girls was found at 13 years of age, and in boys, the length of the upper limb at 14 years of age, and the length of the lower limb at 13 and 14 years of age.

The greatest increase in all body parameters in girls was observed at 13 years of age (we associate it with puberty), and in boys at 13 and 14 years of age.

By the age of 15, both boys and girls show a slowdown in growth of body length, upper and lower limb lengths compared to other ages. Body weight increases by age 15 for boys and begins to decrease for girls. So, from 3 to 15 years of age, body length and upper limb length of girls increased by 1.7 times, and body mass by 3.6 times.

Conclusions:

1. From 3 to 15 years of age, body length of boys and girls increases 1.7 times, body mass of girls increases 3.6 times, in boys 3.4 times. The length of the upper limb in girls increases 1.7 times, and in boys 1.8 times. The length of the lower limb in both sexes increases 1.9 times.

2. The greatest increase in body parameters in girls is observed at 13 years of age, which coincides with the period of puberty, and in boys at 13-14 years of age. By 15 years of development there is a slowdown in the growth of all indicators in girls and boys, except for body weight.

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АНТРОПОМЕТРИЧЕСКИЕ ДАННЫЕ ФИЗИЧЕСКОГО РАЗВИТИЯ ДЕТЕЙ И ПОДРОСТКОВ ГОРОДА САМАРКАНДА

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Резюме. *В данной статье изучены физическое развитие детей и подростков, корреляционная связь между антропометрическими данными.*

Ключевые слова: *дети, подростки, физическое развитие, антропометрия, корреляционная связь.*