



BRITISH

MEDICAL JOURNAL



British Medical Journal Volume-2, No 4

10.5281/zenodo.6874600

British Medical Journal

Volume 2, No 1., 2022

Internet address: <http://ejournals.id/index.php/bmj>

E-mail: info@ejournals.id

Published by British Medical Journal

Issued Bimonthly

3 knoll drive. London. N14 5LU United Kingdom

+44 7542 987055

Chief Editor

Dr. Fiona Egea

Requirements for the authors.

The manuscript authors must provide reliable results of the work done, as well as an objective judgment on the significance of the study. The data underlying the work should be presented accurately, without errors. The work should contain enough details and bibliographic references for possible reproduction. False or knowingly erroneous statements are perceived as unethical behavior and unacceptable.

Authors should make sure that the original work is submitted and, if other authors' works or claims are used, provide appropriate bibliographic references or citations. Plagiarism can exist in many forms - from representing someone else's work as copyright to copying or paraphrasing significant parts of another's work without attribution, as well as claiming one's rights to the results of another's research. Plagiarism in all forms constitutes unethical acts and is unacceptable. Responsibility for plagiarism is entirely on the shoulders of the authors.

Significant errors in published works. If the author detects significant errors or inaccuracies in the publication, the author must inform the editor of the journal or the publisher about this and interact with them in order to remove the publication as soon as possible or correct errors. If the editor or publisher has received information from a third party that the publication contains significant errors, the author must withdraw the work or correct the errors as soon as possible.

OPEN ACCESS

Copyright © 2022 by British Medical Journal

British Medical Journal Volume-2, No 4

ANTHROPOMETRIC INDICATORS OF PHYSICAL DEVELOPMENT OF BOYS AND GIRLS IN BUKHARA REGION

A.S. Ilyasov, N.P. Alimova

Assistant of the Bukhara State Medical Institute Named after Abu Ali Ibn Sino,
Bukhara, Uzbekistan, e-mail: niginpulatova@gmail.com

Abstract: The physical development of children is an indicator of social well-being, the medical and environmental state of any country. The main signs of the health of this generation are the development of children of children during the period of growth.

The general patterns of human development in a specific period of time and conditions can only be identified trends and the appearance of negative changes in the child population. The dynamics of growth and puberty of a child in different age categories depends on endo- and exogenous factors.

Keywords: anthropometry, children, Bukhara region, physical development

Introduction

The totality of morphological and functional features, their relationship with hereditary and external factors are indicators of physical development and environmental conditions [3]. At the same time, the latter are able to change the process of physical development in a positive or negative direction [2,3,8].

Environmental conditions can affect the process of physical development in a negative direction. According to N.N. Rudenko, I.Yu. Melnikova (2009) one of the informative criteria of children's health that characterize this dynamic process determines physical development [12,15,17].

Under the influence of environmental factors, the transformation of genotypic manifestations into phenotypic ones occurs, which indicates the process of growth in the development of the organism, which reflects physical development [1,9,11].

Indicators of somatometry, physiometry and functional activity data are a reflection of the morphometry of physical development. Body length, body weight and chest circumference are the main anthropometric parameters of the physical development of children at certain stages of ontogenesis [6,7,9].

Indicators of vital capacity of the lungs, length of the lower limb, torso, shoulder width, pelvis, grip strength of the hand, are important detailed characteristics of physical development indicators. Somatoscopy, which is an informative indicator of an external examination of the body, the study of the muscular and skeletal systems, the condition of the skin, mucous membranes, and the degree of puberty, is of no small importance [4,10,13].

To determine the level of harmony in the physical development of children, the most common method is based on centile tables [15,16].

Yu.G. Kuzmichev et al. (2020) conducted a comparative analysis of the anthropometric indicators of adolescents using regional evaluation tables and international standards of the World Health Organization [9,13,15].

In the studies of Ya.A. Leshchenko et al . (2019) found that the main factors in the physical development of preschool children are biological risk factors that have a high strength of intensity [15].

The study of the physical development of children with health problems is of particular scientific interest [16].

In connection with this, we set ourselves the **aim of** studying the anthropometric indicators of boys and girls from 0 to 11 years old in various Bukhara regions.

Materials and methods

And proceeding from the purpose of the study, an object of study based on the principles of evidence-based medicine was chosen, and the amount of scientific work that needs to be done was determined. The entire study process was randomized to the most representative groups. When dividing the subjects into age groups, the principles of random selection of children were observed. A total of 571 children were studied, of which 278 were boys and 293 were girls. The age of the examined was from 0 to 11 years.

The research materials were subjected to statistical processing using the methods of parametric and non-parametric analysis. Accumulation, correction, systematization of initial information and visualization of the obtained results were carried out in Microsoft Office Excel 2010 spreadsheets. Statistical analysis was carried out using the IBM SPSS Statistics v.23 program (developer - IBM Corporation).

Results of the study and discussion

Anthropometry is one of the main methods for studying the morphological features of a person, which is widely used in medicine, mainly in the study of human physical development.

The physical development of a person is influenced by heredity, environment, socio-economic factors, working and living conditions, nutrition, physical activity, sports and various diseases, and pathologies of organs and body systems .

Physical the development of children is assessed according to three main parameters, body weight, height and chest circumference in a pause , the following results were obtained by the method of anthropometry of children.

In newborns (from birth to 28 days of life) of boys , body height averaged 51.1 ± 0.44 sm , and girls - 49.6 ± 0.44 sm . Body weight was equal to an average of 3.4 ± 0.11 kg , in girls - 3.84 ± 0.10 kg , the chest circumference of the boys in the inspiratory pause was on average - 34.4 ± 0.32 sm , in girls on average – 35.9 ± 0.43 sm.

In infancy (from 6 months to 1 year of life), boys' growth in the silt was on average 65.1 ± 0.18 sm and in girls 59.2 ± 0.21 sm, body weight was equal to an average of 6.5 ± 0.04 kg and 5.9 ± 0.12 kg, respectively, the chest circumference parameter was equal to the average for boys - 38.4 ± 0.14 sm, for girls - 36.5 ± 0.24 sm.

In male children at 3 years of age, body height was on average - 99.7 ± 0.68 sm , while in female children it was - 98.2 ± 0.74 sm , body weight was equal to the

average - 12.3 ± 0.34 kg , and in females - 13.3 ± 0.36 kg , chest circumference (in pause) averaged - 39.3 ± 0.56 sm and 51.7 ± 0.63 sm similar.

By the age of 4, in males, the body length averaged 111.3 ± 0.94 sm, in females - 102.2 ± 0.61 sm, with an average body weight of - 13.9 ± 0.19 kg, in girls - 14.4 ± 0.17 kg , when, as about the circumference of the chest of boys, it is on average 42.9 ± 0.49 sm and in girls - 52.8 ± 0.52 sm

The indicators of physical development of 5-year-old children did not differ significantly from the parameters of 4-year-old children ($p > 0.05$) and almost repeat the above data.

In 5-year-old boys, the average height was 117.3 ± 0.89 sm and in girls 106.2 ± 0.81 sm, body weight was equal to an average of 15.5 ± 0.25 kg and 15.6 ± 0.23 kg, respectively, the chest circumference parameter was equal to the average for boys - 46.3 ± 0.31 sm, for girls - 52.2 ± 0.24 sm.

The results of the study showed that the growth of the body in boys by the age of 6 is equal to an average of 119.2 ± 0.81 sm, in girls - 118.2 ± 0.96 sm, the average weight was 19.2 ± 1.67 kg and 18.7 ± 0.32 kg similarly, the chest circumference in boys is on average 48.8 ± 2.1 sm, in girls - 57.5 ± 0.19 sm.

As a result of the research , the axis was found out that the length of the body in 7-year-old males averaged - 124.1 ± 1.38 sm, while this indicator in girls is 121.8 ± 0.31 sm, body weight in boys was on average 21.0 ± 1.09 kg and in girls 21.4 ± 0.29 kg, the chest circumference in the pause was on average 52.2 ± 0.68 sm and 61.8 ± 0.29 sm respectively. All the above parameters of the physical development of 7-year-old children were almost the same in 8-year-old boys ($p > 0.05$).

It was revealed that by the age of 8 years in boys and girls, the average height was 127.5 ± 1.75 sm and 123.7 ± 0.96 sm, along with these data, the body weight was equal to an average of 24.3 ± 1.62 kg and 23.6 ± 0.65 kg, and the average chest circumference in the pause was 54.7 ± 1.39 sm and 60.4 ± 0.62 sm similarly.

The data for 9-year-old children were as follows: for boys, height averaged - 139.8 ± 0.56 sm, in girls - 130.7 ± 1.23 sm, body weight was equal to the average - 29.4 ± 0.72 kg and 28.4 ± 0.91 kg , chest circumference was 58.9 ± 0.59 sm and 61.4 ± 0.69 sm, respectively.

Table 1

Anthropometric indicators of the physical development of male and female children by periods of childhood

Periods	Sex	Body height (sm)	Body weight (kg)	Chest circumference (sm)
newborns	B	47.9-55.0 51.10 ± 0.44	2.8-4.5 3.4 ± 0.11	31.5-36.7 34.4 ± 0.32
	G	46.9-54.0 49.5 ± 0.44	2.9-4.5 3.84 ± 0.10	32.5-39.4 35.9 ± 0.43
Breast age	B	61.9-69 $65.1 \pm 0.18^*$	6.6-8.5 7.3 ± 0.04	35.6-41.2 38.4 ± 0.15
	G	51.7-63.2	5.7-6.3	33.1-39.2

		59.2 ±0.21	5.9 ±0.12	36.5 ±0.24
Early childhood	B	93.6-104.0 99.7 ±0.68	10.0-13.9 12.3 ±0.24*	41.3-45.4 36.3 ±0.56
	G	95.6-107.6 98.2 ±0.74	10.9-16.7 13.3 ±0.36	49.5-59.9 51.7 ±0.63
I period childhood	B	106.8-120.0 117.9 ±0.4	14.8-21.3 17.4 ±0.17	51.1-61.7 47.6 ±0.28*
	G	106.2-117.1 112.1 ± 0.28	15.5-32.4 18.5 ±0.44	54.2-63.2 56.2 ±0.23
II period childhood	B	130.1-147.2 137.2 ±0.43*	24.5-41.3 29.6 ±0.44	65.6-79.7 61.9 ±0.36
	G	118.8-147.6 136.8 ±0.75	20.0-41.3 30.4 ±0.55	56.0-73.8 63.9 ±0.46

Note: B-boys, G-girls

* - $p < 0,05$ reliability of differences between periods of childhood;

Based on the results of the study, in 10-year-old boys, the body length was 139.9 ± 0.75 sm on average, in girls - 142.9 ± 0.75 sm, body weight was 32.3 ± 0.91 kg on average, and for girls - 32.4 ± 0.91 kg, at the same time, the chest circumference of boys in the pause was equal to the average - 62.3 ± 0.81 sm, girls - 64.3 ± 0.81 sm (Fig. 1) .

The data of the results of the study of physical development in children aged 11 years did not actually differ from the indicators of 9-10 year old boys in two parameters ($p > 0.05$), except for chest circumference ($p > 0.05$).

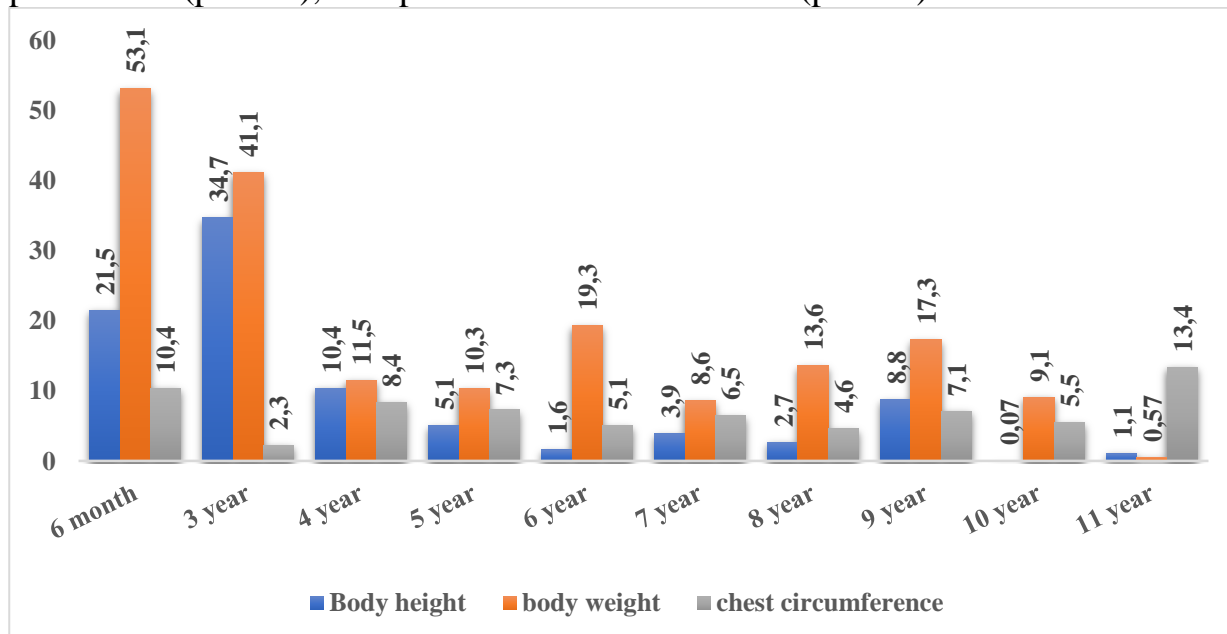


Figure 1. Comparative analysis of indicators of the growth rate of physical development of boys aged 0-11

It was revealed that in 11-year-old male children, the average height was 141.5 ± 4.44 sm, in the female - 149.6 ± 4.16 sm, body weight was equal to an average of 32.5 ± 2.49 kg and 33.0 ± 2.64 kg , and the indicators of chest circumference were equal on average - 71.9 ± 1.58 sm and 68.8 ± 2.06 sm. Table 1 shows, and

anthropometric indicators of the physical development of male children and female by periods.

Biological risk factors that have a high strength of intensity according to Ya.A. Leshchenko et al. Are factors that affect the state of physical development of preschool children? The dynamic process of growth and biological maturation of a child in different age periods depends on a number of endo and exogenous factors that reflect the state of physical development of healthy children.

Figures 1 and 2 show the comparative indicators of the growth rate of the physical development of boys and girls aged 0-11

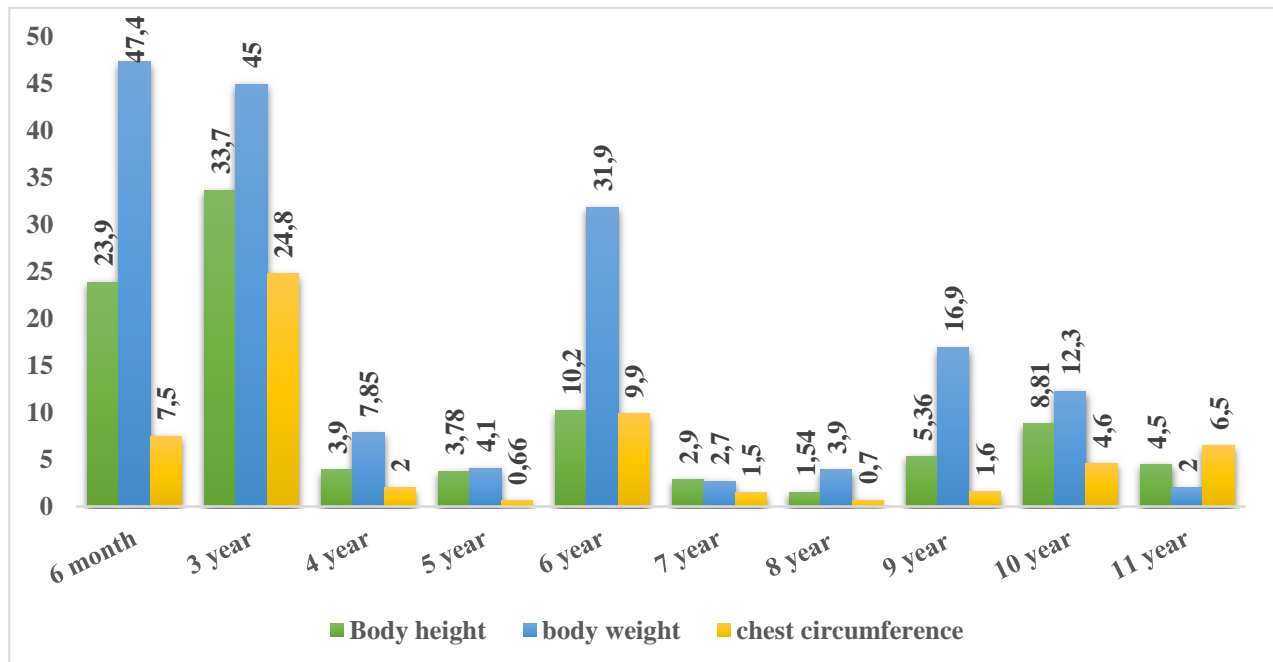


Figure 2. Comparative analysis of indicators of the growth rate of the physical development of girls 0-11 years old

Conclusions

1. In fact, all parameters of physical development in children significantly differed from the previous age, with a gradual increase ($p > 0.05$).
2. In male children, the growth rate of chest circumference, length and body weight of boys increased by 2.1, 2, 8 and 9.6 times, respectively.
3. In females, the growth rate of chest circumference, length and body weight of boys increased by 1.9 , 3.0 and 9.7 times, respectively .

References:

1. Ahrorova, K. D. (2021). Morphofunctional properties of the lymphoid structures of the spleen in norm and under the influence of various factors. *ACADEMICIA: AN INTERNATIONAL MULTIDISCIPLINARY RESEARCH JOURNAL*, 11(1), 459-465.
2. Ahrorovna, K. D. (2020). Effect of a genetically modified product on the morphological parameters of the rat's spleen and thymus. *European Journal of Molecular and Clinical Medicine*, 7(1), 3364-3370.
3. Akbarov, A. N., & Jumaev, A. K. (2019). The choice of materials depending on the topography of partial dentition defects. *ACADEMICIA: An International*

Multidisciplinary Research Journal, 9(12), 46-49.

4. Akbarov, A. N., & Jumayev, A. (2020). Hygienic condition of prostheses in patients with partially removable dental prostheses. *PalArch's Journal of Archaeology of Egypt/Egyptology*, 17(6), 14351-14357.

5. Aliev N.H. Clinical and functional methods of assessment and diagnosis of the pathological condition of the temporomandibular joint // *Тиббиётда янги кун – Бухоро*, 1(33) 2021. Январь-Март. 375-380 бет.

6. Alimova N. P. Anthropometric parameters of the head and maxillofacial region in children with adenoids // *International Engineering Journal for Research & Development*. – 2020. – Т. 5. – №. ISCCPCD. – С. 2-2.

7. Alimova N.P. Anthropometric Parameters and Facial Analysis in Adolescents// *International Research Development and Scientific Excellence in Academic Life* /2021/85-86

8. Baymuradov Ravshan Radjabovich, & Teshayev Shukhrat Jumayevich. (2021). Characteristics of Anatomical Parameters of Rat Testes in Normal Conditions and Under Irradiation in the Age Aspect. *International Journal of Trend in Scientific Research and Development*, March, 106-108.

9. Baymuradov, R. R. (2020). Teshaev Sh. J. Morphological parameters of rat testes in normal and under the influence of chronic radiation disease. *American Journal of Medicine and Medical Sciences*. –2020.-10 (1)–P, 9-12.

10. Gaffarov, S. A., & Saidov, A. A. (2020). The importance of matrix metalloproteases in the pathology of the tempo-mandibular joint in children. *International Journal on Integrated Education, Indonesia*, 3, 65-68.

11. Gaffarov, S. A., Saidov, A. A., & Rakhmatullaeva, D. U. (2020). Justification of the relationship of etiopathogenesis and complex diagnosis of the dysfunctional state of the temporomandibular join in children and adolescents. *Journal of critical reviews*, 7(18), 881-891.

12. Kamalova, S. M. (2021, January). Changes in the parameters of the physical development of 9-year-old children with scoliosis. In *Archive of Conferences* (pp. 5-6).

13. Kamalova, S. M., & Teshaev, S. J. Comparative Characteristics of Morphometric Parameters of Children with Scoliosis. *measurements*, 14, 15

14. Khabilov, N. L., & Nusratov, U. G. (2019). Features dental care for patients with type 2 type depending on disturbance of Kidney function. *Asian Journal of Multidimensional Research (AJMR)*, 8(10), 18-24.

15. Mukhiddinovna, I. M. (2022). Effects of chronic consumption of energy drinks on liver and kidney of experimental rats. *International Journal of Philosophical Studies and Social Sciences*, 2(4), 6-11.

16. Muzaffarovna, K. S. (2021). Morphometric changes in the parameters of physical development of children with scoliosis. *Academicia: an international multidisciplinary research journal*, 11(2), 359-361.

17. Nigora, A. (2021). Morphofunctional properties of the thymus and changes in the effect of biostimulants in radiation sickness. *Zhamiyatvainnovatsionalar Special Issue-3*, 2181-1415.

18. Nusratov, U. G. (2020). ANALYSIS OF ORAL HEALTH AND QUALITY OF LIFE OF GROUPS OF PATIENTS WITH TYPE 2 DIABETES AND CHRONIC KIDNEY DISEASE. *PalArch's Journal of Archaeology of Egypt/Egyptology*, 17(6), 14385-14393.
19. Saidov, A. A. (2020). Assessment of some indicators of oral liquid in children with the pathology of the temporomandibular joint. *Asian Journal of Multidimensional Research (AJMR)*, 9(1), 59-63.
20. Saidov, A. A. (2020). Hygienic condition of the oral cavity during orthodontic treatment of children with temporomandibular joint dysfunction. *The Pharma Innovation Journal*. Indiya, (9), 6.
21. Zhumaev, A. K. (2020). Partial defects of dental rows results of the questionnaire and clinical assessment of the condition of removable prostheses. *Middle European Scientific Bulletin*, 6, 94-97.
22. Zhumaev, A. K. Of Partial Defects of the Dental Rows of Dynamic Study of the State of the Mucosa of the Oral Cavity in the New Conditions of Functioning. *International Journal on Integrated Education*, 3(12), 61-63.
23. Асадова, Н. (2021). Морфофункциональные свойства тимуса и изменение при лучевой болезни под воздействием биостимулятора. *Общество и инновации*, 2(3/S), 486-493.
24. Асадова, Н.К. (2021). Морфофункциональные изменения тимуса под влиянием различных факторов внешней среды. *Барқарорлик ва Етакчи Тадқиқотлар онлайн илмий журнали*, 1 (6), 762-773.
25. Баймурадов, Р. (2021). Анатомические и физические параметры развития крыс и их семенников после облучения. *Общество и инновации*, 2(2/S), 504-509.
26. Баймурадов, Р. Р. (2021). МОРФОФУНКЦИОНАЛЬНОЕ СОСТОЯНИЕ СЕМЕННИКОВ ПРИ ОСТРОМ И ХРОНИЧЕСКОМ РАДИАЦИОННОГО ОБЛУЧЕНИИ (ОБЗОР ЛИТЕРАТУРЫ). *Биология и интегративная медицина*, (4 (51)), 4-23.
27. К. С., О. (2022). Возрастное Развитие Верхнечелюстной Пазухи В Постнатальном Онтогенезе (Обзор Литературы). *Центральноазиатский журнал медицинских и естественных наук*, 3 (1), 143-149.