ISSN: 2692-5206
AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES

ANTHROPOMETRIC PARAMETERS OF THE HEAD OF BOYS AND GIRLS WITH ADENOIDS

Alimova Nigina Pulatovna

Bukhara State Medical Institute Uzbekistan

E-mail: alimova.nigina@bsmi.uz

ORCID ID: 0000-0002-9665-226X

Annotation. Under the influence of the environment, the transformation of the development of the organism in growth develops, which reflects physical development. The reflection of the morphometry of physical development is the indicators of anthropometry, physiognometry and data of functional activity. Height, weight and chest girth are the main anthropometric parameters of the physical development of children at certain stages of ontogenesis.

Keywords: anthropomertia, children, adenoid hypertrophy, physical development

Objective: to analyze the parameters of physical development of children 3-11 years old and children with adenoid hypertrophy

Materials and methods: The study was carried out on the basis of the ENT department of the Bukhara Regional Children's Hospital. The number of children before and after adenotomy surgery was 348 (181 boys and 167 girls). Accordingly, in children with adenoid hypertrophy and 6 months after surgery, body length was measured with a height meter, body weight with special medical scales, chest circumference with a measuring tape the state of children (Table 1).

The subject of the study was the anthropometric parameters of the head and face. In conducting scientific research, a set of methods was used, depending on the tasks: anthropometric, morphometric, statistical methods.

Introduction. Changes and generalization of morphofunctional traits depending on the environmental conditions of physical development are indicators of their genetic factors [112, p. 139-145; 117, pp. 275-282].

As a result, the latter is changed in the process of physical development in a positive or negative direction [45, p. 566-567; 84, p. (In Russian) 204-204a].

According to N.N. Rudenko, I.Y. Melnikov (2010), one of the informative criteria of children's health, which characterize this dynamic process, determines the development of the child in physical terms [77, pp. 121-123].

Centile tables are the main and common methods for determining the harmony of children's physical development [20, p. 73–79], which are compiled on the basis of measurements of anthropometric parameters of a large number of children under study and speak of the

ISSN: 2692-5206
AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES

average values of the parameters of weight, height, chest and head girth, which in turn makes it possible to compare the growth rates and increments of the child's individual development [112, p. 139-145].

There are separate tables for male and female children. Head circumference is evaluated only up to the first year of life of children, and already in preschool and school age, height, body weight and chest circumference are considered important indicators [21, p. 73-79; 26, p. (In Russian) 86-100].

With the help of mathematical formulas for the body mass index method, it is possible to characterize the development of physical condition by the ratio of individual anthropometric parameters [24, p. 165-166; 115, p. (In Russian) 91-101.].

At present, despite the standardization of research, the search for the most informative methods, there is still no accurate assessment of physical development indicators [26, p. 86-100; 54, p. (In Russian) 59-64; 117, p. (In Russian) 275-282; 119, p. (In Russian) 578-583].

The study of the features of health formation helps in the study of the physical development of a large number of children and adolescents [26, p. 86-100].

The results of the main morphometric measurements are used as standards for assessing physical development [110, p. 10-15; 118, c. 280-283].

There are uniform international norms (standards and standards), according to the WHO, that characterize the physical development of children [26, p. 86-100].

In the development of a child, the causes of various health deviations are improper nutrition, environmental factors, pathologies, genetics and ethnic characteristics [51, p. 49-54; 74, pp. 257-260; 113, pp. 27-28; 114, c. 845-854].

Results of the study. The results obtained show that in 3-year-old male children, the head circumference was on average - 48.9±0.20 cm, and in girls it was on average - 48.5±0.20 cm. In male children, the longitudinal diameter of the head was on average - 9.6±0.10 cm, and in females it was on average - 9.60±0.20 cm. Transverse size in boys was equal on average - 14.3±0.10 cm. ±when measuring the transverse size of the forehead of the studied male children, the average was 9.1±0.10 cm, in the female sex it was on average 9.20±0.10 cm. At the same time, the vertical (high-altitude) diameter of the head of boys is on average 9.8±0.10 cm, in girls it averaged 10.1±0.20 cm. In males, the length of the skull base is on average 11.1±0.10 cm and the width of the skull base is on average equal to – 11.6±0.20 cm, and in the female sex it averaged 11.5±0.10 cm and 11.6±0.10 cm, respectively.

The indicators of 4-year-old children practically did not differ from the data of 3-year-olds (P>0.05), almost repeating the above parameters. The average head circumference of 4-year-old male children was 48.8±0.10 cm, and that of females was an average of 48.6±0.01 cm. In boys, the longitudinal diameter of the head was on average 9.7±0.10 cm, in girls it was on average 9.80±0.03 cm. In males, the transverse size of the head was on average 14.1±0.02 cm. ±The transverse size of the forehead of boys averaged 9.3±0.10 cm, girls averaged 14.4±0.10 cm, and the vertical diameter of the head averaged 10.2±0.10 cm and 10.0±0.10

ISSN: 2692-5206
AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES

cm, respectively. The length of the skull base in boys was on average 11.6±0.10 cm and in girls it averaged 11.6±0.10 cm. The width of the skull base in male children averaged -12.7±0.10 cm, in females it averaged -12.4±0.10 cm

By the age of 5, children had slight but significant increases in size relative to 3- and 4-year-old children (P<0.05). The average head circumference of these male children was 49.8±0.10 cm, the average female head circumference was 49.6±0.20 cm. The longitudinal diameter of the head of boys averaged 10.5±0.10 cm, and the average head circumference of girls was 10.0±0.03 cm. The transverse size of the head in males averaged 14.4±0.10 cm, in females it averaged 14.4±0.0.04 cm. In males, the transverse size of the forehead averaged 10.0±0.10 cm. in girls it was on average 9.60±0.10 cm. The vertical diameter of the head in males averaged 10.9±0.10 cm, in females it was on average 10.2±0.03 cm. The length and width of the base of the skull in boys were equal on average 12.1±0.10 cm and –12.7±0.10 cm, respectively. In girls, the same parameters were equal to 12.0±0.10 cm and 12.6±0.10 cm.

In 6-year-old children, almost all 7 head parameters were significantly higher than the same indicators of 3- and 4-year-old children (P<0.05) and 4 parameters were significantly higher (except for the longitudinal diameter of the head and zygomatic diameter) in relation to 5-year-olds.

In male children, by the age of 6, the average head circumference was 49.4±0.10 cm, in girls it was on average 51.7±0.10 cm. The longitudinal diameter of the head in males was on average 11.0±0.10 cm, and in females it was on average 10.5±0.10 cm. In boys, the transverse size of the head averaged 14.7±0.10 cm. the transverse size of the forehead in males was on average 1±0.2±0.10 cm, in females it averaged 9.90±0.04 cm. In male children, the vertical diameter of the head averaged 11.1±0.02 cm, and in females it averaged 10.4±010 cm, respectively. The length of the skull base in male children was on average 13.1±0.10 cm and in females it was equal to an average of 12.5±0.10 cm. The width of the skull base averaged -13.9±0.10 cm and 12.7±0.10 cm, respectively. In male children, by the age of 6, the average head circumference was 49.4±0.10 cm, in girls it was on average 51.7±0.10 cm. The longitudinal diameter of the head in males was on average 11.0±0.10 cm, and in females it was on average 10.5±0.10 cm. In boys, the transverse size of the head averaged 14.7±0.10 cm. the transverse size of the forehead in males was on average 1±0.2±0.10 cm, in females it averaged 9.90±0.04 cm. In male children, the vertical diameter of the head averaged 11.1±0.02 cm, and in females it averaged 10.4±010 cm, respectively. The length of the skull base in male children was on average 13.1±0.10 cm and in females it was equal to an average of 12.5±0.10 cm. The width of the skull base averaged -13.9±0.10 cm and 12.7±0.10 cm, respectively.

7-year-olds had the same trend of change as 6-year-olds. In boys, the average head circumference was 51.5±0.30 cm, in girls it was equal on average - 51.9±0.30 cm, and the longitudinal diameter of the head was on average 12.4±0.10 cm and 11.2±0.10 cm similarly. In males, the transverse

the average size of the head was 14.9±0.03 cm, the average size of the female sex was 14.7±0.04 cm. The transverse size of the forehead in boys averaged 10.4±0.1 cm, in girls it was on average 10.0±0.04 cm. In male children, the vertical diameter of the head was on

ISSN: 2692-5206
AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES

average 11.3±±0.10 cm, in females it averaged 10.50.10 cm. The length and width of the base of the skull in boys were equal on average 13.±60.10 cm and 13.9±0.10 cm, and in girls they averaged 12.1±0.10 cm and 13.5±0.10 cm respectively (Table 3.5.1.)

It was also noted that there was a gradual increase in the size of the head in 8-year-old children, almost all parameters significantly differed from the previous age groups. It should be noted that boys' head circumference averaged 53.9±0.20 cm, while girls' head circumference averaged 54.1±0.20 cm.

The longitudinal diameter of the head of male children averaged 13.3±0.08 cm, the average length of the female head was 11.6±0.10 cm. The transverse size of the head in males averaged 15.3±0.04 cm, in females it was on average 14.6±0.04 cm, and the transverse size of the forehead averaged 11.1±0.04 cm and 10.1±0.04 cm, respectively. In boys, the vertical diameter of the head was on average 11.5±0.08 cm, in girls it averaged 10.6±0.10 cm.

The length of the skull base in males is on average 14.1±0.13 cm and the width of the skull base is on average 14.6±0.09 cm. The length of the skull base in females is on average 12.4±0.10 cm and the width of the skull base is on average -13.6±0.10 cm.

The trend of a gradual increase in the size of the head continued in 9-year-old children of both sexes. In male children, the average head circumference is 53.8±0.18 cm, in females it averaged 54.3±0.20 cm. In males, the longitudinal diameter of the head was on average 13.5±0.07 cm, in females it was on average 11.9±0.04 cm, the transverse size of the head in boys was on average 14.2±0.20 cm, in girls it was on average 14.7±0.07 cm±±. The average vertical diameter of the head is 11.9±0.04 cm and 10.8±0.04 cm, respectively. In males, the length of the skull base was on average 14.4±0.12 cm, in females it averaged 12.3±0.10 cm, and the width of the skull base averaged –14.8±0.09 cm and 13.6±0.10 cm, respectively.

Table 3.5.1

Anthropometric parameters of the head of children 3-7 years old with hypertrophy of the pharyngeal tonsils

Age	3 – flight		4 – flight		5-flight		6-flight		7-flight	
Floor	M	D	M	D	M	D	M	D	M	D
RF	13,4-15,0 14,3±0,11	12,6-14,4 13,7±0,12	13,7-14,5 14,1±0,05	13,7-15,3 14,4±0,01	13,4-15,3 14,4±0,01*	13,9-14,9 14,4±0,0,08	13,8-15,5 14,7±0,1	13,5-15,2 14,5±0,1	14,4-15,3 14,9±0,0	13,7-15,5 14,5±0,1
PrDCH	8,8-10,2 9,6±0,1	6,6-10,4 9,6±0,2	8,1-11,6 9,7±0,1*	9,4-10,3 9,8±0,0	8,7-12,4 10,5±0,1*	9,4-10,4 10,0±0,0*	9,8-12,6 11,0±0,1*	9,5-11,4 10,5±0,1*	11,4-13,3 12,4±0,1*	10,7-11,6 11,2±0,0*

ISSN: 2692-5206
AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES

OG	46,5-51,2 48,9±0,2	45,7-51,2 48,5±0,2	47,2-50,3 48,8±0,1	46,8-50,3 48,6±0,1	48,3-51,3 49,8±0,1	47,0-52,2 49,6±0,2*	48,0-50,8 49,4±0,1	49,9-53,5 51,7±0,1*	47,8-55,2 51,5±0,3	48,0-55,7 51,9±0,3*
PDL	8,1-9,8 9,1±0,1	7,8-11,0 9,2±0,1	7,3-10,8 9,3±0,1*	8,8-10,4 9,5±0,1*	8,6-11,3 10,0±0,1*	8,7-10,6 9,6±0,1*	9,1-11,0 10,2±0,1*	9,5-10,4 9,9±0,0*	9,6-11,4 10,4±0,1*	9,6-10,5 10,0±0,0*
VRG	8,8-10,5 9,8±0,1	7,4-13,0 10,1±0,2	8,4-11,8 10,2±0,1*	8,8-11,0 10,0±0,1	9,6-12,2 10,9±0,1	9,6-10,6 10,2±0,0	10,6-11,5 11,1±0,0	9,4-11,3 10,4±0,1*	10,2-12,2 11,3±0,1*	9,6-11,3 10,5±0,1*
DAUGHTER	9,7-12,4 11,1±0,1	9,8-13,2 11,5±0,1	10,2-13,0 11,6±0,1*	9,9-13,3 11,6±0,1*	11,0-13,2 12,1±0,1*	10,5-13,5 12,0±0,1*	11,5-14,7 13,1±0,1*	10,7-14,2 12,5±0,1	11,9-15,2 13,6±0,1*	10,9-13,2 12,1±0,1
SHOCH	9,2-13,9 11,6±0,2	10,0-13,1 11,6±0,1	11,0-14,4 12,7±0,1*	10,8-13,9 12,4±0,1*	11,3-14,1 12,7±0,1*	11,2-14,0 12,6±0,1*	12,0-15,7 13,9±0,1*	11,3-14,0 12,7±0,1*	12,7-15,2 14,0±0,1*	12,2-14,7 13,5±0,1*

Note: *-confidence index (P<0.05) compared to the previous age.

The data obtained showed that in 10-year-old male children, the head circumference is on average 54.0±0.23 cm, in females it averaged 52.4±0.23 cm. The longitudinal diameter of the head in boys is on average 13.7±0.08 cm, in girls it averaged 12.2±0.04 cm.

Table 3.5.2

Anthropometric parameters of the head of 8-11-year-old children with hypertrophy of the pharyngeal tonsils

Age	8 – flight		9 – flight		10-flight		11 – flight	
Floor	M	D	M	D	M	D	M	D
RF	14,8-15,8 15,3±0,04*	14,1-15,1 14,6±0,0	14,7-16,6 15,6±0,07*	14,2-15,1 14,7±0,0*	15,2-16,1 15,69±0,04*	14,3-15,3 14,80±0,04*	15,5-16,4 15,90±0,04*	14,4-16,3 15,20±0,08*

www.academicpublishers.org Volume 5, March , 2025 , MEDICAL SCIENCES. IMPACT FACTOR:7,89

ISSN: 2692-5206
AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES

PrDCH	12,2-14,2 13,2±0,08*	10,7-12,5 11,6±0,1*	12,6-14,4 13,5±0,07*	11,4-12,4 11,9±0,0*	12,6-14,5 13,70±0,08*	11,7-12,7 12,20±0,04*	13,6-14,4 13,99±0,03*	12,1-13,0 12,60±0,04*
OG	51,4-56,4 53,9±0,2	51,6-57,3 54,5±0,2*	51,5-56,1 53,8±0,18	51,8-56,8 54,3±0,2*	51,0-56,8 54,00±0,23	52,4-58,1 55,12±0,23*	51,4-58,3 54,56±0,28	52,2-58,9 55,58±0,27*
PDL	10,6-11,5 11,1±0,036*	9,6-10,6 10,1±0,0*	10,7-11,7 11,2±0,04*	9,8-10,7 10,2±0,0*	10,7-11,6 11,20±0,04*	9,90-10,8 10,40±0,04*	11,4-12,4 11,80±0,04*	9,80-11,7 10,70±0,08*
VRG	10,5-12,4 11,4±0,07*	9,8-11,7 10,6±0,1	11,6-12,6 11,9±0,04*	10,3-11,3 10,8±0,0	12,0-13,0 12,49±0,04*	10,5-11,3 10,90±0,03*	12,5-13,5 13,00±0,04*	10,7-11,7 11,20±0,04*
DAUGHTER	12,5-15,7 14,1±0,12*	11,0-13,7 12,4±0,1	12,8-15,9 14,35±0,12*	11,2-13,4 12,3±0,1	13,1-16,2 14,65±0,12*	11,9-14,5 13,20±0,10*	13,5-16,7 15,10±0,13*	12,1-14,7 13,40±0,10*
SHOCH	13,5-15,7 14,6±0,08*	12,3-14,8 13,6±0,1*	13,7-16 14,8±0,09	12,3-14,9 13,6±0,1*	13,9-16,8 15,35±0,12*	12,8-15,2 14,00±0,10*	14,2-17,2 15,70±0,12	12,9-15,3 14,10±0,10*

Note: *-confidence index (P<0.05) compared to the previous age.

In males, the transverse size of the head was on average 14.2±0.10 cm, in females it averaged 14.8±0.04 cm. In males, the transverse size of the forehead was on average 15.7±0.04 cm, in females it was on average 10.4±0.04 cm. In males, the vertical diameter of the head was on average 12.5±0.04 cm. the average length of the skull base in boys was 1±4.7±0.12 cm and the width of the skull base averaged -15.4±0.12 cm. The length of the skull base in girls averaged 13.2±0.10 cm and the width of the skull base averaged -14.0±0.10 cm

Facial parameters in 10-year-old children were practically at the level of 8- and 9-year-old children, the results of which did not differ significantly (P>0.05), significant changes were noted compared to children 3-7 years old (P<0.05).

The average head circumference in 11-year-old male children was 54.5±0.28 cm, in females it averaged 55.5±0.27 cm. The longitudinal diameter of the head was on average 13.9±0.03 cm in boys, and 12.6±0.04 cm in girls±±±. in girls it averaged 10.7±0.08 cm.

ISSN: 2692-5206
AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES

In male children, the vertical diameter of the head was on average 13.0±0.04 cm, in females it averaged 11.2±0.04 cm. The length of the skull base in boys was on average 15.1±0.13 cm and the width of the skull base averaged -15.7±0.12 cm, while in girls these parameters were equal on average - 13.4±0.10 cm and 14.1±0.10 cm, respectively (Table 3.5.2).

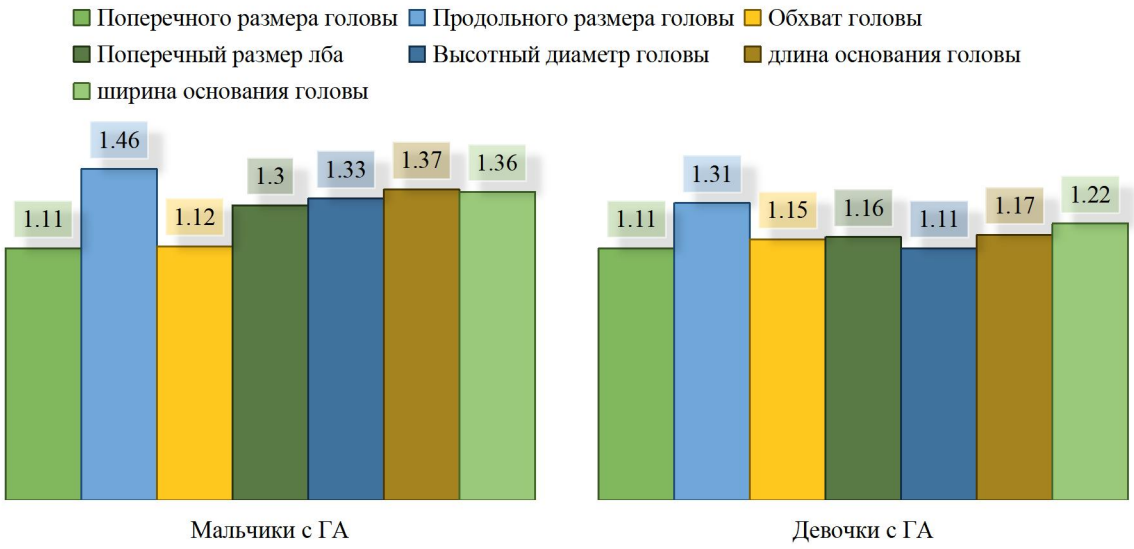

Figure 3.5. Comparative assessment of the head parameters of children with hypertrophy of the pharyngeal tonsils

Findings. In children with hypertrophy of the pharyngeal tonsils of the male sex, the growth rate of the transverse and longitudinal size of the head was 1.11 and 1.46 times, the highest growth rate was observed at 8 years (2.61%) and 7 years (11.2%) in relation to children of other ages, and the girth of the head increased by 1.12 times, the growth rate was noted at 8 years (4.45%), and the transverse size of the forehead and the altitudinal diameter of the head increased by 1.30 and 1.33 times. The increase was 7.13% and 1.72% (4 years), respectively. The growth rate of the length and width of the base of the head increased by 1.37 and 1.36 times, and the growth rate was observed at 6 years (7.63%) and 4 years (9.06%) similarly.

In female children, the growth rate of the transverse and longitudinal size of the head was 1.11 and 1.31 times, the maximum growth rate was observed at 4 years (5.10%) and 7 years (6.34%) in relation to children of other ages, and the head circumference was 1.15 times, the highest growth rate was observed at 8 years (4.68%), and the transverse size of the forehead and the height diameter of the head increased by 1.16 and 1.11 times. The increase was at 4 years and 11 years (3.29% and 2.68%), respectively. The growth rates of the length and width of the base of the head were 1.17 and 1.22 times, and the growth rates were observed at 10 years (6.82%) and 4 years (6.48%) in the same way (Fig. 3.5).

Literature:

1. Alimova, N. (2021). The influence of the adenoid on the physical development and immune system of children. Society and Innovation, 2(2/S), 391-398.

ISSN: 2692-5206
AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES

2. Alimova, N. P. (2020). Anthropometric study of the facial index of medical students. Young Scientists in Medicine.

3. Alimova, N. P. (2021). Assessment of the condition of children with adenoid hypertrophy in the quarantine pediodium. Barqarorlik va yetakchi tadqiqotlar onlayn ilmiy jurnali, 1(6), 774-785.

4. Alimova, N. P. (2022). Analysis of anthropometric parameters of the facial area and physical development of children with adenoid hypertrophy before and after adenoectomy. Central Asian Journal of Medical and Natural Science, 3(3), 132-137.

5. Alimova, N. P. (2023). Morphometric changes in the maxillofacial region of children with adenoid hypertrophy. O'zbekistonda fanlararo innovatsiyalar va ilmiy tadqiqotlar jurnali, 2(17), 166-177.

6. Alimova, N. P., & Asadova, N. Kh. (2020). Study of anatomy through problem-based learning among medical students. In Proceedings of the International Educational Online Conference "The Current State of Medical Education: Problems and Prospects" (pp. 138-139).

7. Alimova, N. P., & Asadova, N. Kh. (2022). Method for determining the size of hypertrophied pharyngeal tonsils using ultrasound diagnostics. Journal of Biomedicine and Practice, 7(3).

8. Alimova, N. P., & Teshaev, Sh. Zh. (2023). Anthropometric results of the maxillofacial region of children with hypertrophy of the adenoids. O'zbekistonda fanlararo innovatsiyalar va ilmiy tadqiqotlar jurnali, 2(17), 154-165.

9. Alimova, N. P., Ilyasov, A. S., & Kamalova, Sh. M. (2022). Indicators of anthropometric indicators of physical development of children of the first period of childhood in Bukhara region. Research Journal of Trauma and Disability Studies, 1(9), 193–201.

10. Alimova, N. P., Khasanova, D. A., Kamalova, Sh. M., & Asadova, N. Kh. (2020). Modern phytopreparations in complex treatment of lympharyngeal ring pathology in children. A New Day in Medicine, (4), 484-485.

11. Zhumaev, A. Kh. (2021). Method for assessing the state of the oral mucosa in dental defects. Uzbek Medical Journal, 2(2). Journal of Science in Medicine and Life Volume: 1 Issue: 2 Year: 2023

12. Zhumaev, A. Kh. (2021). Microbiological study of the oral cavity for prosthetics of defects of dentition. Uzbek Medical Journal, 2(2). 13. Zhumaev, A. Kh. (2021). Hygienic conditions of the prosthesis in elderly patients. Barqarorlik va yetakchi tadqiqotlar onlayn ilmiy jurnali, 1(6), 806-815.

14. Zhumaev, A. Kh. (2021). Microbiological examination of the oral cavity for prosthetics of dental defects. Uzbek Medical Journal, 2(2). 15. Zhumaev, A. Kh. (2021). Features of the

ISSN: 2692-5206
AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES

dental status of patients of older age groups. Barqarorlik va yetakchi tadqiqotlar onlayn ilmiy jurnali, 1(6), 853-865.

16. Zhumaev, A. Kh. Obosnovanie ortopedicheskoy korrektsii pri kontsevykh defectakh [Justification of orthopedic correction in terminal defects].

17. Zhumaev, A. Kh., & Saidov, A. A. (2022). Assessment of the oral hygiene index in patients with partial adenitis in older age groups of Bukhara. Central Asian Journal of Medical and Natural Science, 3(3), 138-143.

18. Zhumaev, A. Kh., & Saidov, A. A. (2022). Assessment of the quality of life in orthopedic treatment of patients with diseases of the oral mucosa. O'zbekistonda fanlararo innovatsiyalar va ilmiy tadqiqotlar jurnaLI, 1(8), 704-710.

19. Zhumaev, A. Kh., & Saidov, A. A. (2022). Comparative assessment of edentulism of the dentition of the upper and lower jaws in the elderly population. T [a_xw [i [s us s_s^[ùe yfcs^, 358.

20. Teshaev, Sh., & Alimova, N. (2021). Immunomorphological features of the lymphoid tissue of the pharyngeal tonsils in children with adenoid vegetations (literature review). Society and Innovation, 2(7/S), 210-220.