

Gender characteristics of the physical development of the head (Review article)

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Annotation: Indicators of physical development are anthropometric data, the rate of their change in the process of growth, harmonious development, the ratio of calendar and biological age, constitutional features. Assessment of the physical development of the child population based on anthropometric data is one of the key indicators of the health of the child population and is important for doctors, teachers and sports trainers. In scientific anthropometry, when determining the type of face and shape of the head, anthropometric points are used, which are divided into craniometric, that is, their landmarks are on the bones of the skull, and cephalometric - landmarks are on the soft tissues of the head.

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In scientific anthropometry, when determining the type of face and shape of the head, anthropometric points are used, which are divided into craniometric, that is, their landmarks are on the bones of the skull, and cephalometric - landmarks are on the soft tissues of the head. There are medial (middle) and lateral (side) points.

The morphological differences between male and female skulls have been studied in sufficient detail and boil down to the following (Pashkova V.I., 1958,1961).

1. Male skulls are on average larger than females, but the difference between them in facial size is greater than in the size of the brain skull.
2. The relief is usually much more pronounced on male skulls than on female ones. The places of attachment of muscles, especially the occipital muscles, are less prominent on female skulls. The mastoid processes are smaller on them, the zygomatic arches are thinner.
3. On female skulls, the frontal and parietal tubercles are more often and more pronounced.
4. A sloping forehead is much more common on male skulls than on female ones; on female skulls the forehead has a more infantile structure.
5. Due to the strong development of the frontal relief on male skulls, the frontonasal angle is much more pronounced than on female skulls; the latter are distinguished by a smooth transition from the nasal process of the frontal bone to the nasal bones.
6. The orbits of female skulls are higher and rounded, their upper edges are thin and sharp.
7. The lower jaw of male skulls is larger and more massive than that of female skulls; more often there are more developed angles and more vertically placed branches.
8. Men's teeth are larger and the roots of their permanent teeth are larger than women's.

However, it should be borne in mind that none of these signs has absolute significance. The literature also lacks data on any annual dynamics, including in adolescence.

V.N. Zvyagin (1999) describes differences in the thickness of the bones of the brain part of the skull depending on gender: in women the frontal bone is thicker, and in men the occipital bone is thicker, except for the opistocranium (Kolotkov A.P., 1969).

V.S. Speransky, A.A. Zaichenko (1995) believe that evolutionary changes in the stability of the brain skull, resulting from adaptation to extreme factors of the Earth, are more pronounced in male skulls compared to female ones (Zaichenko A.A., 1991).

A.L. Purunjan, T.M. Grobova (1984); E.G. Martirosov (1986), D.B. Bekov (1988, 1991); L.T.

Levchenko et al. (1997); V. Fetter (1957) recommend in-depth study of the issues of individual anatomical variability of organs, systems and forms of the human body depending on gender and age.

As noted above, the predominance of the absolute majority of parameters in men compared to women is considered proven. Differences in linear dimensions by gender are recognized by all researchers studying this section of anthropology (Ginzburg V.V., 1963; Pereverzev V.A., 1994). They appear already from the prenatal period, gradually increase after the first year of life and especially after 4 years, and by the age of 12-14 they are already clearly defined. In terms of height dimensions of the face, the superiority in boys reaches 4-6%, in genial width - 5-6 %, zygomatic width - 3.5%, in head length - 4%, its width - 2.5-3% and the smallest frontal diameter - 1.5-2%.

A woman's head is 1/5 smaller than a man's head. In 75% of cases, a woman's forehead is steep, the ridges and ridges do not protrude as sharply as a man's, and the jaws are relatively thin. The glabellar elevations and brow ridges are not pronounced.

P.F. Shaparenko (1991,1994) indicates that the formation of sexual dimorphism of head characteristics occurs during puberty and persists at all subsequent age stages, which I.N. agrees with. Miklashevskaya (1968-1983), A.L. Purunjan (1988). He found that the size of the brain region in women is 5.2% larger than in men, and the facial region is 4.1% larger. In the works of P.F. Shaparenko, S.P. Lysyuk (1992) provides evidence that the head size is relatively larger in short people compared to tall people. They believe that the characteristics of the head have an independent level of development. Sexual characteristics of the face and head are determined by the topography of the skull and are heritable characteristics.

However, in men, head development indicators also predominate.

Anthropologists (Bunak V.V., 1940; Roginsky Ya.Ya., Levin M.G., 1978; Tegako L.I., Salivon I.I., 1989) established gender differences in the cerebral part of the head: in men, individuals with a dolichocephalic head shape are more often identified, in women - with a brachycephalic shape. A significant contribution to the study of sexual characteristics of growth and the formation of head size was made by V.P. Alekseev, G.F. Debets (1964), P.F. Shaparenko (1994), V. Merida et al. (1984).

According to Garson (1910), in individuals of both sexes the same types are identified in the facial region of the head, but in men their values are 2-3% higher:

	Men	women
very wide face (hypereuryprosopus) x - 78.9;		x - 76.9;
wide face (euryprosopus)	79.0-83.9;77.0-80.9;	
average face (mesoprosopus)	84.0 - 87.9; 81.0 - 84.9;	
narrow face (leptoprosopus)	88.0 - 92.9; 85.0 - 89.9;	
very narrow face (hyperleptoprosopus) 93.0 - x.;		90.0 - x.

According to V.A. Pereverzev (1994), the indicator of type 1 - wide and short face - up to 127.9% in men and up to 121.9% in women; 2 types of faces - average - 128.0-136.9% in men and 122.0-129.9% in women; 3 types - narrow and long faces - more than or equal to 137.0% in men and 130.0% in women. According to V.A. Pereverzeva (1987), the physiognomic height of the face varies in men from 161 to 210 mm; in women from 151 to 200 mm; morphological height is 130-138 mm and 96-127 mm, respectively; the height of the upper third of the face is 48.6-78.6 mm in men and 42.7-80.6 mm in women; the height of the middle third is 45.0-64.5 mm in men and 41.3-57.5 mm in women; the height of the lower third is 57.6-79.0 mm in men and 51.8-72.3 mm in women.

The average parameters of the frontal width in men were 125 mm, in women - 120 mm; zygomatic width 137 and 136 mm, respectively; bigonial - PbiPZmm (Pereverzev V.A., 1987).

Thus, the latitude parameters of the face, as well as the altitude parameters, in men prevail over the same dimensions in women (but to a lesser extent), while the annual dynamics of the parameters is practically not represented in the scientific literature we have studied.

All dimensions of the lower jaw, except for the angle, are larger in mature men than in women of the same age. The most noticeable is the predominance of the altitudinal and latitudinal dimensions of the jaw

and the length of the head of the lower jaw.

The angle of the lower jaw in women aged 16-21 years (Krasnoyarsk) is 114.2°, and in men of the same age - 128.3° (Manashev G.G., 2000).

According to Yu.A. Gladilin (1969), the mandibles of mature and elderly men are larger than the jaws of women of the same age. The angle of the jaw in adulthood is greater in women. On the lower jaw of mature men there is a direct relationship between the length of the jaw and the size of its angle; on female jaws such a relationship cannot be established. The mental foramen on the lower jaw of mature men is larger than on the jaw of women of the same age. The distances from the mental foramen to the alveolar edge, the base of the jaw and the posterior edge of the ramus in mature men are greater than in women of this age group.

I.V. Firsova (2003), who studied the head of women aged 17-19 years, comparing her data with literature data, also established the predominance of all parameters of the head of men compared to those of women (with the exception of angular parameters and the head and facial indexes). However, her materials also do not fully cover both head parameters and, especially, head development indicators.

From the point of view of R.D. Chemenova (1990), M.M. Gerasimova (1992), N.I. Khaldeeva (1992) it is very important to study gender differences in odontometric indicators, since underestimation of gender differences can affect the results of the study.

G.L. Khit, N.A. Dolinova (1992), A.A. Zubov, N.I. Khaldeeva (1989) recommend that when studying the dentofacial system, consider the nature of each feature only by gender, as this provides valuable information.

The existence of sexual dimorphism in the size of human teeth has been known for a long time (Yamada N., 1990). In the anthropological literature, this opinion has become quite firmly established and is usually accepted without evidence. As V.A. points out. Pereverzev (1975), one of the first Russian scientists to study the size of teeth on models back in 1886, was V.V. Dementyev, who came to the conclusion that the average size of teeth does not differ in sexual dimorphism. In contrast, N.A. Astakhov et al. (1940), M.M. Gerasimov (1955), A.A. Zubov (1968), A.A. Zubov, N.I. Khaldeeva (1993) found that men have larger teeth. ON THE. Astakhov et al. (1940) revealed that the size of teeth in men is larger than in women and called teeth with large crowns - teeth "with a male aspect", and with small crowns - teeth "with a female aspect". M.M. Gerasimov (1955) believed that in relation to the overall size of the body, women's teeth are larger than those of men. A.A. Zubov (1987) saw gender differences not so much in the absolute sizes of the teeth, but in their different relationships with each other in the same dentition. a number of special studies have shown that the situation is more complicated than previously thought. Firstly, it is necessary to clarify which teeth we are talking about, secondly, what specific sizes are meant, thirdly, with which ethnic groups and which eras we are talking about. we are dealing with. Most of the works devoted to sexual dimorphism in the sizes of human teeth have shown that in almost all sizes the teeth of men and women do have differences (although not always reliable). Most authors believe that the teeth of men are larger in size than the corresponding teeth of women (Zubov A). .A., 1964; Bailit H. L. et al ., 1968; Alvesalo L. , 1969; Castillo H. L. , 1973; Perzigian A. J. , 1976; Gam S. M. et al ., 1979; Koch E. M. , Graf H. , 1981).

Conclusion: Most authors agree that for a general assessment of a child's physical development, it is sufficient to monitor changes in 4 main anthropometric indicators: body length and weight, chest and head circumference. The bulk of research confirms that changes in indicators of physical development of children and adolescents depend on natural-climatic, ethnic, environmental conditions and the degree of anthropogenic load. The literature studied confirms the need to develop and regularly review regional standards for the physical development of children at different periods of life.

References:

1. Aleksina L.A., Rudkevich L.A. Progressive trends in human evolution at the present stage I Mater. IV int. Congr. on integrative anthropology: Publishing house of St. Petersburg State Medical University, 2002, pp. 12-13.
2. Bunak V.V. The human skull and the stages of its formation in fossil people and modern races: Proceedings of the Institute of Ethnography, new series. M.: Publishing House of the USSR Academy of Sciences. - T.49, 1959.
3. Bunak V.V. Facial skeleton and factors determining variations in its structure // Anthropological

collection. - M., 1960. - Issue. 2. - pp. 84 - 152.

4. Bunak V.V. On the evolution of the shape of the human skull // Issue. anthropopol. - 1968. - Issue. 30. - pp. 165 - 178.
5. Distel V.A., Suntsov V.G., Drozdovskaya N.G., Eremina Z.V. The relationship between the shape of the face, jaws, tooth reduction and caries susceptibility // Dentistry. - 1985. - No. 2. - pp. 19-20.
6. Dobrovolsky G.A., Eremin A.V. Somatotypes in the Saratov population of male students 17 - 24 years old // Ross. Morphol. Led. - 2001.-№1-2.-S. 190-192.
7. Nikityuk B. A. The importance of the anthropometric approach in medical research // Issues. physical anthropopol. women: Abstracts of reports. - Tartu, 1980. - pp. 16-18.
8. Nikityuk B. A. Acceleration of development (reasons, mechanisms, manifestations and consequences). - M., 1989. - 198 p. - (Results of Science and Technology: Ser. Anthropology/VINITI; T. 3.).
9. Pereverzev V.A. Architectonics of the face. - Volgograd: Zatsaritsinsky Bulletin, 1994. - 216 p.
10. Pereverzev V.A. Facial beauty. How to measure it? - Volgograd: Nizhne Volzhskoe book. from-in, 1979. - 176 p.
11. Kupriyanov V.V., Stovichek G.V. Human face: anatomy, facial expressions. - M.: Medicine, 1988.-272 p.
12. Lutskaya I.K., Yarova S.P. Sizes of teeth and their susceptibility to caries // Sports and medical news. anthropology. - 1990. - Issue. 2. - pp. 78 -79.
13. Khoroshilkina F.Ya., Tochilina T.A. Features of the formation and formation of permanent teeth. - M.: TSOLIUV, 1982. - 17 p.