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COMPARATIVE CHARACTERISTICS OF ANTHROPOMETRIC DATA IN CHILDREN WITH DOWN'S SYNDROME

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✓ ***Resume***

As a rule, people with Down syndrome have a specific appearance - they are characterized by the preservation of facial features characteristic of the early stage of fetal development. Here are observed: small birth weight, small stature, small limbs (disproportionate to the body), short neck, wide hands and feet, short wide fingers, a shortened little toe, the distance between the first and second toes is increased on the feet (sometimes syndactyly is observed - splicing of fingers) , the skull of a microbrachiocephalic configuration with a sloping occiput. Additional skin fold at the inner corner of the eyes ("third eyelid", epicant), oblique eye section, there are depigmentation areas on the periphery of the iris. There is underdevelopment of the upper jaw, abnormal growth of teeth. The article analyzes the literature on the physical parameters of children with Down syndrome, but the anthropometric indicators have not been fully studied.

Key words: Down syndrome, anthropometry, epicant, microbrachiocephaly, craniofacial parameters.

СРАВНИТЕЛЬНАЯ ХАРАКТЕРИСТИКА АНТРОПОМЕТРИЧЕСКИХ ДАННЫХ У ДЕТЕЙ С СИНДРОМОМ ДАУНА

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✓ ***Резюме***

Как правило, люди с синдромом Дауна имеют специфический внешний облик – для них характерно сохранение черт лица, свойственных ранней стадии развития плода. Здесь наблюдаются: маленький вес при рождении, небольшой рост, маленькие конечности (непропорциональные туловищу), короткая шея, широкие кисти и стопы, короткие широкие пальцы, укороченный мизинец, на стопах увеличено расстояние между первым и вторым пальцем (иногда наблюдается синдактилия – сращивание пальцев), череп микробрахиоцефальной конфигурации со скошенным затылком. Дополнительная кожная складка у внутреннего угла глаз («третье веко», эпикант), косой разрез глаз, присутствуют участки депигментации на периферии радужки глаза. Имеется недоразвитие верхней челюсти, неправильный рост зубов. В статье анализируется литература по физическим параметрам детей с синдромом Дауна, но антропометрические показатели полностью не изучены.

Ключевые слова: синдром Дауна, антропометрия, эпикант, микробрахиоцефалия, краниофациальные параметры.

DAUN SINDROMI BILAN OG'RIGAN BOLALARDA ANTROPOMETRIK KO'RSATKICHLARINING QIYOSIY TAVSIFI

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✓ ***Rezume***

Daun sindromi bo'lgan bolalar o'ziga xos ko'rinishga ega - ular homila rivojlanishining dastlabki bosqichiga xos bo'lgan yuz xususiyatlarini saqlab qolish bilan ajralib turadi. Ukarda quyidagi belgilar kuzatiladi: tug'ilganda kichik vazni, bo'yi kichkina, oyoq-qo'llari (tanaga nomutanosib), kalta bo'yin, qo'llari va oyoqlari kalta, kichkina barmog'i kalta, oyoqlarda birinchi va ikkinchi barmoqlar orasidagi masofa keng (ba'zida sindaktiliya kuzatiladi - barmoqlarning qo'shilishi), bosh suyagi konfiguratsiyaning mikrobraxiosefalik. Ko'zlarning ichki burchagida qo'shimcha teri burmasi ("uchinchi ko'z qovog'i", epikant), qiyshaygan ko'z bo'limi mavjud. Yuqori jag'ning rivojlanmaganligi, tishlarning g'ayritabiiy o'sishi kuzatiladi. Maqolada Daun sindromi bo'lgan bolalarning jismoniy parametrlari bo'yicha adabiyotlar tahlil qilingan, ammo antropometrik ko'rsatkichlar to'liq o'rganilmagan.

Kalit so'zlar: Daun sindromi, antropometriya, epikant, mikrobraxiosefali, kraniofasiyal parametrlar.

Relevance

One of the urgent problems of modern medicine is the study of anthropometric parameters of various parts of the body and their relationship. To study the growth, development and state of the skeleton of the head and maxillofacial region of children with Down syndrome and their relationship with the indicators of the physical development of a modern child can be a theoretical and methodological basis for the development and improvement of anthropometric methods of diagnosis and reconstruction in medicine. The ratio of these parts of the human body in different age periods and the factors influencing the development of this anatomical region have not been fully studied.

One of the criteria for indicators of the health of the child population is its physical health. Assessment of the state of physical development is impossible without studying the anthropometric indicators of different age groups. Many norms and standards have been proposed to describe the ideal proportions of the human body, but it is the physical proportion that determines its beauty.

To analyze the anthropometric and physical parameters of a child, standards of this area are needed, which should be developed taking into account the nationality of the child and the geography of the area.

Among chromosomal pathology, Down's syndrome stands out (according to ICD-10 090) - the most common chromosomal pathology is a disease of the genetic apparatus of cells, consisting in trisomy on the 21st pair of chromosomes. The prevalence of Down syndrome in newborns is currently 1: 800, reaching 1: 250 in children born to mothers over 30 years old (Kozlova S.I., Demikova N.S., 2007; Zasukhina G.D. et al., 2012).

Anthropometric indicators of population groups in different regions of the world have their own characteristic features inherent in each area. Such works were carried out in Chukotka (Godovykh T.V., 2009), in St. Petersburg (Aleksina L.A., 2004; Burtseva T.E., 2010), Moscow (Kozlov A.I., 2008; Kon 'I. Ya. Et al., 2009), Nalchik (Tlakadugova M.Kh. et al., 2009). Anthropometric indicators of the development of children and adolescents in these regions cannot be compared with the data obtained in our republic (Kasim-Khodzhaev I.K. et al., 2004; Sattibaev I.I., 2008; Bakhadirov F.N. et al., 2008; Tukhtanazarova Sh.I., 2008; Mirzakarimova D.B., 2010). Since there are differences in climatic and geographical conditions, ecology, national customs, social conditions.

A large number of monographs and articles by both foreign and domestic researchers are devoted to Down's syndrome. Many works are devoted to the study of the frequency of occurrence of Down syndrome (Chebotarev A.N., Lunga I.N., etc.), the peculiarities of mosaic variants (Belyakova T.K., Gavrilova V.I., etc.), immune status (Schwartz E I., Ostrovsky A.D. and others), reproductive function (Kristesashvili D.I. and others), blood systems (Agarval B.R., Chizhova Z.P., Yurgutis R.P., Popnikolov BC and others), metabolism (Davidenkova E.F., Shtil-bane I.I., Berlinskaya D.K., etc.).

Down's syndrome is a disabling condition, however, most researchers and specialists providing psychological and pedagogical assistance to such children show a high degree of possibility of socialization of persons with trisomy 21 of chromosome, subject to timely adequate treatment of concomitant pathology, for example, hypothyroidism. Specialized medical preventive guidelines and recommendations made a significant contribution to improving the quality of life and increasing the social adaptation of people with

trisomy 21 of chromosome in foreign countries. The high social adaptation of patients with diabetes in other countries has improved the quality of life of these people and allows them to be independent, independent members of society.

Great importance in optimizing the system of assistance to children with developmental disabilities and their parents is attached to the early start of psychological and pedagogical assistance (Kozhevnikova, Mukhamedrakhimov, Chistovich, 1995; Mukhamedrakhimov, 1999; Razenkova, 2001; Shipitsina, 2001; Mamaichuk, 2001, 2003; Kozhevnikova et al. ., 2002, 2003; Aksenova, 2002; Zhiyanova, 2002; Malofeev, 1997, 2003; Isaev, 2003, 2004; Shmatko, 2003; Strebeleva, 1998, 2004; etc.). In the last decade, there has been a tendency in which the number of infants and young children with special needs who are left in families and are not transferred to foster care in children's homes is increasing. Support services for young children from risk groups and their parents, as well as areas of knowledge associated with the organization of psychological and pedagogical assistance to a family raising an infant with special needs, are becoming more and more in demand. The psychology of the last quarter of the 20th century is characterized by an appeal to the earliest stages of human development (Boshlyby, 1958; Amishores et al., 1978; Vygotsky, 1982-1984; Lisina, 1986; Meshcheryakova, 1988; Sergienko 1992; Smirnova 1996; Avdeeva 1996; Mukhamedrakhimov, 1999). The development of children, including infants and young children with special needs, is considered in the process of interaction with the closest person, the mother (Friberg, 1971; Brazelton, 1984; Stern, 1985; Emde, 1987; Ainsworth & Bowlby, 1991; Sinason, 1992; Cichetti, 1993; Guralnik, 1997; Sergienko 1992; Brushlinsky, Sergienko, 1998; Mukhamedrakhimov, 1999). New theoretical concepts of the development of children in the first months and years of life are formulated; methods of interdisciplinary assessment and counseling are created; new directions of family-centered services for children from groups at risk of developmental delays and their parents are being developed and implemented - early intervention programs.

Foreign studies show that the widespread early intervention programs in the United States and habilitation programs for children with special needs from birth to 3 years old and their parents widespread in Western Europe and Scandinavia have shown their effectiveness and positive impact on the development of a special child, his interaction with loved ones adults and the quality of social adaptation (Guralnik, 1997). In recent years, early intervention programs have been actively organized in St. Petersburg (Kozhevnikova, Mukhamedrakhimov, Chistovich, 1995; Mukhamedrakhimov, 1997, 1999; Kozhevnikova et al., 2002), Moscow (Kazmin, 2001; Razenkova, 2003) and regions of Russia (TASIS, 2002; Kozhevnikova et al., 2003). Young children with Down syndrome and their parents constitute a constant group of clients requiring interdisciplinary support. Along with the growing number of visits to early intervention programs by parents raising children with Down syndrome in the family, the majority of children with this diagnosis are still transferred to orphanages. In conditions of deprivation, in the absence of a close social environment, children with Down syndrome cannot fully realize their potential. To develop new approaches to accompanying children with Down syndrome in a child's home, it is necessary to analyze the characteristics of their development and compare them with children raised in a family.

However, most of the works date back to the 70-80s of the last century. It took more than 100 years to prove the hereditary nature of the syndrome and its relationship with chromosomal pathology. Now much attention is paid to social adaptation and integration into society of this category of patients (Kolotygina E.A., Sapozhnikova T.V.). The life expectancy of people with Down syndrome has recently increased markedly. So, in the USA in 1983 it was 25 years, and already in 1997 - 49 years. The life expectancy of children largely depends on the infant mortality rate. The most common causes of death in children with Down syndrome are congenital heart defects and respiratory infections (Yang Q., Rasmussen S.A., Friedma J.M. 2002).

Recently, in connection with the development of medical science and technology, various newest methods have been widely used to identify the causes of the development of phenotypic changes in Down syndrome: molecular genetic (Nízetic D., 2001., Latt S.A. et al., 1984), immunochemical (Ikeda S. et al., 1994., Hassin-Baer S. et al., 1992), MPT data (Emerson J.F. et al., 1995., Koo B.K. et al., 1992), but the identified changes are not yet considered with the point of view of their possible application in clinical practice. Today, a complex of developmental microanomalies is well known, which determines the patient's

phenotype, as well as a rather wide range of concomitant pathology, where the leading role is given to the phenomena of intellectual disability and mental disorders. (N.V. Grebennikova et al., 1995., M.I. Yablonskaya et al., 1998., Carddock N., Owen M. 1999., L. Kent et all 1999). The literature presents data on cardiovascular, gastrointestinal, endocrine, immunological, hematological symptom complexes characteristic of Down's syndrome, as well as the results of studying orthopedic pathology, visual and auditory disorders (E. Mazder, J. Dennis, 1997; S. Leona, C. Bower, P. Petterson, H. Leonard, 1999). The authors in their works pay attention to the pathogenetic mechanisms of damage to a particular system with a description of the features of their clinical design, and also determine the appropriate ways of treatment and corrective action.

The number of works devoted to the study of the morphogenesis of the craniofacial complex in childhood in this or that pathology, especially in Down syndrome, is extremely limited. As we know, the maxillofacial area undergoes significant changes in the development process. In modern society, more and more importance is attached to the shape of the face, the beauty and harmony of its structure (V.T.Yagupova, 2009). The physical development of children and the functional state of organs are influenced by mental (Mazen Mohammed Yusef Hasan Hussein., 2004), informational loads (Lukin S.F., Chub I.S., Repina A.P., 2012). In recent years, it has been established that the growth and development of a child is greatly influenced by the hormonal background of the body, especially growth hormone (GH), a deficiency of which is observed in many pathological conditions (Lawrence J.M., Imperatore G., Dabelea D. et al., 2014; Nanda R.S., 2000). The maxillofacial region is a part of the body that dynamically changes in the process of development and growth (Gvozdeva Yu.V., 2010).

The mechanisms regulating the growth of the head and the face of the human body is a complex process where there is an interaction between genes, hormones, epigenetic factors. These factors determine the formation of bone morphology in the craniofacial area, the violation of which can lead to irreversible changes in this area (Juloski J., Dumancic J., et al., 2016). When the interaction of the regulating factors of growth of the bones of the facial skeleton is disturbed, an unequal slowdown in bone growth is observed, which leads to abnormal morphological formation of the face (Pacini A.J., 2003; 6, Urakami T, Suzuki J., 2008).

Conclusion

According to the analysis of the available modern literature, the study of the physical parameters of children with Down syndrome has not been fully studied, it is necessary to conduct a study of anthropometric indicators taking into account age using modern innovative technologies. These scientific studies will provide more accessible methods for correcting physical disabilities in dynamics, and the use of innovative technologies in dynamics, taking into account the growth of the child, will be the basis for correcting complications in the dynamics of pathology.

LIST OF REFERENTS:

1. Altynnik H.A. The ratio of the thickness of prenasal tissues to the length of the nasal bone as an echographic marker of trisomy 21 in the second trimester of pregnancy // J. Bulletin of the Medical Stomatological Institute. - 2013. -No. 1 (22). - S. 48-50.
2. Akhmedova, R.M. Assessment of the quality of life of adolescents suffering from endocrine diseases // Pediatrician. - 2016. - T. 7., No. 1. - S. 16-21.
3. Babayan V.V. Possibility of predicting the risk of having a child with Down syndrome [Text] / V.V. Babayan // Bulletin of the Russian State Medical University, Special issue №1. VI International Pirogov Scientific Medical Conference of Students and Young Scientists. - 2011. - S. 21-22.
4. Valiulina A.Ya. Problems and prospects of successful nursing and rehabilitation of children born with low and extremely low body weight // Bulletin of modern clinical medicine. - 2013. - T.6., No. 1. - S. 34-41.
5. Volianyuk E.V. Complex rehabilitation of premature babies in the first year of life // Bulletin of modern clinical medicine. - 2013. - T.6., No. 6. - P.59-62.
6. Gainetdinova D.D. Clinical and epidemiological characteristics and analysis of some risk factors for infantile cerebral palsy according to the hospital register of the Republic of Tatarstan // Kazan Medical Journal. - 2011. - T. 92., No. 6. - S. 823-827.
7. Galakhova O.O. Modern medical technologies for nursing premature babies in a multidisciplinary children's hospital // Post-graduate bulletin of the Volga region. - 2013. - No. 5-6. - S. 84-89

8. Gnetetskaya V.A., G.G. Guzeev, I.V. Kanivets, S.A. Korostelev, H.A. Semenov. Chromosomal microarray analysis in the practice of modern genetic counseling. // Children's Hospital. -2013, - No. 4 (54), p. 56-62.
9. Denisova E.G. Assessment of dental status in children with Down syndrome. Abstract of thesis. Ph.D., 2012 Moscow. 32 pages
10. Egorova V.B. Influence of medico-social factors and perinatal pathology on health, development and quality of life of young children // Yakutsk Medical Journal. - 2017. - No. 1 (57). - S. 10-12.
11. Medvedev M.V., Strupeneva U.A., Altynnik N.A. Echographic nomograms of prenasal tissue thickness in fetuses at 16-26 weeks of gestation // J. Bulletin of the Medical Stomatological Institute. -2012.- No.4 (21) .- P. 64-66.
12. Plotko I.S., Shevchenko E.A., Ba-digova E.A. Improvement of prenatal diagnosis of Down syndrome in the II trimester of pregnancy // J. Prenatal Diagnostics. - 2013. - T. 12.-№ 1.- S. 83-87.
13. Semenova N.A. The health status of children with Down syndrome. Abstract of thesis. Ph.D. 2014. Moscow. 43 pp
14. Startsev A.A. Quality of life as a criterion for the effectiveness of rehabilitation of children with attention deficit hyperactivity disorder // Perm Medical Journal. - 2015. - T. 32., No. 5. - S. 120-125.
15. Strupeneva U.A., Medvedev M.V. Standard values of the thickness of prenasal tissues in the fetus in the II trimester of pregnancy // J. Prenatal diagnostics. Abstracts of the XII Congress of the Russian Association in Perinatology and Gynecology. Nebug, October 17-22. - 2012. - T. 11. - No. 3. -S. 282.
16. Fedorova L.A. Features of psychomotor development and methods of rehabilitation of premature babies after discharge // Bulletin of modern clinical medicine. - 2014. - T. 7. No. 6. - S. 62-64.
17. Khetagurova Yu.Yu. Quality of life of premature infants who have undergone cerebral ischemia // Bulletin of the Volgograd State Medical University. - 2010. - No. 2. - S. 61-63.
18. Chubarova A.I., Semenov H.A. What do the numbers say? Physical development of children of the first year of life with Down syndrome. / / Down syndrome. XXI Century. -2012.-No.2 (9), p. 12-21.
19. Downside Up [Electronic resource] - Access to the magazine: http://downsideup.org.
20. Semenova N.A. The state of health of children with Down syndrome / N. A. Semenova. –Moscow, 2013. – 17 p.
21. Health Supervision for Children With Down Syndrome / American Academy of Pediatrics. // Pediatrics. –2001. –No 107. –C. 445-448
22. Rodríguez CSI. Factores de riesgo para la prematurez Estudio de casos y controles / Rodríguez CSI., Ramos GR., Hernández HRJ. // Ginecol Obstet Mex. – 2013. - Vol. 81(9). – P.499–503.
23. Spong C.Y. Defining “term” pregnancy: recommendations from the Defining “Term” Pregnancy Workgroup [Text] / Spong CY. // JAMA. – 2013. – 309. P.2445–2610.
24. Staudt M. Imaging cerebral palsy [Text] / Staudt M. // Handb Clin Neurol. – 2013. – Vol. 111. – P.177-181.

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