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Current Risk Factors Affecting Physical Development

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Abstract: The following is shown: age and sex standards for the physical development of children and adolescents should be regional; dependence of indicators of physical development on environmental and socio-economic factors affecting the territory of residence; the need for constant monitoring of the physical development of children and adolescents with a recheck of regional standards, taking into account the ongoing processes of acceleration and deceleration.

Keywords: physical development, risk factors, children and adolescents, acceleration, deceleration, nutritional status, obesity, nutrition.

Assessment of physical development (PD) is an integral component in the study of the health status of the child population due to the fact that it clearly reflects the influence of environmental factors, lifestyle and the educational process on the body. Assessment of physical development includes a set of indicators: somatometric, somatoscopic and physiometric, among which the most commonly used for assessment are the following: body length and weight, chest circumference.

At the same time, age-sex standards for assessing physical development can only be regional. Evidence in favor of this are studies that showed statistically significant differences in length and body weight of schoolchildren in five regions of Uzbekistan. In addition, data were obtained on the change in the body size of schoolchildren in the city of Bukhara and the acceleration of biological development, which probably indicates the activity of the acceleration process [1, 6, 9, 15].

All this led to interest in the study and generalization of research literature data on the state of physical development of children and adolescents, the factors that determine it, and assessment methods in modern conditions.

The purpose of the study is to summarize and analyze the research literature data on the state of the physical development of children and adolescents in modern conditions.

Materials and methods

The study was conducted on the basis of a review of research literature in Russian and English in the electronic search engines eLIBRARY, PubMed, in the international databases Scopus, WebofScience for the period 2005-2018. The selection of publications was made by keywords that reflected the main trends in the physical development of children and adolescents. Works with a low citation rate and a small number of literary sources were excluded from the sample. Further, those studies were selected that considered the relationship between the indicators of the physical development of children and adolescents and the factors influencing them, so that later it was possible to determine the essence of the identified problems (326 works). Publications were checked for relevance to the purpose of the study, and the sample was reduced to 151 papers. A detailed study of the materials led to a reduction to 73 papers that were included in this review.

Results and discussion

The methods for assessing the physical development of children and adolescents include: the method of sigma deviations, the Z-score scale, the method of assessing the regression of body weight along

the length of the body using regional modified scales, the centile method, as well as a complex method [11, fourteen]. There are two methods for collecting somatometric data: individualizing and generalizing. In order to obtain regional age and sex standards, somatometric data collected by the generalizing method are used [11].

Due to the fact that the age-sex standards of physical development can only be regional, more often in studies the method of assessing the regression of body weight along body length according to regional modified scales is used [1, 6, 10, 13, 14]. Thus, to assess changes in the FD of schoolchildren in Kyiv for the period 1996-2008. anthropometric studies were carried out, which included the measurement of body weight and length, chest circumference and assessment according to Ukrainian intergroup assessment tables (regression scales for body length) [17]. At the same time, further study of this issue was carried out in the direction of a comparative assessment of the functional systems of the body of students. At the same time, a study of the physiometric parameters of the PR in Kiev and Moscow schoolchildren showed their statistically significant differences, such as, for example, the unequal rate of development of the main functional systems - muscular and respiratory [18].

When studying the dynamics in time of somatometric indicators of urban schoolchildren in the city of Gomel 8-16 years old for the period from 1925 to 2010-2012. in 2010-2012 a survey (length and weight of the body, girth of the chest) of schoolchildren aged 8-16 years was carried out. To assess the dynamics of the studied indicators over time, data obtained by other researchers in 1925 and 1973 were used. It has been established that urban schoolchildren at the beginning of the 21st century compared with their peers in 1925 and 1973. are characterized by higher rates of development of indicators. Sexual dimorphism in the process of acceleration is manifested by an increase in body length and weight in boys and asthenia in girls. The indicators of chest girth in boys and girls examined at the beginning of the 21st century are significantly higher compared to their peers in 1925. The total increase in body length within the studied age range in the examined boys and girls is higher compared to the data of 1925 and 1973, and indicators body weight and chest girth - in boys and girls examined in 1973, compared with peers in 1925 and 2010-2012. Schoolchildren in the city of Gomel at the beginning of the 21st century compared with their peers in 1925 and 1973. the presence of a process of acceleration of the development of somatometric indicators was established [20].

It is important to take into account the processes of acceleration occurring from decade to decade and to revise the standards of physical development in each region in a timely manner. Recently, both domestic and foreign experts agree that the pace of acceleration is slowing down everywhere. The highest peak of acceleration in the Russian Federation was noted in the mid-1970s. of the last century, then (in the 1980s) there was a clear trend towards stabilization of the process of accelerating growth and development (stagnation) and its gradual change in certain regions and large industrial cities by deceleration [2].

In the city, the indicators of the FR of schoolboys from 7 to 17 years old were studied and an assessment of the level and harmony of the FR was carried out in accordance with the standards of the World Health Organization (WHO) ("WHOGrowthReference2007"). An asymmetry of body length indicators was established with a significant representation of schoolchildren with high growth (1.9 -10.9%). The examined schoolchildren revealed a high level of disharmonious variants of RF, caused by overweight and obesity (16.4-38.2%) [12].

As for the factors influencing the PD, the analysis of the influence of the organization of the educational process in a modern school on the physical development of children and adolescents made it possible to identify a number of factors of the intra-school environment, such as an increase in the study load due to the intensification of the educational process, a lack of motor activity, psycho-emotional tension, costs of using technical means of education [3].

When studying the quality of life of children in medical and social risk groups, it was found that in the majority (65.5%), the weight does not correspond to height and age, while underweight in the largest proportion of the examined (58.8%) [4].

When studying the health status of the child population in conjunction with the physiological nutritional value, it was found that insufficient calcium intake of up to 40% in relation to the age norm is accompanied by lower indicators of body length and weight [5].

When studying the effect of actual nutrition on the health of children, the indicators of the risk factor and, in general, the alimentary status are evaluated [13]. In their research Gorelova Zh.Yu., Bakanov M.I. et al. [11] presented the results of using a specialized product in school meals to correct malnutrition in schoolchildren (weight normalization, nutritional status) during education. The obtained results confirm laboratory (biochemical studies of the excretion of the spectrum of free amino acids (AA) in schoolchildren before and after taking the product) and psychophysiological studies (assessment of the emotional state according to the San method) [11].

In the studies of Setko N.P., Bulycheva E.V. et al. [14] used and analyzed data on the nutritional status, functional state of the musculoskeletal, respiratory, and central nervous systems as indicators for assessing the effectiveness of the implementation in the city of Orenburg of a project to improve the nutrition of schoolchildren. As a result, it was found that measures to optimize school meals led to an improvement in the nutritional status and functional state of students [15].

FR indicators informatively reflect the correspondence of the diet to the needs of the body: the body mass index (BMI) indicator depends more on body weight than on height, and its assessment allows to identify overweight or obesity. In addition, it is recommended to measure the thickness of the skin-fat fold over the triceps as an indicator of body fat depots, shoulder circumference [6, 8]. For the correct use of BMI in childhood, WHO recommends using a special methodology for assessing physical development in children and adolescents (BMI-for-age5-19 years) [1].

According to the research data of L.Yu. Volkova, O.N.

Of interest are works on the study of the characteristics of the alimentary status of children in various environmental conditions. Research conducted by Bermagambetova S.K., Karimova T.K. et al. showed that the nutritional status of children in terms of physical development, hemoglobin, serum iron and ferritin levels in different ecological regions has its own characteristics [12].

Currently, in the literature devoted to the health of children and adolescents, a significant place is given to the problems of obesity in children. At the same time, the prevalence of obesity among the child population is of concern to both domestic and foreign specialists. According to numerous studies, in Europe the number of overweight children is growing rapidly and has reached high levels [7]. There are indications in the literature that obesity began in childhood and adolescence in almost 60% of adults [8].

In foreign literature, a number of works are devoted to the study of this problem. In Brazil, overweight in children is one of the most important public policy issues. At the same time, among children who studied and lived in rural areas, a lower prevalence of obesity was shown, and none of the rural children was underweight. The authors note that this may be due to low socioeconomic conditions and more intense physical activity in their daily lives [19]. According to Russian literature data, in the Russian Federation obesity is common in 5.5% of children living in rural areas and in 8.5% of urban ones [15].

In Turkey, according to the study, the prevalence of obesity among school-age children was 10.3%, and overweight - 22.4%. Among adolescents, the number of obese boys is statistically significantly higher than that of girls. Among schoolchildren who did not eat breakfast, the percentage of those suffering from obesity was higher than in the group that ate regularly 3 times a day. The prevalence of obesity in adolescents who watch TV for more than 3 hours a day was higher than in the rest [16]. Similar data are presented by domestic authors: the vast majority of children with overweight and obesity spend more than 3 hours a day in front of a TV and computer [66].

Doctors of various specialties indicate the role of malnutrition and lifestyle as the causes of such a multifactorial disease as obesity [13]. It has been noted that parents of children with overweight are not literate enough in matters of a healthy lifestyle and overestimate the physical activity of children, underestimating the calorie content of food consumed [6].

The problems of obesity in childhood have led to research into clothing hygiene for obese children and adolescents. As shown by studies conducted by I.A. Makhrova and I.N. The study of the design features of clothing, analysis of the properties of materials, as well as the lifestyle of such children is relevant [5].

Conclusion

An analysis of literature sources shows, firstly, the dependence of the indicators of the physical development of children and adolescents on environmental and socio-economic factors affecting the territory of residence; secondly, the need for constant monitoring of the PD of the younger generation with a recheck of regional standards every 10 years, taking into account the time trend and ongoing multidirectional processes of acceleration and deceleration [19].

Thus, due to the fact that in Uzbekistan, tables (regression scales for body length) are used to assess the physical development of the child population aged from 1 month to 14 years, according to the research data of Professor Klimenov L.N. 1989, it seems expedient to conduct relevant studies of the anthropometric indicators of children and adolescents in the territory of Uzbekistan at the present time.

Bibliography:

1. Baratova M. S. et al. Periodontal diseases in military age persons and arterial hypertension //Asian Journal of Multidimensional Research (AJMR). – 2020. – Т. 9. – №. 4. – С. 111-113.
2. Baratova, M. S., Ataeva, M. A., Yuldasheva, S. T., & Vohidov, U. G. (2020). Periodontal diseases in military age persons and arterial hypertension. Asian Journal of Multidimensional Research (AJMR), 9(4), 111-113.
3. Baratova M. S., Atayeva M. A. The estimation of heart rhythm disturbances at the left atrial stunding on early stages of remodeling left ventricular //World medicine journal. – 2020. – №. 1. – С. 1.
4. Baratova M., Makhmudova M. Predictors of sudden death in patients with arterial hypertension //InterConf. – 2020.
5. Уринов М. Б., Ахророва Ш. Б., Рахматова С. Н. Сроки восстановления лицевого нерва при параличе Белла в зависимости от стороны поражения и пола //Психическое здоровье. – 2014. – Т. 12. – №. 10. – С. 67-69.
6. Saidjonovna R. D. Method For Improving The Prevention Of Dental Caries In Children Using The Device Aerodent //Web of Scientist: International Scientific Research Journal. – 2021. – Т. 1. – №. 01. – С. 26-32.
7. Saidjonovna, Raxmatova Dilnora. "Modern concepts of the causes of development, prevention and principles of treatment of dental caries in children." *European Journal of Molecular & Clinical Medicine* 8.1 (2021): 1477-1482.
8. Gayratovna S. R. The Course of the Wound Process in Purulent-Inflammatory Diseases of the Maxillofacial Region //Central Asian Journal of Medical and Natural Science. – 2022. – Т. 3. – №. 4. – С. 255-259.
9. Boltayevna Z. F. Complications of Reproductive Pathology Disorder of Physical Development in Adolescents //International Journal of Innovative Analyses and Emerging Technology. – 2021. – Т. 1. – №. 5. – С. 166-168.
10. Boltayevna Z. F. Requirements For A Healthy Lifestyle //Academicia Globe: Inderscience Research. – 2021. – Т. 2. – №. 05. – С. 269-272.
11. Ramazonovich K. S. The main criteria of modern and medical aspects of volleyball in youth //ResearchJet Journal of Analysis and Inventions. – 2021. – Т. 2. – №. 04. – С. 103-106.

12. Tailakova D. I., Khabibova N. N. Determination of the immunological status of the oral cavity of the child population with congenital lip and palate in the studied areas //European Journal of Molecular & Clinical Medicine. – 2020. – Т. 7. – №. 3. – С. 3023-3026.
13. Taylakova D. I., Kambarova S. A. Analysis of medical anamnesis data and secondary prevention of systemic hypoplasia of dental hard tssues in children //Central Asian Journal of Medicine. – 2020. – Т. 2020. – №. 2. – С. 81-98.
14. Isroilovich A. E. et al. The Role And Importance Of Gliah Neurotrophical Factors In Early Diagnosis Of Parkinson Disease //Texas Journal of Medical Science. – 2022. – Т. 5. – С. 1-6.
15. Abdukodirov E. I., Khalimova K. M., Matmurodov R. J. Hereditary-Genealogical Features of Parkinson's Disease and Their Early Detection of the Disease //International Journal of Health Sciences. – №. I. – С. 4138-4144.
16. Mukhsinova L. A. et al. Cytokine Profile in Patients with Congenital Cleft Upper Lip and Palate //European Journal of Research Development and Sustainability. – Т. 2. – №. 4. – С. 91-93.
17. Ramazonovich, Kozokov Sodiq. "evaluation of changes in the physical development of work." Web of Scientist: International Scientific Research Journal 2.07 (2021): 11-16.
18. Boltayevna Z. F. Analysis Of New Methods Of Assessing Physical Development (Literature Review) //Eurasian Medical Research Periodical. – 2022. – Т. 7. – С. 73-77.
19. Boltayevna Z. F. Review of Facilities and Technologies During Training in Track and Field //Central Asian Journal of Medical and Natural Science. – 2022. – Т. 3. – №. 5. – С. 290-293.