



Argumentation of the choice of the method of standardization of weekly physical activity for students with special health needs

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Abstract

Objective of the study. The purpose of this study is to establish a methodology for developing weekly physical activity standards for school students with sensory and intellectual disabilities.

Methods and structure of the study. In the course of the work, a detailed analysis of the available analytical materials and reports was carried out, existing recommendations and instructions regarding the volume of physical activity of schoolchildren were investigated. With the help of questionnaires of children, their parents and specialists, the peculiarities of their behavior were revealed. Based on a comparison of the data obtained, an experiment was conducted to collect empirical information about the actual weekly motor activity of school-age children. Based on the analysis of the results obtained, an approach to the formation of weekly physical activity standards for schoolchildren of various age and nosological groups was proposed.

Results and conclusions. Summarizing the preliminary results on the substantiation of the standards of weekly motor activity of children aimed at ensuring the health and developmental effect of physical culture and sports, in order to adjust the existing standards, we formulate the requirements for the content of the new standards. The key requirement is the mandatory integration of effective (priority), procedural and substantive parameters, which should be reflected in the standards. The approach proposed by the developers to setting standards for children's motor activity, based on monitoring individual dynamics of physical fitness indicators, not only ensures the registration of qualitative changes, but also avoids large-scale biomedical research, which indicates its scientific validity and economic benefits.

Keywords: standards, weekly physical activity, school students, sensory features, intellectual features, analysis, analytical materials, motor activity, nosological groups, wellness effect, developmental effect.

Introduction. The relevance of the problem of this study has been highlighted in detail by the authors in previous publications [1, 2]. The need to solve this problem is confirmed, among other things, by the importance of achieving the targets of the Strategy for the Development of Physical Culture and Sports in the Russian Federation for the period up to 2030, in particular: - the proportion of people with disabilities and people with disabilities who systematically engage in physical activity culture and sports, in the total number of the specified category of the population, who have no contraindications for physical culture and sports, percent; - the level of satisfaction of citizens with the

created conditions for physical education and sports, percent.

Objective of the study – is to determine an approach for developing weekly motor activity standards for school children with sensory and intellectual disabilities.

Methods and structure of the study. In 2024, the staff of the Institute of Adaptive Physical Culture of the P.F. Lesgaft National State University, St. Petersburg, began to carry out research work "Development of scientifically based standards of weekly motor activity in children, including those with disabilities, and children with disabilities, creating conditions for a



health and developmental effect from physical education and sports.”

Having conducted an in-depth analysis of available analytical materials and reports, having studied various recommendations, prescriptions and instructions related in one way or another to the volume of motor activity of schoolchildren and, using questionnaires from children, parents and specialists, having determined the behavioral characteristics of modern schoolchildren, having compared the results obtained, the research team organized an experiment to collect empirical data on the actual volume of work performed by school-age children. physical activity per week. Based on the findings, the team proposed a campaign to develop weekly motor activity standards for various age and nosological categories of schoolchildren.

Results and conclusions. Determining the proportion of citizens who are systematically engaged in physical education and sports is based on taking into account the time indicators of their physical activity, while the time weekly standard confirms this (for children aged 6-15 years – 90 minutes, and for 16-18 years and up to and including 29 years – 125 minutes), is the lowest of all those we have studied.

This weekly standard for school-age children is covered by two physical education lessons. Indicators of normalization of children’s motor activity, expressed in units of time, dominate in all the documents we analyzed. In other words, while receiving documentary evidence that 70% of the total population of the country is systematically engaged in physical education and sports by 2030, there will actually be no way to assess the impact of this indicator on qualitative changes for the population due to the lack of resulting indicators.

At the time of writing this article, this is well demonstrated by the steady growth trend of two indicators in our country – the proportion of the population systematically engaged in physical education and sports on the one hand, and an increase in people with disabilities and disabilities on the other.

The indicator of citizens’ satisfaction with the created conditions for physical education and sports makes it possible to characterize the quality of services provided in this area, but it also does not provide information about the results achieved by those involved, and does not take into account the initially low motivation for these activities among certain categories of citizens, in particular schoolchildren with sensory and intellectual disabilities.

Summing up the preliminary results on the justification of the norms of weekly motor activity of children, which create conditions for the health and developmental effect of physical education and sports, in order to correct the current norms, we will put forward requirements for the content of new standards. The main requirement is the mandatory integration of effective (priority), procedural and substantive indicators, which must be presented in the standards.

The performance indicators of the norms, as the main targets, should include norms reflecting the harmonious development of six physical qualities: speed capabilities, endurance, strength, flexibility, speed and strength capabilities, and coordination abilities (as amended by Decree of the Government of the Russian Federation No. 540 dated 11.06.2014, which approved the Regulations on the All-Russian Physical Culture and Sports Complex “Ready for labor and defense” GTO)¹.

It is important that we are talking about an increase in individual test results, and not about meeting the absolute requirements for obtaining bronze, silver and gold marks. Thus, the individual dynamics of test results (obvious to each student) is the main criterion for the effectiveness of systematic physical education and sports.

In favor of using test standards (tests) The following facts speak as effective indicators of the norms of motor activity in children: These indicators represent all six physical qualities that demonstrate the harmonious development of a person (child); The standards of testing (tests) of the WFSK TRP were obtained on the basis of statistical processing of a large-scale survey of the level of physical development and physical fitness of the population of our country aged 6 to 70 years and older; The VFSK TRP complex is of great importance in the education of children and youth, the formation of their patriotic personality traits.

The content components of the norms of children’s motor activity should include a new structure of the program document, which should contain a basic part focused on the study and improvement of basic movements: walking, running, crawling, climbing, climbing, throwing, jumping and other physical exercises with the control of their development through the implementation of test standards (tests) VFSK TRP, and the

¹On approval of the Regulations on the All-Russian Physical culture and Sports complex “Ready for labor and defense” / [Electronic resource] // <http://government.ru> /: [website]. — URL: <http://government.ru/docs/13046/> (date of access: 02/03/2025).



variable part – where the content of classes should be determined taking into account the interests of children.

The time limits for weekly motor activity of children without disabilities, as proposed by us, are in the range of 4.5-6.0 hours, excluding the time spent on physical education classes in secondary schools, which corresponds to the first year of the initial training stage in almost all Federal standards of sports training. Translating these indicators into minutes with the addition of 2 compulsory physical education lessons, we get the recommended amount of organized physical activity equal to 450 minutes per week. Whether this volume is relevant for the category of children we studied at the second stage remains to be seen.

The results of the pilot experiment, which was completed in November 2024, confirmed the viability and expediency of the proposed approach. In the list of instructions of the President of the Russian Federation following the meeting of the Council under the President of the Russian Federation for the Development of Physical Culture and Sports on October 17, 2024, approved on 11/29/2024, No. Pr-2500, the Government of the Russian Federation, together with the executive bodies of the constituent entities of the Russian Federation, is prescribed: - “to provide in strategic and program documents in the field of physical culture and sports, adopted at the federal and regional levels, an indicator characterizing the level of physical development of citizens and determining, among other things, taking into account the number of citizens who have undergone medical examinations and completed regulatory tests The All-Russian physical culture and sports complex “Ready for work and defense”¹.

In the future, if resources are available for the use of big data technologies (BIGDATA), it is quite feasible to analyze the volume of motor activity of a large number of users of a specially designed application, based on an algorithm for calculating heart rate and

comparing them with the results of meeting the TRP standards. Large-scale digitalization of accounting and comparison of the described data would allow not only to determine the model characteristics of the volume of motor activity of various categories of the population, but also to make operational adjustments to these recommendations based on the analysis of their permanent dynamic changes.

Conclusions. The approach proposed by the developers to determining the norms of children’s motor activity, based on monitoring individual dynamics of physical fitness indicators, will not only ensure the fixation of qualitative changes, but also avoid extensive biomedical research, which indicates its scientific feasibility and economic effectiveness.

Modern social conditions, characterized by high variability in the daily routine of schoolchildren with disabilities and the actual lack of the possibility of continuous, objective recording of the amount of motor activity they realize, determine the modern vector of development of personalized control of human biological characteristics. Increasing the availability of devices that enable the implementation of human health monitoring and management technologies suggests that one of the most promising ways to solve this problem is to use individual wearable devices that can record heart rate – smart watches and fitness bracelets, which was convincingly demonstrated during the pilot experiment.

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¹ The list of instructions following the meeting of the Presidential Council for the Development of Physical Culture and Sports on October 17, 2024. / [Electronic resource] // <http://www.kremlin.ru> : [website]. — URL: <http://www.kremlin.ru/acts/assignments/orders/75738> (date of request: 02/03/2025).