МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
ХАРКІВСЬКИЙ НАЦІОНАЛЬНИЙ МЕДИЧНИЙ
УНІВЕРСИТЕТ

Фізичне виховання, спорт та здоров'я людини

Науково-практична конференція

(Харків, 27 жовтня 2022 року)

ХНМУ
Харків
2022

Kutsyi D.V., Hryshchenko O. I., Posypayko A. O.

NORMS OF PHYSICAL ACTIVITY FOR STUDENTS IN UNIVERSITIES

Kharkiv National Medical University
senior teacher of the department of physical education and health
dv.kutsyi@knmu.edu.ua
Kharkiv Patent and Computer College
teacher of physical education
Kharkiv National University of Urban Economy named after O.M. Beketov
teacher of the department of physical education and sports

Introduction. A huge amount of material has been accumulated, testifying that hypokinesia leads to serious disorders of metabolism, functioning of physiological systems, higher nervous activity and adaptation processes [1, 2, 3, 4, 5]. Regular physical activity optimizes the functional state of the body, is successfully used to increase physical performance, prevent and treat many non-infectious diseases. However, an excess of physical activity, as well as a lack, has an adverse effect on the body. The parameters of physical activity that provide the optimal effect are strictly individual [1]. In this regard, the determination of the optimal level of physical activity in ontogeny and its introduction into people's lives have long been among the closest, particularly relevant problems of the theory and practice of

physical education, preventive medicine, and have attracted the attention of both individual researchers and author teams [5].

The purpose of this article is to determine the norms of physical activity in ontogenesis based on the analysis of modern scientific literature.

Research objectives:

1. To conduct an analysis of modern recommendations on the norms of physical activity.
2. Get acquainted with the methods of assessing the level of physical activity.
3. Draw conclusions about modern scientifically based norms of physical activity in ontogenesis.

Analysis of literature data for the last 30 years indicates that there is no consensus among scientists on the issue under consideration. A number of works contain general ideas of a hypothetical nature about the values of the appropriate norms of physical activity of a person in the postnatal period (Table 1). It should be noted that the norms of physical activity in ontogeny according to the data of different authors have a very large spread (more than 3 times). Most likely, this is due to different methodological approaches to determining levels of physical

activity, which requires the scientific community to develop standardized methods for assessing the level of physical activity.

As a basis for the development of optimal motor modes, there may be ideas about the need for physical activity. For the first time in the physiological literature, this term and its synonym - kinesophilia, were probably introduced by M. R. Mogendovych (1969–1972). By kinesophilia, he understood: «a powerful energy potential, inherited in the brain and determining motor activity, as an organic need, a kind of instinct of primary biological significance» [1]. What is meant by optimal physical activity at the present time? First of all, the optimal load is individual. It should take into account the peculiarities of the life activity, state, opportunities and abilities of the individual [1]. It can be considered that optimality and individuality are synonyms in relation to the regime of physical activity.

The second approach is focused on achieving a favorable health-improving result. Accordingly, optimal physical activity is defined as its level, which is capable of giving the maximum health effect. Therefore, optimal motor activity should ensure the normal development and functioning of the body in order to preserve health and improve various life processes, compensation of age-related changes in the body. The given definitions

emphasize the purposeful orientation of the search for optimal loads - the achievement of an optimal level of health. But, just like most defined concepts of health, they are not specific and not suitable for practical use. As a result of this, there is a significant difference in the recommended values of optimal physical activity among different authors. According to the literature, the range of power optimal for the development of aerobic capacity of the load varies within very wide limits - from 40 to 90% of the maximum oxygen consumption; duration - from 10 minutes to 1.5 hours, shortness - from 1 to 7 times a week [4]. This is due to the different level of physical condition of the subjects.

Currently, there are the most complete and well-founded recommendations on levels of physical activity in ontogeny, supported by large prospective cohort studies of various population groups, presented in «Physical activity guidelines..." (2008–2012), "Global recommendations for physical activity for health» (2010). According to these guidelines, the following levels of physical activity are recommended for the age group 0–4 years:

- children up to 1 year old should be physically active several times a day, to activate movement and search activity, it is

recommended to use interactive developmental mats and other toys;

- children aged 1–4 years must be physically active every day for an average of at least 180 minutes (3 hours) during the day (or 10.5 hours per week). Physical activity should include a number of activities in different environments with different intensity, as well as activities that develop fine motor skills.

Children and young people aged 5–17 should engage in physical activity of moderate to high intensity for a total of at least 60 minutes (1 hour) daily (or 7 hours per week). Physical activity involves games, competitions, sports, trips, recreational activities, physical education or planned exercises within the framework of the family, school and neighborhood. Physical activity of high intensity, including exercises for the development of the musculoskeletal system, should be carried out at least three times a week.

Adults aged 18–64 should spend at least 150 (up to 300) minutes per week (2.5–5 hours) of moderate intensity physical activity or at least 75 (up to 150) minutes per week (1.25–2, 5 hours) with high intensity loads. At this time, it is necessary to include strength exercises (at least 2 times/week) in which the main muscle groups are involved.

Each session should last at least 10 minutes, favorable results will occur at the level of 5 hours/week of moderate intensity exercise. If elderly people cannot perform the recommended amount of physical activity due to their health condition, then they should engage in physical exercises taking into account their physical capabilities and health condition.

Conclusions. Thus, the norms of physical activity in ontogeny are developed in detail by modern scientists. Disagreements in the norms of the last 20 years are related to the fact that the authors did not specify the intensity and duration of physical activity. The most developed are the recommendations on the levels of motor activity of foreign scientists.

Most modern recommendations for physical activity are aimed at achieving 30 minutes a day or 150 minutes a week of moderate to intense physical activity.

For the further development of norms of physical activity, it is necessary to note two main directions: development of manuals on physical activity for people with certain medical indications; development of a manual for normalization of a sedentary lifestyle among the population. The question of the pathophysiological mechanisms of a sedentary lifestyle and its

place in the structure of the risks of developing diseases is a fertile area of research in the coming years.

List of literature:

1. Physical activity guidelines for americans. Be active, healthy and happy! D. M. Buchner, J. Bishop, D. R. Brown [et al.]. – Washington, DC: U. S. Department of health and human services, 2008. – 76 p.

2. WHO Library cataloguing-in-publication data. Global recommendations on physical activity for health. – Geneva, 2010. – 58 p.

3. Howley E. T. Fitness Professional's Handbook / E. T. Howley, B. Don Franks. – United States**:** Human Kinetics, 2007. – 568 p.

4. Ivashchenko, L. Ya. Programming engaged in health fitness / L. Ya. Ivashchenko, A. L. Blahiy, Yu. A. Usachev. - K.: Nauk. world, 2008. - 198 p.

5. Rybalko, L. M. Pedahohichni umovy formuvannia zdorovoho sposobu zhyttia v studentskoi molodi [Pedagogical conditions for the formation of a healthy lifestyle in student youth]. Visnyk Chernihivskoho natsionalnoho pedahohichnoho universytetu imeni T. H. Shevchenka – Bulletin of the Taras Shevchenko National Pedagogical University of Chernihiv, 147, II, 2017. - 118-121. Chernihiv: ChNPU.

6. Tymoshchuk O. V. Vplyv fizychnoi aktyvnosti ta zahartuvannia na adaptatsiini mozhlyvosti uchnivskoi i studentskoi molodi shcho perebuvaie v umovakh suchasnykh zakladiv osvity [Influence of physical activity and hardening on adaptive possibilities of pupils and student youth who are in the conditions of modern educational institutions]. Molodyi vchenyi [A young scientist], 7 (71), 2019. - 217-221.
7. Redkina M. Osoblyvosti indyvidualnoi rukhovoi aktyvnosti studentiv pedahohichnykh spetsialnostei [Features of individual motor activity of students of pedagogical specialties]. Hirska shkola ukrainskykh Karpat [Mountain school of the Ukrainian Carpathians], 21, 2019. - 78-81.