УДК 796.01.3:373.3
DOI: 10.52534/msu-pp.7(1).2021.44-53

Вікторія Віталіївна Подгорна, Ірина Дмитрівна Смолякова

Одеський національний політехнічний університет
65044, просп. Шевченка, 1, м. Одеса, Україна

Аналіз ефективності уроків фізичної культури в спеціальних медичних групах

Історія статті:

Стаття надійшла: 12.12.2020

Доопрацьовано: 28.01.2021

Схвалено до друку: 12.03.2021

Анотація. Актуальність роботи зумовлена стабільним підвищенням рівня загальної захворюваності учнівської молоді. Метою роботи є встановлення ефективності уроків фізичної культури в молодших школярів, які за станом здоров'я належать до спеціальної медичної групи. Під час дослідження були використані такі матеріали та методи: аналіз документальних матеріалів, педагогічне спостереження, пульсометрія. Вивчено питання про структуру захворювань молодших школярів, які відвідують заняття в спеціальній медичній групі. Встановлено, що кількість учнів, які за певним станом здоров'я можуть належати до спеціальної медичної групи, становить 53,3 % від усіх школярів, які зараховані до неї. Аналіз діагнозів свідчить про грубі порушення в процесі їхньої постановки: відсутність чіткої розшифровки, позначення станів, що не потрапляють під використання в якості діагнозу, постановка діагнозів несумісних з віком учнів. Проведено аналіз уроків фізичної культури молодших школярів 7–10 років, які віднесені за станом здоров'я до спеціальної медичної групи. Визначено, що частота серцевих скорочень досягала верхньої межі максимального резерву пульсу для дітей спеціальної медичної групи в мінімальній кількості вправ, водночас сумарна тривалість виконання становить у середньому 2 хвилини 40 секунд, що робить принципово неможливим підвищення аеробних можливостей організму школярів. З'ясовано, що уроки оздоровчої спрямованості не вирішують завдання, які пов'язані з підвищенням сили постуральних м'язів, з розвитком координаційних здібностей, не мають цінності спеціальної рухової корекції певних захворювань і патологічних станів молодших школярів. Виявлені особливості навчально-виховного процесу в спеціальній медичній групі дають змогу констатувати порушення таких дидактичних принципів, як принципи доступності, активності, систематичності, індивідуалізації. Наявна система фізичного виховання молодших школярів, віднесених за станом здоров'я до спеціальної медичної групи, характеризується явною невідповідністю проєктивних, змістовних, процесуальних та обліково-контрольних установок

Ключові слова: фізичне виховання, спеціальна медична група, заклади середньої освіти, молодші школярі

UDC 796.01.3:373.3

DOI: 10.52534/msu-pp.7(1).2021.44-53

Viktoriia V. Podhorna*, Iryna D. Smoliakova

Odessa National Polytechnic University
65044, 1 Shevchenko Ave., Odesa, Ukraine

Analysis of the Effectiveness of Physical Education Classes in Special Medical Groups

Article's History:

Received: 12.12.2020

Revised: 28.01.2021

Accepted: 12.03.2021

Suggested Citation:

Podhorna, V.V., & Smoliakova, I.D. (2021). Analysis of the effectiveness of physical education classes in special medical groups. *Scientific Bulletin of Mukachevo State University. Series "Pedagogy and Psychology"*, 7(1), 44-53.

Abstract. The relevance of the study stems from the steady increase in the sickness rate of young students. The purpose of the study is to define the effectiveness of physical education classes in junior schoolchildren who, for health reasons, belong to a special medical group. The study used such materials and methods as: documentary analysis, pedagogical observation, and heart rate monitoring. The authors examined the structure of the illnesses of junior schoolchildren attending classes in a special medical unit. 53.3 per cent of all students may belong to a special medical group for certain health reasons. The analysis shows severe irregularities in making diagnoses: lack of a clear interpretation, absence of a description of conditions that do not fall within the scope of the diagnosis, and the formulation of diagnoses incompatible with the age of students. The study analysed physical education classes of junior schoolchildren aged 7-10, classified as a special medical group for health reasons. Performing a minimum number of exercises, the heart rate of children of the special medical group reached the upper limit of the maximum pulse reserve. At the same time, the total performance duration average 2 minutes 40 seconds. Hence, the improvement of the aerobic abilities of schoolchildren is impossible. The study found that health-oriented classes do not solve the problems associated with increasing the strength of postural muscles and do not develop coordination abilities. They have no value in the special motor correction of certain diseases and pathological conditions of junior schoolchildren. The revealed features of the educational process identified in the special medical group enable violating such didactic principles as accessibility, activity, systematism and individualisation. The existing system for the physical education of young schoolchildren assigned to a special medical group for health reasons shows evident discrepancies between the projective, substantive, procedural and control systems

Keywords: physical education, special medical group, secondary education, primary school students

*Corresponding author

INTRODUCTION

For several decades the State education system in Ukraine has been undergoing a difficult period of reform under the conceptual provisions of the Law "On Education" [1] extended and supplemented by the new State Standard for Primary Education and considering the "Recommendations of the European Parliament and the Council of Europe on Building the Key Competencies of Lifelong Education" [2]. The changes have not spared the system of physical education of secondary education students as well. There are many social reasons for its improvement, the main of which include:

- the insufficiently developed cultural component of students' physical education [3; 4];
- rigidity and over-generalisation of the projective approaches of State programmes that do not take into account the ontogenetic characteristics of the psychophysiological development of the child [5; 6];
- one-sided emphasis on mass education in organised forms of physical education for secondary school students, which is detrimental to the progressive ideas of individualisation [7];
- insufficient selectivity in the approach to the physical education of children, which depends on health and level of physical and motor preparation [8; 9].

The main aspects of the educational process for children classified with health problems are identical, both in the basic and in the special medical group (hereinafter referred to as "SMG"). However, students with SMG have lower absolute values of physical and motor fitness [10]. This situation leads to the virtual elimination of such a category of schoolchildren from participation in extracurricular and out-of-school organised physical culture and sports activities, significantly reducing physical training and health improvement possibilities.

Apart from the three main tasks of physical education for healthy SMG schoolchildren (improvement of general physical ability (stamina), harmonious development of the core muscles with an emphasis on correcting muscle imbalances and improved coordination), such tasks as the correction of functional disorders of the musculoskeletal system (which generally occur in such groups) and the motor rehabilitation after the disease that caused the admission of the child to the special medical group [11] should also be added. Hence, the study examines the quality of implementing the above tasks within the existing system of organising classes in special medical groups.

In a system of universal human values, a high level of health, physical fitness and mobility is fundamental for realising the full potential of a human being [12]. Awareness of the need for a qualitative change in the organisational and technological aspects of students' physical

education at schools (especially its health-maintaining component) has led to the emergence of many scientific and methodological publications concerning different nosologies and study in secondary schools. They offer a great variety of options to increase children's motor activity, improve their health, teach the basics of sports, etc. [13-15]. However, paradoxically, neither in the curricula of physical education for different educational institutions nor in the numerous works devoted to improving physical education in educational institutions, priorities for developing individual physical qualities in these groups are not specified.

On the one hand, the quest for harmonious development is well-founded. Yet, when it comes to the constant lack of time to engage in physical activity, it is necessary to proceed from the degree of significance of each physical quality regarding its healing effect. In theory and method of mass forms of health-improving physical culture, these key points have been clear long ago. It is generally accepted that amid the harmonious development of the core muscles and high coordination capabilities, stamina is an essential physical quality that impacts human health significantly [16].

Scholars and the educational community are particularly concerned about the insufficiency of physical education's components to maintain and develop the health of primary school students [17]. The scientific literature contains various, often contradictory, data on the health status of students. Nevertheless, scientists and specialists agree on the serious negative trends in the number and structure of students' illnesses during their secondary education [18-20]. Hence, the problem of physical education of junior schoolchildren with health disorders remains highly relevant. Working with students classified as a special medical group (SMG) for health reasons is one of the priority areas in developing physical education's health component for children aged 7-10.

The purpose of the study is to define the effectiveness of physical education classes in junior schoolchildren who, for health reasons, belong to a special medical group.

Objectives of the study:

1. To analyse the grounds for releasing junior schoolchildren from physical education and enrolling them in special medical groups.
2. To determine the main focus and effectiveness of classes in special medical groups.

MATERIALS AND METHODS

The study employed the following methods: theoretical analysis and synthesis of literary data, analysis of documentary materials, pedagogical observations of health-oriented physical exercise (analysis of lesson – chronometer

and heart rate monitoring). The methods used are well known in physical education and do not require further reasoning.

To examine prerequisites for exempting junior schoolchildren from physical education and enrolling them in special medical groups, the study analysed the illness structure of students aged 7-10 attending SMG classes. The study analysed 107 medical records of junior schoolchildren attending secondary schools in Odesa: Educational Complex No. 84 "Specialised school of I-III degrees with in-depth study of foreign languages – secondary school of I-III degrees" Odesa City Council of Odeska Oblast, Educational Complex "Intellect". All children aged 7-10 (62 boys and 45 girls) had sufficient reason to be exempt from physical education or enrol in a special medical group. The reasons included the following pathological conditions: disorders of the locomotive, cardiovascular, central nervous, autonomic nervous, peripheral nervous, endocrine, respiratory, digestive, and blood systems; diseases of EENT, skin and visual organs; visual impairments, developmental disorders, urinary defects, allergies, etc. The information on the main diagnosis, its formulation, and availability of its interpretation were the major aspects of medical records analysis. The study identified and analysed the main diagnoses for exemption from physical education classes or admission to SMG and examined records that did not contain precise data on the main disease and proved to be the basis for enrolling children in SMG.

Timekeeping and the construction of physiological performance curves (heart rate monitoring) helped to determine the effectiveness of health-improving physical education in the junior classes. The study analysed 19 SMG physical education classes lasting 30 minutes held by teachers in the first half of the school year (October – December 2020). The analysis of the lessons bases on the perspective of possible influence on the level of general physical efficiency, postural muscle functionality and course of the disease (direct cause for being enrolled in SMG).

The effect of exercise on the level of the cardiovascular system functionality was evaluated from the standpoint of the duration of continuous or variable work at

a certain heart rate [21]. Considering the recommended minimum level of maximum heart rate reserve for developing the overall physical working capacity of persons not associated with the muscular activity is 40%, the upper limit of the maximum heart rate reserve was set as 20%. It represents 118 bpm for the age of 10 years with an average output pulse of 90 bpm.

The following components were the subject of analysis and observation: time limit for exercises (which

RESULTS AND DISCUSSION

is essential for the purposeful development of basic physical qualities, individual muscle groups, etc.); pedagogical orientation (first of all, the study recorded the presence of special exercises on the development of postural muscles functional strength and coordination abilities, the presence of special motor correction of certain diseases, and pathological conditions of an individual child); differentiation, and exercise safety. The results of pedagogical observation were recorded in the protocol. When considering improving the organisation of physical education in the lower grades of secondary schools, it is particularly worth mentioning the principles of exemption from physical culture and the formation of special medical groups. Today, based on in-depth medical examination, practically every child can be exempted from physical activity or assigned to a special medical group. On the one hand, this is related to the fact that there are only a few absolutely healthy children. On the other hand, the absence of a clear legalised list of diseases and pathologies justifies exemption from physical education classes or admission to special medical groups.

The study analysed the structure of diseases of 107 students attending classes in SMG of different schools in Odesa on a formal basis (examination of medical records of children aged 7-10). This led to the conclusion that the number of students classified as SMG for certain health conditions barely exceeds half (53.3 per cent). According to the analysis of diagnoses justifying exemption from physical education lessons or admission to SMG, the most common are pathologies of the locomotor, cardiovascular, central nervous, respiratory, and digestive systems (Fig. 1).

Figure 1. Pathology of various organs and body systems of children aged 7-10 belonging to a special medical group (%)

Notes: CVSP – pathology of the cardiovascular system; MSSP – pathology of the musculoskeletal system; CNSP– pathology of the central nervous system; RD – respiratory diseases; DSD – digestive system diseases

Source: developed by the author

Qualitative analysis of the diagnoses reveals serious irregularities in the process of diagnosis, the main ones being (Fig. 2): lack of clear interpretation, which, from a medical and legal point of view, makes it impossible to use it as an argument for objectively classifying students

into medical groups; inclusion of a large number of children's conditions, not consistent with diagnosis; classifying schoolchildren to SMG with no serious reasons; diagnosing students of diseases, incompatible with their age and successful educational activities.

Figure 1. Disorders in the process of diagnosing students aged 7-10 who belong to SMG or are exempt from physical education (%)

Source: developed by the author

Most diagnoses require interpretation (64%), without which they cannot serve as criteria for allocation to medical groups (for example, chronic bronchitis – without specifying the type of inflammatory process (cathartic, purulent), functional characteristics, disease phases (aggravation, remission), cardiac rhythm disorders – no indication of the nature of the disorders; mitral valve prolapse – no indication of degree, presence or absence of regurgitation, morphological changes to the valve, changes to the EKG, etc.) The whole series of states does not fall into the concept of “diagnosis” (22%), for example, anomaly of the biliary tract, functional murmur, vertebrogenic disorder, lordosis.

There have been cases of school children with no serious reason to be classified as SMG (10%). It is astonishing that children with diseases like mild myopia, chronic pharyngitis or deviation of the nasal septum are enrolled in special medical groups or exempted from physical education. A number of illnesses that have given rise to an exemption from work or admission to a special medical group are curable. This results in a complete recovery or a long-term remission, during which children are well placed to engage in physical education in the main medical group.

Based on the age of the persons surveyed and their full participation in the educational process, it is hard to believe in the diagnosis (4%) of “idiopathic intracranial hypertension” or “scoliosis IV degree”. Thus, the results of this part of the study suggest that there is no effective and, above all, no objective mechanism for allocating students to medical groups. In fact, they call into question the possibility of targeted health-improving work with children.

According to the results of the analysis of physical exercise lessons, the heart rate reached the appropriate level and exceeded it in only a few exercises (crossover side run, jogging, side leg swings jumping with overhead arm claps, ball work). The total duration of the exercise was, on average, 2 minutes 40 s. Given the lesson's impact on cardiovascular system functionality (which determines the level of stamina), it is virtually impossible to increase the aerobic capacity of the body.

In terms of developing the functional strength of the muscles (primarily postural), most of the exercises proposed in this plan are undifferentiated and manifest in light motor activation. They do not correspond to the solution of the problems connected with increasing strength of postural muscles or special motor correction of certain diseases and pathological states. In particular, there is a complete lack of exercises in the motor complexes to develop the abdominal internal oblique muscles, rhombic muscles, and most muscles of the shoulder girdle. Numerous exercises for back muscles are similar and undifferentiated. A series of exercises such as “rotating

ball around the neck and waist”, “transferring the ball from one hand to another in a lying position”, “transferring the ball to each other in a circle”, etc. do not carry any “meaningful” load concerning the examined contingent. It does not affect the level of stamina, the functionality of the postural muscles, or the main disease.

An analysis of the SMG exercise showed a minimal quantity of exercises to develop coordination abilities in children aged 7-10. At the same time, if not correctly performed, some part of the exercise may lead to negative consequences from the functional state of the locomotive supporting-motor apparatus (rolling the ball under the lower back in the position lying on the back; abrupt back-flipping of head during the “kitty” exercise; circular movements in the cervical spine, the “Mill”, round torso movements and other similar exercises leading to rotation of the various spine sections; inclination of legs, straight or bent, in the knee and hip joints, to the sides from the position of lying on the back; waving legs back, in a position supported by the knees and hands; high feet kicks in a standing position supported by wall bars).

Thus, from the point of view of increasing the body's functional capabilities, the effectiveness of training in SMG is minimal. I. Bondar received similar data in 2014 after analysing physical education lessons with students sent to SMG in 16 Lviv secondary schools. The researcher found that on average, 27.61 10.13 minutes of lessons in SMG took place at a heart rate up to 120 bpm; the number of asymmetric exercises, exercises to strengthen internal pelvic muscles and large pectoral muscles, which are dangerous for use in SMG was large; instead, there was insufficient quantity of exercises to develop postural muscle groups, oblique and rhombic muscles, and means of purposeful healing and rehabilitation [22].

The absence of individual therapeutic physical education complexes in classes is also a matter of concern. They must be taught to each child individually and performed independently. In the context of a physical education lesson, the teacher should periodically check their correct implementation. The results of the analysis show serious shortcomings in the professional training of teachers, the main ones being:

- absence of a clear common ideology and concept of physical education in SMG for younger students;
- orientation towards the generally accepted design of the teaching and educational process, with emphasis on the general physical development of children;
- lack of understanding of the exercise used in the lessons, from the perspective of their potential injury risk;
- poor awareness of physical education teachers about the possibility of using physical education for motor rehabilitation of children with various diseases and pathological conditions;
- organisational difficulties in recruiting special medical

groups, lack of knowledge of teachers on this issue;

- lack of physical education teachers' knowledge and skills of urgent medical control during physical exercise;
- low level of teachers training in emergency medical care.

Thus, the study identified serious shortcomings in the professional competence of teachers. Additional work has to upgrade the qualifications of physical education teachers in special courses. V.V. Chizhevsky observed a similar situation before. He noted that physical education teachers "have significant gaps in the awareness of the functional changes in the body that occur under the influence of performing localised exercises..." [23, p. 224]. According to the authors, the main reasons for this situation are:

- lack of a reasoned legislative framework. There should be not only the assignment of schoolchildren to medical groups but also the exemption from physical exercise;
- medical examination of children without further in-depth examination, which in most cases precludes a real diagnosis;
- lack of professional competence of specialist doctors in the context of symptoms and contraindications of various illnesses to the participation of schoolchildren in physical culture and sports activities;
- the desire of many parents to exempt children from physical education classes is a serious social and educational problem.

A number of shortcomings in the organisation of specialised medical teams have led to a lack of effectiveness in the teaching and educational process of physical education of younger students. This is evidenced by the educational observations:

- the absolute majority of physical education classes in SMG do not allow the development of stamina as the basis of overall working ability;
- the content of both individual physical exercises and their complexes does not solve the task of developing functional strength of postural muscles;
- there is insufficient amount of physical exercises to effectively influence children's mobility and, in particular,

their coordination capacity;

- use of exercise in the physical education of schoolchildren classified as SMG is aphysiological both for all students and for children with specific diseases in particular.

A serious shortcoming is the absence in the content of physical education classes of special exercise units used for the motor rehabilitation of individual children's diseases, which is a prerequisite for the effectiveness of classes in SMG.

CONCLUSIONS

The study analysed 19 physical education classes for junior schoolchildren classified as SMG for health reasons. The study results of the physical education organisational basis of young schoolchildren classified as SMG highlights the following aspects:

1. The physical education of this category of pupils does not take into account the essential objectives of national priority projects: quality improvement of the primary health care; development of new innovative technologies for improving the quality of health care and the physical and motor skills of secondary school students; including children classified as SMG for health reasons.
2. Age specificities and sensational periods of development of the physical potential of younger schoolchildren are not taken into account; the need for an emphasis on stamina, postural muscle strength and coordination abilities is ignored. This significantly reduces the health-enhancing effect of physical education at school.
3. The shortcomings identified in the teaching and educational process in SMG make it possible to establish a violation of essential didactic principles: accessibility, activity, systematism, individualisation. Such a situation is not permissible and minimises the effectiveness of physical education classes aimed at health improvement.
4. The existing physical education system for younger students classified as SMG for health reasons is dysfunctional and, in many respects aphysiological, and characterised by an apparent discrepancy between projective, substantive, procedural and control systems.

REFERENCES

- [1] Law of Ukraine No. 2145-VIII "On Education". (2019, June). Retrieved from <https://zakon.rada.gov.ua/laws/show/2145-19#Text>.
- [2] Resolution of the Cabinet of Ministers of Ukraine No. 898 "Some Issues of State Standards of Complete General Secondary Education". (2020, September). Retrieved from <https://www.kmu.gov.ua/npas/pro-deyaki-pitannya-derzhanih-standartiv-povnoyi-zagalnoyi-serednoyi-osviti-i300920-898>.
- [3] Andryeyeva, R.I. (2015). The effectiveness of the use of health-promoting technologies of physical culture and health in the educational process of primary school children. *Scientific Journal of National Pedagogical Dragomanov University. Series 15. Scientific and Pedagogical Problems of Physical Culture (Physical Culture and Sports)*, 3(1), 20-24.

- [4] Yazlovetska, O.V. (2020). Innovative concept of modern theories of physical education. *Pedagogy of Formation of Creative Personality in Higher and General Education Schools*, 68(1), 142-146. doi: 10.32840/1992-5786.2020.68-1.29.
- [5] Bodnar, I.R. (2014). *Integrative physical education of schoolchildren of various medical groups*. Lviv: LDUFK.
- [6] Secondary education. New standards for physical training of children. (2017). Retrieved from <https://osvita.ua/school/55104/>.
- [7] Banakh, V. (2020). Personalized approach to physical education of student youth. *Bulletin of Kamianets-Podilskyi National Ivan Ohienko University. Physical Education, Sports and Human Health*, 15, 11-15.
- [8] Podhorna, V.V. (2017). Substantiation of motor correction of the psychophysical state of students with a developmental disorder. *Scientific Journal of National Pedagogical Dragomanov University. Series 15. Scientific and Pedagogical Problems of Physical Culture (Physical Culture and Sports)*, 5K(86), 261-264.
- [9] Bashavets, N.A. (2013). Modern problems of health in physical education. *Bulletin of Chernihiv National Pedagogical University. Series: Pedagogical sciences. Physical Education and Sports*, 112(3), 78-80.
- [10] Pavlenko, V.Y., Diskovskyy, V.I., & Pylypenko, M.I. (2018). Organization of physical exercises for schoolchildren in special medical groups. *Bulletin of Chernihiv National Pedagogical University. Series: Pedagogical Sciences. Physical Education and Sports*, 152(2), 140-145.
- [11] Hertsyk, A. (2015). Goals, objectives and tasks of physical rehabilitation: A systematic approach. *Youth Scientific Bulletin of the Lesya Ukrainka Eastern European National University*, 20, 121-126.
- [12] Fairclough, S., & Stratton, G. (2005). Physical education makes you fit and healthy. Physical education's contribution to young people's physical activity levels. *Health Education Research*, 20(1), 14-23. doi: 10.1093/her/cyg101.
- [13] Bondarenko, I.H., Boychenko, O.V., & Bondarenko, O.V. (2016). Features of physical education of schoolchildren with disorders of the musculoskeletal system. *Bulletin of Chernihiv National Pedagogical University. Series: Pedagogical Sciences. Physical Education and Sports*, 139(1), 30-33.
- [14] Bettany-Saltikov, J., McSherry, R., Van Schaik, P., Kandasamy, G., Hogg, J., Whittaker, V., Racero, G.A., & Arnell, T. (2019). Protocol: School-based education programmes for improving knowledge of back health, ergonomics and postural behaviour of school children aged 4-18: A systematic review. *Campbell Systematic Reviews*, 15(1-2). doi: 10.1002/cl2.1014.
- [15] St Leger, L., Young, I., Blanchard, C., & Perry, M. (2010). *Promoting health in schools: From evidence to action*. Saint Denis: IUHPE.
- [16] Lynets, M.M., & Andriyenko, H.M. (1993). *Endurance, health, efficiency*. Lviv: LDIFK.
- [17] Mykhaylenko, Yu., Reshetylova, V., & Kovrov, Ya. (2017). The state of health and physical activity of children of primary school age. *Sports Bulletin of the Dnieper*, 1, 193-196.
- [18] Nedilko, V.P., & Rudenko, S.A. (2017). Health school children and problems of its improvement. *Journal of Pediatrics, Obstetrics and Gynecology*, 2, 11-17.
- [19] Dudina, O.O., & Tereshchenko, A.V. (2014). Situational analysis of the health of children. *Bulletin of Social Hygiene and Health Care Organization of Ukraine*, 2, 49-57. doi: 10.11603/1681-2786.2014.2.3372.
- [20] Nosko, M.O., Harkusha, S.V., & Vertel, O.V. (2019). Current risk factors for the health of students. *Bulletin of Chernihiv National Pedagogical University. Series: Pedagogical Sciences. Physical Education and Sports*, 3, 267-273. doi: 10.5281/zenodo.3477775.
- [21] Bendiksen, M., Williams, C.A., Hornstrup, T., Clausen, H., Kloppenborg, J., Shumikhin, D., Brito, J., Horton, J., Barene, S., Jackman, S., & Krustup, P. (2014). Heart rate response and fitness effects of various types of physical education for 8- to 9-year-old schoolchildren. *European Journal of Sport Science*, 14(8), 861-869.
- [22] Bodnar, I.R. (2014). The effectiveness of physical education lessons with students of a special medical group. *Sports Bulletin of the Dnieper*, 1, 12-16.
- [23] Chyzhevskyy, V.V. (2010). Methodical aspects of conducting classes with a special medical group. *Bulletin of Luhansk Taras Shevchenko National University*, 17(204), 223-226.

СПИСОК ВИКОРИСТАНИХ ДЖЕРЕЛ

- [1] Про освіту: Закон України від 16.07.2019 р. № 2145-VIII. URL: <https://zakon.rada.gov.ua/laws/show/2145-19#Text> (дата звернення: 25.01.2021).
- [2] Деякі питання державних стандартів повної загальної середньої освіти: Постанова Кабінету Міністрів від 30.09.2020 р. № 898. URL: <https://www.kmu.gov.ua/npras/pro-deyaki-pitannya-derzhavnih-standartiv-povnoyi-zagalnoyi-serednoyi-osviti-i300920-898> (дата звернення: 1.02.2021).
- [3] Андреева Р.І. Ефективність використання здоров'язберігаючих технологій фізкультурно-оздоровчого спрямування в навчально-виховному процесі молодших школярів. *Науковий часопис НПУ імені М.П. Драгоманова. Серія 15: Науково-педагогічні проблеми фізичної культури (фізична культура і спорт)*. 2015. № 3(1). С. 20–24.
- [4] Язловецька О.В. Інноваційна концепція сучасної теорії фізичного виховання. *Педагогіка формування творчої особистості у вищій і загальноосвітній школах*. 2020. Т. 1, № 68. С. 142–146. doi: 10.32840/1992-5786.2020.68-1.29.
- [5] Боднар І.Р. Інтегративне фізичне виховання школярів різних медичних груп: монографія. Львів: ЛДУФК, 2014. 300 с.
- [6] Середня освіта. Нові нормативи з фізпідготовки дітей. URL: <https://osvita.ua/school/55104/> (дата звернення: 1.02.2021).
- [7] Банах В. Персоніфікований підхід до фізичного виховання студентської молоді. *Вісник Кам'янець-Подільського національного університету імені Івана Огієнка. Фізичне виховання, спорт і здоров'я людини*. 2020. № 15. С. 11–15.
- [8] Подгорна В.В. Обґрунтування рухової корекції психофізичного стану у школярів із порушеннями розвитку. *Науковий часопис НПУ імені М.П. Драгоманова. Серія 15: Науково-педагогічні проблеми фізичної культури (фізична культура і спорт)*. 2017. № 5К(86). С. 261–264.
- [9] Башавець Н.А. Сучасні проблеми здоров'язбереження у фізкультурній освіті. *Вісник Чернігівського національного педагогічного університету. Серія: Педагогічні науки. Фізичне виховання та спорт*. 2013. № 112(3). С. 78–80.
- [10] Павленко В.Й., Дісковський В.І., Пилипенко М.І. Організація занять школярів фізичними вправами у спеціальних медичних групах. *Вісник Чернігівського національного педагогічного університету. Серія: Педагогічні науки*. 2018. № 152(2). С. 140–145.
- [11] Герцик А. Мета, цілі та завдання фізичної реабілітації: системний підхід. *Молодіжний науковий вісник Східноєвропейського національного університету імені Лесі Українки*. 2015. № 20. С. 121–126.
- [12] Fairclough S., Stratton G. Physical education makes you fit and healthy. Physical education's contribution to young people's physical activity levels. *Health Education Research*. 2005. Vol. 20, No. 1. P. 14–23. doi: 10.1093/her/cyg101.
- [13] Бондаренко І.Г., Бойченко О.В., Бондаренко О.В. Особливості фізичного виховання школярів з порушеннями опорно-рухового апарату. *Вісник Чернігівського національного педагогічного університету. Серія: Педагогічні науки. Фізичне виховання та спорт*. 2016. № 139(1). С. 30–33.
- [14] Protocol: School-based education programmes for improving knowledge of back health, ergonomics and postural behaviour of school children aged 4–18: A systematic review/ J. Bettany-Saltikov et al. *Campbell Systematic Reviews*, 2019. Vol. 15, No. 1–2. doi: 10.1002/cl2.1014.
- [15] St Leger L., Young I., Blanchard C., Perry M. Promoting health in schools: From evidence to action. Saint Denis: IUNPE, 2010. 31 p.
- [16] Линець М.М., Андрієнко Г.М. Витривалість, здоров'я, працездатність. Львів: ЛДІФК, 1993. 132 с.
- [17] Михайленко Ю., Решетилова В., Ковров Я. Стан здоров'я і рухової активності дітей молодшого шкільного віку. *Спортивний вісник Придніпров'я*. 2017. № 1. С. 193–196.
- [18] Неділько В.П., Руденко С.А. Здоров'я дітей шкільного віку та проблемні питання його покращення. *Міжнародний журнал педіатрії, акушерства та гінекології*. 2017. № 2. С. 11–17.
- [19] Дудіна О.О., Терещенко А.В. Ситуаційний аналіз стану здоров'я дитячого населення. *Вісник соціальної гігієни та організації охорони здоров'я України*. 2014. № 2. С. 49–57. doi: 10.11603/1681-2786.2014.2.3372.

- [20] Носко М.О., Гаркуша С.В., Вертель О.В. Сучасні фактори ризику для здоров'я учнів і студентів. *Вісник Національного університету Чернігівський колегіум імені Т.Г. Шевченка. Серія: Педагогічні науки*. 2019. № 3. С. 267–273. doi: 10.5281/zenodo.3477775.
- [21] Heart rate response and fitness effects of various types of physical education for 8- to 9-year-old schoolchildren / M. Bendiksen et al. *European Journal of Sport Science*. 2014. Vol. 14, No. 8. P. 861–869.
- [22] Боднар І. Ефективність уроків фізичної культури зі школярами спеціальної медичної групи. *Спортивний вісник Придніпров'я*. 2014. № 1. С. 12–16.
- [23] Чижевський, В.В. Методичні аспекти проведення занять зі спеціальною медичною групою. *Вісник Луганського національного університету імені Тараса Шевченка*. 2010. № 17(204). С. 223–226.