Revista Românească pentru Educație Multidimensională
ISSN: 2066-7329 | e-ISSN: 2067-9270
Covered in: Web of Science (WOS); EBSCO; ERIH+; Google Scholar; Index Copernicus; Ideas RePeC; Econpapers; Socionet; CEEOL; Ulrich ProQuest; Cabell, Journalseek; Scipio; Philpapers; SHERPA/RoMEO repositories; KVK; WorldCat; CrossRef; CrossCheck

2022, Volume 14, Issue 3, pages: 522-540 | https://doi.org/10.18662/rrem/14.3/624
Submitted: July 21st, 2021 | *Accepted for publication:* February 10th, 2022

The Establishment and Development of a Therapeutic Area in Students' Physical Education

Liubomyr BYHAR[1],
Larysa KOZIBRODA[2],
Oleksandr HERASYMENKO[3],
Vitalii OSIPOV[4],
Oles PRYSHVA[5],
Taras SERMAN[6]

[1] Yuriy Fedkovich Chernivtsi National University, Chernihiv, Ukraine, hanna-bugar@yandex.ua
[2] Lviv Polytechnic National University, Lviv, Ukraine, lora.kozibroda@gmail.com, http://orcid.org/0000-0001-8232-425X
[3] Franko State Pedagogical University, Drohobych, Ukraine, director@arolplus.com
[4] Berdyansk State Pedagogical University, Berdyansk, Ukraine, shef_fizvosp@ukr.net
[5] Kherson State University, Kherson, Ukraine, ooobc@yahoo.com, http://orcid.org/0000-0002-3727-5142
[6] Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine, mrtaras79@gmail.com, https://orcid.org/0000-0002-7836-3085

Abstract: Caring for the health of the young generation is a thorny issue in the postmodern society today. It covers several interrelated aspects which characterize different areas. These areas include the organization of professional activities, physical exercise, leisure, nutrition, sports and healthcare. Besides, they refer to the organization of physical education for students from special medical groups. The article aims to disclose and summarize historical, theoretical and methodical principles of developing a therapeutic area in physical education of university students during the second half of the 20th century - the early 21st century. Research methods are the following: theoretical analysis and summary of literary sources and documentary materials; historical-and-pedagogical analysis of philosophical, psycho-pedagogical, scientific-methodical studies of Ukrainian and foreign researchers and regulatory documents; comparative-and-historical analysis; comparison, generalization, systematization, synthesis; constructive-and-genetic method; special scientific methods: chronological order; search method and bibliographic analysis. The article analyzes historical and methodical aspects of developing a therapeutic area in physical education of Ukrainian and foreign students, as well as the main stages in its establishment and development within the specified time, in the context of permanent changes in the attitude towards maintaining the health of university students. It justifies the legal framework of developing a therapeutic area in physical education in Ukrainian and foreign higher education institutions (HEIs) within the specified time. Also, the article traces and summarizes the characteristic trends in the development of the content and basic forms of establishing a therapeutic area in physical education of university students within the specified time. Finally, it reveals how the main pedagogical-organizational principles of physical education for students from special medical groups have been developed.

Keywords: *healthcare, physical exercise, higher education institutions, health problems, special medical groups.*

How to cite: Byhar, L., Kozibroda, L., Herasymenko, O., Osipov, V., Pryshva, O., & Serman, T. (2022). The Establishment and Development of a Therapeutic Area in Students' Physical Education. *Revista Românească pentru Educație Multidimensională, 14*(3), 522-540. https://doi.org/10.18662/rrem/14.3/624

©2022 Published by LUMEN Publishing. This is an open access article under the CC BY-NC-ND license http://creativecommons.org/licenses/by-nc-nd/4.0/

Introduction

Caring for the health of the young generation is a thorny issue in the postmodern society today. It covers several interrelated aspects which characterize different areas. These areas include the organization of professional activities, physical exercise, leisure, nutrition, sports, healthcare. Besides, they refer to the organization of physical education for students from special medical groups.

Those factors which negatively affect the health of the younger generation lie in the decrease in socio-economic indicators, as well as the today's worsening sanitary-epidemiological and environmental situation in the world (Berbets et al., 2021; Demchenko et al., 2021; Kosholap et al., 2021; Nikolaienko et al., 2021; Prots et al., 2021). The available statistics of Ukrainian and foreign researchers shows that the number of students from special medical groups has increased from 14% to 19.5% over the past three years. Besides, the analysis of school leavers' health proves that only a few of them are completely healthy. According to the Ministry of Healthcare of Ukraine, almost 90% of Ukrainian children, pupils and students have certain health-related problems. In European countries, this figure is a bit lower – 82 %.

Such unfavourable health dynamics among Ukrainian and foreign students urges one to find effective ways of improving their health and ensuring their successful professional integration. This particular issue has been covered by many researchers and practitioners (Apanasenko & Popova, 2000; Dolzhenko, 2007; Gerasymova et al., 2019; Maksymchuk et al., 2020a; 2020b; Melnyk et al., 2019; Nerubasska & Maksymchuk, 2020; Sheremet et al., 2019). For one, Andreev (1996) pays considerable attention to the improvement of students' physical health and psychophysical and psychophysiological capabilities on which, to some extent, professional capacity, reliability and creative longevity depend. These personality traits of highly qualified specialists are traditionally developed and improved through physical education in studenthood.

In their research, Cairney et al. (2019) present some conceptual models of developing a therapeutic area in physical education in HEIs. These models can serve as a basis for designing the author's model of students' physical development in the postmodern era. Paliichuk et al. (2018) justify the algorithms of health preservation of students from special medical groups using physical rehabilitation. In particular, their research aims to determine the interrelationships between the body composition of the young 18–19-year-old-men with the indicators of the cardiovascular system during

physical education. Hannon et al. (2011) suggest incorporating educational innovations into the author's model of physical education for students with health problems.

The intensive reorganization of socio-economic, scientific, technical spheres and spiritual life of people determines the ever-growing demands on the working capacity of students who should take an active part in initiating and organizing this process. Some studies indicate a strong correlation between health, energy levels and methods of physical education for students (Andreev, 1996). Unfortunately, there are few studies on the development of general algorithms for improving the health of students from special medical groups through physical rehabilitation. Moreover, there are almost no works dealing with the development of extracurricular classes for students from special medical groups.

According to the state requirements for physical education of Ukrainian and foreign university students from special medical groups, the leading criterion for the effectiveness of this process is the health of students (Komogorova et al., 2021; Maksymchuk et al., 2020a; Maksymchuk et al., 2020b; Ovcharuk et al., 2021; Palamarchuk et al., 2020). It is determined by the level of functional and structural integration of the body. Nowadays, the target complex programme, titled "Physical Education – The Health of the Nation" acquires special value and urgency since it encompasses the approved methodological complexes developed by foreign researchers. This programme was created to implement state policy in the field of healthcare through physical education. Therefore, the organizational and methodical support for physical education of university students from special medical groups is due to the requirements of the state curriculum. It envisages differentiated teaching of practical material depending on their health. Given the role of physical education for students with certain health disorders and the critical situation with the health of students, it is vital to elaborate a fundamentally new approach to solving this issue. According to this programme, every university is entitled to create a programme of physical education, taking into account the existing conditions (climatic, demographic, social). The above-mentioned document is used as a sample and is also the basis for the instructive and methodical focus of physical education classes in special medical groups in the early 21st century.

At the same time, a thorough historical-and-methodical analysis of changes in organizational-pedagogical principles of physical education for students from special medical groups, which existed in the second half of the 20th century – the early 21st century, is an important aspect in fulfilling this urgent and strategically important objective to develop and implement

physical education programmes for university students in Ukrainian and foreign HEIs. These aspects underlie the choice of the research topic.

The article aims to disclose and summarize historical, theoretical and methodological principles of developing a therapeutic area in physical education of Ukrainian and foreign university students during the second half of the 20th century – the early 21st century.

The article employs the following **research methods**: theoretical analysis and summary of Ukrainian and foreign literary sources and documentary materials; *historical-and-pedagogical analysis* of Ukrainian and foreign philosophical, psycho-pedagogical, scientific-methodical literature and regulatory documents – to determine theoretical and methodical principles of establishing and developing a therapeutic area in physical education for students from special medical groups in the second half of the 20th century – the early 21st century; *comparative-and-historical analysis* – to identify common and distinct features in relevant studies on the establishment of a therapeutic area within the specified time; comparison, generalization, systematization, synthesis – to find historical sources, study and generalize pedagogical experience and analyze various views on the problem in question; *constructive-and-genetic method* – to determine the stages in the establishment and development of a therapeutic area in physical education of students from special medical groups; *special scientific methods*: chronological order – to consider and analyze physical education of university students in the historical sequence within the specified time; search method and bibliographic analysis – to study relevant scientific sources.

The chronological boundaries of the research cover the second half of the 20th century – the early 21st century. The lower boundary dates back to the 1960s, marked by the intensive study of the theory and practice of physical therapy by foreign researchers. It was then that the studies on physical education for medically fragile people demonstrated scholars' attempts to find how to provide university students with targeted assistance during physical education classes. Consequently, the USSR began to introduce a differentiated approach to physical education, as well as the concept of "special medical groups" (The Resolution of the Central Committee of the Communist Party of the Soviet Union and the Council of Ministers of the USSR "On Measures for Further Development of Physical Culture and Sports, 1966).

The upper chronological boundary (present times (the first decade of the 21st century) is associated with a significant deterioration in the health of

young people. In turn, it determines the urgency and relevance of physical education in general and a therapeutic area in physical education for students in particular. The choice of the upper boundary is related to the adoption of the Law of Ukraine "On Physical Culture and Sports", amended and supplemented on November 17, 2009 (No 1724-VI).

Theoretical principles of developing a therapeutic area in physical education for university students

It is essential to improve students' understanding of the value of regular physical exercise, strong physical potential, a healthy lifestyle and, finally, physical education as a construct (Alagudurai & Sivagnanam, 2019).

In the context of university education, physical education performs the following functions (Bergmann & Sams, 2012):

– social (enabling full development of personality, strengthening health, preparing for professional activities);

– organizational (encouraging one to join sports teams and clubs);

– creative (creating models of one's professional-personal development with an emphasis on physical education; nurturing one's skills and abilities);

– prognostic (expanding one's knowledge of physical education);

– developmental (shaping professional and personal positions);

– communicative (improving behavioural climate and communication, strengthening the cooperation between the actors in physical activities);

– sociological (involving one in the system of social relations).

Physical education is a rather broad field that is expected to achieve certain objectives. They are as follows: to develop moral, volitional and physical qualities and prepare for productive work; to maintain and strengthen health; to ensure comprehensive development of mind and body; to motivate one towards regular physical exercise; to provide one with relevant knowledge about the theory and methods and physical education and sports training; to enhance the professionalism of instructors, coaches and referees; to improve sports skills of athletes; to promote a healthy lifestyle among the population (Malik, 1996; Moser et al., 1994).

The research finds that the issue of caring and maintaining health is the most important component of the educational process in universities. The conducted analysis shows that the real scope of students' physical activity does not allow them to develop and preserve their health. The students themselves do not consider their health as a value. Besides, the vast

majority of students have health problems of different degrees of severity. The tendency towards the deteriorating health of students is rather progressive since the total number of Ukrainian and foreign students who belong to special medical groups has increased by 14.4% over the past 10 years.

A detailed analysis of foreign studies shows that a therapeutic area in physical education involves using physical exercise, cold training and hygiene measures in the system of restoring health or certain body functions, reduced or lost due to an illness or injury. It must be noted that researchers began to analyze this area more in detail only in the 20th century. A retrospective analysis shows that the term "therapeutic physical culture" emerged in the scientific literature only in 1929. The establishment of therapeutic physical culture was much influenced by the resolution of the Presidium of the Central Executive Committee of the USSR (1930), which stated that doctors should control physical exercise facilities in terms of medical and sanitary norms. A further impetus for the development of a therapeutic area in physical education was the All-Union complex, titled "Ready for Labour and Defence of the USSR". In 1931, this complex became the basis for the active development of medical control methods in mass examinations of athletes. In hospitals, physical therapy was actively used during the Great Patriotic War (1941-1945). Later, it was included in the system of medical and preventive measures in various establishments and educational institutions (the 1950s).

In the late 1950s, physical therapy became an academic subject. In the 1960s, however, the Soviet Union introduced a differentiated approach to physical education due to the intensive development of the theory and practice of physical therapy. This approach was reflected in special medical groups, organized at universities. Special medical groups became widespread in the second half of the 20th century, which explains the lower boundary of this research.

There were the first attempts to study the state of students' health and hygiene in educational institutions in the late 19th century – the early 20th century. In general, there are four stages in the establishment and development of a therapeutic area in physical education: 1) the 1920s-30s – studying sanitation and living conditions of students; developing the sanitation and health guidelines; 2) the 1940s-50s – setting standards for students' physical development and time budget (the prevailing medical aspect); 3) the 1960s – the first half of the 1980s – conducting socio-hygienic studies on lifestyles, nutrition problems and morbidity among

students; introducing proposals for the rational organization of the educational process and the optimization of students' working and living conditions (the socio-medical aspect); 4) the early 1990s – up till now – conducting comprehensive interdisciplinary studies on students' health problems. Only the third and fourth stages have significantly contributed to developing and improving a therapeutic area in physical education of students with health problems.

The article analyzes the relevant legal framework in the context of studying historical factors in the establishment and development of a therapeutic area in physical education. The choice of the upper boundary is related to the adoption of the Law of Ukraine "On Physical Culture and Sports" (Pro fizychnu kulturu i sport, 2009). All legislative documents related to a therapeutic area in physical education are divided into five levels. *The first level* includes special laws defining the basics of state policy on physical culture and sports in the field of education (Laws of Ukraine "On Education", "On Higher Education", "On Physical Culture and Sports"). *The second level* involves resolutions of the Verkhovna Rada and orders of the Cabinet of Ministers and the Ministry of Education and Science of Ukraine (Pro zatverdzhennya Polozhennya pro orhanizatsiyu fizychnoho vykhovannya i masovoho sportu u vyshchykh navchalnykh zakladakh, 2006); orders of the Ministry of Education and Science of Ukraine (Pro normatyvni dokumenty z fizychnoho vykhovannya, 1998). *The third level* consists of decrees of the President of Ukraine on the development of physical culture and sports in the education system (Pro Natsionalnu doktrynu rozvytku fizychnoyi kultury i sportu, 2004); "Pro Natsionalnu radu z pytan fizychnoyi kultury i sportu, 2006). *The fourth level* covers legislative documents with a time limit (Kontseptsiya fizychnoho vykhovannya v systemi osvity Ukrayiny, 1997); Pro zatverdzhennya Derzhavnoyi prohramy rozvytku fizychnoyi kultury i sportu na 2007-2011 roky, 2006). *The fifth level* encompasses administrative and regulatory documents approved by the central executive body for physical culture and sports.

Organizational and pedagogical principles of a therapeutic area in the system of physical education for university students from special medical groups (the second half of the 20th century – the early 21st century)

Concerning relevant studies of foreign researchers, a retrospective analysis of the scientific literature of the time (Ashmarin, 1979; Guzhalovskiy, 1986; Mahlovanyi, 2006; Matveev & Novikov, 1976;

Prysiazhniuk et al., 2007; Stankin, 1987) shows the priority objectives of physical culture as an integral part of preserving and strengthening the health of students in HEIs. At that time, a therapeutic area in physical education meant organizing special physical activities for Ukrainian and foreign students belonging to special medical groups. During the second half of the 20th century, its main principles were the promotion of a healthy lifestyle and the expansion of physical education and health care services (Ter-Ovanesian, 1978).

In the context of special medical groups, however, physical education, as an academic subject, acts not only as a means of eliminating existing health problems but also as a component of education and training of students which motivates them towards regular exercise. This research considers a therapeutic area in physical education for Ukrainian and foreign students with health problems as a pedagogical system that promotes the benefits of regular exercise throughout life and summarizes the experience of improving one's health through physical culture and sports. In turn, physical education classes for Ukrainian and foreign students from special medical groups *aim* to fully improve the functionality of the organs and systems affected by the disease, compensate for insufficient motor activity, enhance their physical level of the body as a whole and teach them a healthy lifestyle and individual ways of self-improvement.

At that time, physical education in special medical groups sought to convince Ukrainian and foreign students of the importance of exercise in improving their health and achieving a high level of physical and mental performance. Consequently, the main *objectives* of physical education in such groups were as follows: to improve the human's body functional capacity; to neutralize the negative effects of insufficient motor activity; to eliminate existing health problems and thus fulfil the main objective of working with students from special medical groups, that is to transfer Ukrainian and foreign students to the main medical group. The *forms* of such classes include morning exercise, physical activity breaks, outside activities, health-promoting activities, sports activities during breaks. They intend to ensure healthy rest and meet the emotional needs associated with meaningful entertainment. The *means* involve a rational mode of life, natural factors, medical massage, gym equipment, a wide range of callisthenics and special exercises, elements of track and field athletics, sports games, movement games, dosed walking, therapeutic running, hiking, physical therapy and physical rehabilitation. During the second half of the 20th century – the early 21st century, physical education of university students from special medical

groups realized health-promoting, regulatory, educational, organizational and pedagogical goals.

The conducted analysis of scientific studies of that time allows one to identify the following organizational and pedagogical principles that have significantly influenced the organization of physical education for Ukrainian and foreign students from special medical groups: 1) *health-promoting and preventive measures*; 2) *a differentiated approach*; 3) *creating a positive motivation to engage students in physical education*; 4) *professional and applied focus of classes*; 5) *psychological training of students for physical education classes*; 6) *developing students' self-control skills*; 7) *combining classroom and independent work in extracurricular time*.

The generalization of relevant Ukrainian and foreign scientific-practical experience of that time has made it possible to identify certain principles. According to Petukhov (1968), physical education in special medical groups in HEIs is based on: 1) universal *social principles*, which reflect the most universal patterns of functioning of physical education as part of culture and society (all-round and harmonious development of the individual; the links between physical culture and labour and defence activities; the health-promoting focus of physical education); 2) *universal pedagogical* principles of a personality-oriented approach; fundamentality; humanization; democratization of the pedagogical process; 3) *universal methodical* principles: visualization, awareness, activity, accessibility, systematicity, dynamism, individualization; 4) *specific principles of physical education*: both continuous and systematic alternation of loads and rest; a gradual increase of pedagogical influences; an adaptive balance between the dynamics of loadings; cyclic construction of classes; peak and comprehensive adequacy of physical education areas.

The article finds that physical education for Ukrainian and foreign students from special medical groups at that time can be considered balanced and scientifically sound only when taking into account the specified organizational and pedagogical principles. Physical education of that time was believed to be not only a means of educating and improving students' physical fitness but also a major factor in restoring and improving health, eliminating problems in physical development, correcting and compensating for some impaired functions and enhancing general and intellectual performance.

Methodical principles of physical education for students from special medical groups (the second half of the 20th century – the early 21st century)

In Ukrainian and foreign HEIs, physical education was based on state programmes that contained scientifically sound tasks and means, sets of required motor skills, lists of relevant standards and requirements for the distribution of students in special medical groups, taking into account the state of their health, motor development, physical and athletic fitness (Ashmarin, 1979; Guzhalovskiy, 1986; Matveev & Novikov, 1976).

In the late 20th century – the early 21st century, special medical groups served as an optimal means to optimize the functioning of the whole body and its systems. According to Bulich (1986) and Mahlovanyi (2006), the main objectives of physical education for students in special medical groups were as follows: to increase the activity of the organs and body systems weakened by the existing pathological process (health-promoting and preventive classes); to eliminate residual diseases (increasing working capacity and physical performance); to develop physical abilities and motor skills that compensate for the existing health problems (flexibility – postural disorders; coordination – paresis and paralysis); to provide students with the necessary knowledge about the causes of the disease and methods of compensating for existing health problems; to enhance compensatory abilities of the body (to strengthen the mechanisms of general adaptation and increase the efficiency of the healing process); to shape and improve basic motor skills, applied skills and promote personal hygiene; to cultivate an active conscious attitude towards overcoming existing health problems. The pedagogical process of physical education in special medical groups was focused on the unity of training, physical development and improvement of students' health.

Physical education of students with health problems was meant to motivate them towards regular motor activity and generalize the experience of improving their health through physical culture and sports. Given considerable problems in maintaining the health of young people on a national scale, one of the key problems of that time was the development and implementation of innovative training programmes that would meet the requirements of the state in the field of all-round and harmonious development, physical and mental health of young people (Apanasenko & Popova, 2000; Amosov, 1972).

Practical approaches to organizing special medical and physical therapy groups in HEIs are laid down in the legislation. During this period, students were distributed among three fields of training (basic, preparatory, special) based on the obtained data on the state of their health, physical development and fitness. The research proves the expediency of differentiating students with different levels of physical fitness and diseases, taking into account functional indicators measured by appropriate methods. The practice of organizing physical education at that time shows that its content in special medical groups covered a system of knowledge, abilities and skills of theoretical, methodological and practical training, optimized by the complexity of the student's disease. The article presents a description of the main approaches of physical education teachers to conducting practical classes (gymnastics, athletics, ski training, swimming, elements of sports games, movement games). It indicates that the general functions of physical education classes with students from special medical groups at that time were educational, practical, health-promoting and professionally applied.

The article finds that the main form of physical education classes for foreign students from special medical groups was compulsory classes included in the curriculum and general class schedule. However, physical education for foreign students from special medical groups also involved extracurricular activities, such as independent classes on a full-time basis (outside the general class schedule); morning exercise; mass health-promoting, physical and tourist events (physical therapy classes; recreational activities); independent classes of students from special medical groups. The authors of the article have developed their own training programme on physical education, which contains topics related to theoretical and methodological training and relies on innovative findings by foreign researchers.

The practical experience in organizing physical education for such students within the specified time shows that the range of teachers' methods largely determined their professionalism and effectiveness of both educational and training processes. It must be noted that creative teachers created new techniques during their practical activities. Practical classes were conducted using three groups of methods (practical, verbal and visual). In the second half of the 20th century – the early 21st century, a therapeutic area in physical education involved using special physical exercises and preventive measures in the rehabilitation of students belonging to special medical groups. Consequently, physical education in such groups is aimed at restoring health or certain functions of the body, reduced or lost as a result of a disease or injury. Therefore, the study of special and scientific literature

of that time allows one to conclude that physical education of Ukrainian and foreign students with health problems sought to enhance their motivation towards regular motor activity and generalize the experience of improving their health by physical education and sports.

Practice shows that the priority objectives in the field of health promotion are rather vaguely defined. This particular issue is especially true of future specialists' values-based attitude towards health. Indeed, they spend most of their time on campus, being away from parental care and forced to take care of their health but not ready for it. The authors of the article believe that their low awareness of the need to preserve health can be explained by low family income and, most importantly, an irresponsible attitude towards their health (poor nutrition; poor treatment; lack of physical exercise during vacations). All this adds up to a low level of healthcare culture as an ideological orientation of future specialists.

The scientific value of the research is as follows: *for the first time*, historical and methodical aspects of developing a therapeutic area in students' physical education have been *analyzed in detail*; the main stages of its establishment and development during the second half of the 20th century – the early 21st century have been *identified* in the context of permanent changes in the attitude towards maintaining the health of Ukrainian and foreign university students; the legal framework of developing a therapeutic area in physical education in HEIs within the specified time has been *justified*; the characteristic trends in the development of the content and basic forms of establishing a therapeutic area in physical education of university students within the specified time have been *traced and summarized*; the development of the main pedagogical-organizational principles of physical education for students from special medical groups has been *described*; the organization of the educational process in special medical groups as the main and most stable form of implementing a therapeutic area in physical education of university students has been *substantiated*; the concepts and categories of the research have been *improved* by clarifying such concepts as "therapeutic area", "therapeutic area in physical education of students", "special medical groups"; relevant theoretical views on the essence of a therapeutic area in physical education of university students, as a social and scientific problem, have been *further developed*.

The practical value of the research lies in disclosing theoretical, organizational and methodical principles of physical education for university students from special medical groups, generalizing historically formed characteristics of conducting classes in terms of a therapeutic area in physical education for students and reflecting them in the educational process today.

The obtained results can serve as the basis for developing the author's programmes of physical education in the context of a therapeutic area for students from special medical groups. Also, they can be used when teaching certain topics of lectures for students from special medical groups and profession-oriented courses during professional training of specialists in physical education, writing textbooks and teaching aids, preparing term papers and theses.

Conclusions

The article summarizes theoretical and methodical principles of establishing and developing a therapeutic area in physical education of university students from special medical groups during the second half of the 20th century – the early 21st century. In turn, it allows one to improve and justify the author's methodology for conducting physical education classes for students from special medical groups.

The current state of students' health is an important factor in the relevance of a therapeutic area in physical education. The issues of health care and promotion have been and remain the most important component of the educational process in HEIs. However, the tendency towards the deteriorating health of students is rather progressive.

A retrospective analysis of the development of a therapeutic area in physical education shows that the term "physical therapy" has been used in the scientific literature since 1929. There are four stages in the establishment and development of a therapeutic area in physical education: 1) the 1920s-30s – studying sanitation and living conditions of students; developing the sanitation and health guidelines; 2) the 1940s-50s – setting standards for students' physical development and time budget (the prevailing medical aspect); 3) the 1960s – the first half of the 1980s – conducting socio-hygienic studies on lifestyles, nutrition problems and morbidity among students; introducing proposals for the rational organization of the educational process and the optimization of students' working and living conditions (the socio-medical aspect); 4) the early 1990s – up till now – conducting comprehensive interdisciplinary studies on students' health problems and adaptation to studenthood; promoting a therapeutic area in physical education.

The analysis of relevant scientific studies of that time shows that a therapeutic area in physical education for students with health problems is considered as a pedagogical system that promotes the benefits of regular exercise throughout life and summarizes the experience of improving one's

health through physical culture and sports. Also, a therapeutic area in physical education involves using special physical exercises in the rehabilitation of students from special medical groups. Consequently, physical education in such groups is aimed at restoring health or certain functions of the body. In the context of special medical groups, physical education, as an academic subject, acts not only as a means of eliminating existing health problems but also as a component of education and training of students which motivates them towards regular exercise. Physical education classes for students from special medical groups aim to fully improve the functionality of the organs and systems affected by the disease, compensate for insufficient motor activity, enhance their physical level of the body as a whole and teach them a healthy lifestyle and individual ways of self-improvement.

The authors of the article have highlighted the theoretical domain of the problem in question and proved the need to consider the following areas in the development of a therapeutic area in physical education for university students: health-promoting and preventive measures; a differentiated approach; creating a positive motivation to engage students in physical education; professional and applied focus of classes; psychological training of students for physical education classes; developing students' self-control skills; combining classroom and independent work in extracurricular time. The main functions of physical education classes for students from special medical groups within the specified time were educational, practical, health-promoting and professionally applied.

Furthermore, the authors of the article have confirmed that the organization of physical education for students from special medical groups is based on universal pedagogical principles of a personality-oriented approach, fundamentality, humanization, democratization of the pedagogical process, awareness, activity, visualization, accessibility, systematicity, dynamism.

The article also presents a description of the main approaches of physical education teachers to conducting practical classes (gymnastics, athletics, ski training, swimming, elements of sports games, movement games). Besides, it finds that the organization of physical education classes is characterized by certain psycho-pedagogical features. These features include the following: the division of students into sub-groups by a type of disease (it allows one to develop a set of special exercises); physical education classes consisting of four parts (introductory; preparatory, basic, final); special programmes taking into account possible physical loads; constant medical supervision; special planning of students' physical development based on

individual and differentiated approaches. The analyzed materials can serve as the basis for developing the author's therapeutic programmes on physical education for students from special medical groups.

This article does not disclose all the aspects of the establishment and development of a therapeutic area in physical education for students from special medical groups. Further research should lie in developing the author's therapeutic programmes on physical education for university students from special medical groups.

Also, one should conduct a thorough comparative analysis of Ukrainian and foreign experience in reinforcing a therapeutic area in physical education for students with health problems.

References

Alagudurai, T., & Sivagnanam, P. (2019). Effect of resistance training on explosive power and shoulder strength among Kabaddi players. *Journal of Information and Computational Science, 9(*11), 603–607. http://www.joics.org/gallery/ics-1691.pdf

Amosov, N. M. (1972). *Razdume o zdorove* [Some thinking on health]. Molodaia gvardiia. https://www.litmir.me/br/?b=272957&p=1

Andreev, Yu. A. (1996). *Tri kita zdorovia* [The three pillars of health]. Diamant. http://loveread.ec/view_global.php?id=198

Apanasenko, G. L., & Popova, L. A. (2000). *Meditsinskaya valeologiia* [Medical valeology]. Feniks.

Ashmarin, B. A. (1979). *Teoriia i metodika fizicheskogo vospitaniia* [Theory and methods of physical education]. Prosveshchenie. https://search.rsl.ru/ru/record/01000993929

Berbets, T., Berbets, V., Babii, I., Chyrva, O., Malykhin, A., Sushentseva, L., MEDYNSKII, S., Riaboshapka, O., Matviichuk, T., Solovyov, V., Maksymchuk, I., & Maksymchuk, B. (2021). Developing Independent Creativity in Pupils: Neuroscientific Discourse and Ukraine's Experience. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience*, *12*(4), 314-328. https://doi.org/10.18662/brain/12.4/252

Bergmann, J., & Sams, A. (2012). *Flip your classroom: Reach every student in every class every day*. ISTE. ASCD. https://www.readpbn.com/pdf/Flip-Your-Classroom-Reach-Every-Student-in-Every-Class-Every-Day-Sample-Pages.pdf

Bulich, E. G. (1986). *Fizicheskoe vospitanie v spetsialnykh meditsinskikh gruppakh* [Physical education in special medical groups]. Vysshaya shkola. http://www.alib.ru/5_bulich_q_g_fizicheskoe_vospitanie_v_speci

alnmnnyh_medicinskih_gruppah_w1t33171fabcdb064c20cf9149bc5e9dedff3ef.html

Cairney, J., Dudley, D., Kwan, M., Bulten, R., & Kriellaars, D. (2019). Physical literacy, physical activity and health: Toward an evidence-informed conceptual model. *Sports Medicine, 49*(3), 371–383. https://www.rorelsenatverket.se/globalassets/rf-sisu-orebro-lan-rorelsenatverk/dokument/pdf/cairney2019_article_physicalliteracyphysicalactivi.pdf

Demchenko, I., Maksymchuk, B., Bilan, V., Maksymchuk, I., & Kalynovska, I. (2021). Training Future Physical Education Teachers for Professional Activities under the Conditions of Inclusive Education. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience, 12*(3), 191-213. https://doi.org/10.18662/brain/12.3/227

Dolzhenko, L. P. (2007). *Fizychna pidhotovlenist i funktsionalni osoblyvosti studentiv z riznym rivnem fizychnoho zdorovia* [Physical fitness and functional characteristics of students with different levels of physical health] [Unpublished doctoral dissertation]. The National University of Physical Education and Sport of Ukraine. http://www.disslib.org/fizychna-pidhotovlenist-i-funktsionalni-osoblyvosti-studentiv-z-riznym-rivnem.html

Gerasymova, I., Maksymchuk, B., Bilozerova, M., Chernetska, Yu., Matviichuk, T., Solovyov, V., & Maksymchuk, I. (2019). Forming professional mobility in future agricultural specialists: The sociohistorical context. *Revista Romaneasca pentru Educatie Multidimensionala*, *11*(4), 345–361. https://doi.org/10.18662/rrem/195

Guzhalovskiy, A. A. (1986). *Osnovy teorii i metodiki fizicheskoi kultury* [The fundamentals of theory and methods of physical education]. Fizkultura i sport. https://www.twirpx.com/file/664582/

Hannon, V., Patton, A., & Temperley, J. (2011). *Developing an innovation ecosystem for education.* Cisco. https://www.cisco.com/c/dam/en_us/solutions/industries/docs/education/ecosystem_for_edu.pdf

Komogorova, M., Maksymchuk, B., Bernatska, O., Lukianchuk, S., Gerasymova, I., Popova, O., Matviichuk, T., Solovyov, V., Kalashnik, N., Davydenko, H., Stoliarenko, O., Stoliarenko, O., & Maksymchuk, I. (2021). Pedagogical Consolidation of Pupil-Athletes Knowledge of Humanities. *Revista Romaneasca Pentru Educatie Multidimensionala, 13*(1). https://doi.org/10.18662/rrem/13.1/367

Kontseptsiya fizychnoho vykhovannya v systemi osvity Ukrayiny [The Concept of Physical Education in the Education System of Ukraine]. (1997). https://infopedia.su/11xe479.html

Kosholap, A., Maksymchuk, B., Branitska, T., Martynets, L., Boichenko, A., Stoliarenko, O., Matsuk, L., Surovov, O., Stoliarenko, O., & Maksymchuk, I. (2021). Neuropsychological Bases of Self-Improvement of Own Physical Health of Future Teachers in the Course of University Education. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience, 12*(3), 171-190. https://doi.org/10.18662/brain/12.3/226

Mahlovanyi, A. (2006). *Fizychna reabilitatsiia ta sportyvna medytsyna* [Physical rehabilitation and sports medicine]. Liha-Pres. http://repository.ldufk.edu.ua/bitstream/34606048/10386/1/Фізична реабілітація та спортивна медицина.pdf

Maksymchuk, B., Gurevych, R., Matviichuk, T., Surovov, O., Stepanchenko, N., Opushko, N., Sitovskyi, A., Kosynskyi, E., Bogdanyuk, A., Vakoliuk, A., Solovyov, V., & Maksymchuk, I. (2020a). Training Future Teachers to Organize School Sport. *Revista Romaneasca Pentru Educatie Multidimensionala*, *12*(4), 310-327. https://doi.org/10.18662/rrem/12.4/347

Maksymchuk, B., Matviichuk, T., Solovyov, V., Davydenko, H., Soichuk, R., Khurtenko, O., Groshovenko, O., Stepanchenko, N., Andriychuk, Y., Grygorenko, T., Duka, T., Pidlypniak, I., Gurevych, R., Kuzmenko, V., & Maksymchuk, I. (2020b). Developing healthcare competency in future teachers. *Revista Romaneasca Pentru Educatie Multidimensionala*, *12*(3), 24–43. https://doi.org/10.18662/rrem/12.3/307

Malik, M. (1996). Heart rate variability: Standards of measurement, physiological interpretation, and clinical use. *European Heart Journal, 17*, 354–381. https://www.escardio.org/static-file/Escardio/Guidelines/Scientific-Statements/guidelines-Heart-Rate-Variability-FT-1996.pdf

Matveev, L. P., & Novikov, A. D. (1976). *Teoriia i metodika fizicheskogo vospitaniia* [Theory and methods of physical education]. Fizkultura i sport. https://www.twirpx.com/file/292997/

Melnyk, N., Bidyuk, N., Kalenskyi, A., Maksymchuk. B., Bakhmat, N., Matviienko, O., Matviichuk, T., Solovyov, V., Golub, N., & Maksymchuk, I. (2019). Modely y orhanyzatsyone osobyne profesyonalne obuke vaspytacha u pojedynym zemљama Evropske Unyje y u Ukrajyny [Models and organizational characteristics of preschool teachers' professional training in some EU countries and Ukraine]. *Zbornik Instituta za pedagoska istrazivanja* [Journal of Institute for Educational Research]*, 51*(1), 46–93. https://doi.org/10.2298/ZIPI1901046M

Moser, M., Lehofer, M., Sedminek, A., Lux, M., Zapotoczky, H. G., Kenner, T., & Noordergraaf, A. (1994). Heart rate variability as a prognostic tool in cardiology: A contribution to the problem from a theoretical point of view. *Circulation. Journal of the American Heart Association*, *90,* 1078–1082. https://www.joanneum.at/fileadmin/user_upload/imported/uploads/tx_publicationlibrary/Moser-Ahajournal1994.pdf

Nerubasska, A., & Maksymchuk, B. (2020). The demarkation of creativity, talent and genius in humans: A systemic aspect. *Postmodern Openings, 11*(2), 240–255. https://doi.org/10.18662/po/11.2/172

Nikolaienko, V., Maksymchuk , B., Donets, I., Oksom, P., Verbyn , N., Shemchuk , V., & Maksymchuk , I. (2021). Cycles of Training Sessions and Competitions of Youth Football Players. *Revista Romaneasca Pentru Educatie Multidimensionala, 13*(2), 423-441. https://doi.org/10.18662/rrem/13.2/429

Ovcharuk, V., Maksymchuk, B., Ovcharuk, V., Khomenko, O., Khomenko, S., Yevtushenko, Y., Rybalko, P., Pustovit, H., Myronenko, N., Syvokhop, Y., Sheian, M., Matviichuk, T., Solovyov, V., & Maksymchuk, I. (2021). Forming Competency in Health Promotion in Technical Specialists Using Physical Education. *Revista Romaneasca Pentru Educatie Multidimensionala, 13*(3), 01-19. https://doi.org/10.18662/rrem/13.3/437

Palamarchuk, O., Gurevych, R., Maksymchuk, B., Gerasymova, I., Fushtey, O., Logutina, N., Kalashnik, N., Kylivnyk, A., Haba, I., Matviichuk, T., Solovyov, V., & Maksymchuk, I. (2020). Studying Innovation as the Factor in Professional Self-Development of Specialists in Physical Education and Sport. *Revista Romaneasca Pentru Educatie Multidimensionala*, *12*(4), 118-136. https://doi.org/10.18662/rrem/12.4/337

Paliichuk, Yu., Kozhokar, M., Balatska, L., Moroz, O., Yarmak, O., & Galan, Ya. (2018). Determination of the interrelationships between the body composition of the young 18-19 year old men with the indicators of the cardiovascular system during physical education. *Journal of Physical Education and Sport, 18*(4), 1907–1911. https://doi.org/10.7752/jpes.2018.s4281

Petukhov, I. N. (1968). *Nauchnye osnovy fizicheskogo vospitaniia i sporta: referativnyi sbornik dissertatsii* [Scientific foundations of physical education and sports: a reference collection of theses]. Fizkultura i sport. http://repository.ldufk.edu.ua:8080/handle/34606048/24829?mode=full

Pro fizychnu kulturu i sport [On Physical Culture and Sports]. (2009). https://zakon.rada.gov.ua/laws/show/3808-12#Text

Pro Natsionalnu doktrynu rozvytku fizychnoyi kultury i sportu [On the National Doctrine on the Development of Physical Culture and Sports of Ukraine]. (2004). https://zakon.rada.gov.ua/laws/show/1148/2004#Text

Pro Natsionalnu radu z pytan fizychnoyi kultury i sportu [On the National Council on Physical Culture and Sports]. (2006). https://zakon.rada.gov.ua/laws/show/107/2006#Text

Pro normatyvni dokumenty z fizychnoho vykhovannya [On Regulations on Physical Education]. (1998). https://zakon.rada.gov.ua/laws/show/z0500-98#Text

Pro zatverdzhennya Derzhavnoyi prohramy rozvytku fizychnoyi kultury i sportu na 2007-2011 roky [On the Approval of the State Programme on the Development of

Physical Culture and Sports for 2007-2011]. (2006). https://zakon.rada.gov.ua/laws/show/1594-2006-%D0%BF#Text

Pro zatverdzhennya Polozhennya pro orhanizatsiyu fizychnoho vykhovannya i masovoho sportu u vyshchykh navchalnykh zakladakh [On Adoption of the Regulation on the Organization of Physical Education and Mass Sports in Higher Education]. (2006). https://zakon.rada.gov.ua/laws/show/z0249-06#Text

Prots, R., Yakovliv, V., Medynskyi, S., Kharchenko, R., Hryb, T., Klymenchenko, T., Ihnatenko, S., Buzhyna, I., & Maksymchuk, B. (2021). Psychophysical Training of Young People for Homeland Defence Using means of Physical Culture and Sports. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience, 12*(3), 149-171. https://doi.org/10.18662/brain/12.3/225

Prysiazhniuk, S. I., Krasnov, V. P., Tretiakov, M. O., Raievskyi, R. T., Kiiko, V. Y., & Panchenko, V. F. (2007). *Fizychne vykhovannia* [Physical education]. Tsentr uchbovoi literatury. https://www.twirpx.com/file/790434/

Sheremet, M., Leniv, Z., Loboda, V., & Maksymchuk, B. (2019). Stan sformovanosti smart-informatsiynoho kryteriyu hotovnosti fakhivtsiv do realizatsiyi inklyuziyi v osviti [The development level of smart information criterion for specialists' readiness for inclusion implementation in education]. *Informatsiyni tekhnolohiyi i zasoby navchannya* [Information Technologies and Learning Tools]*, 72*(4), 273–285. https://doi.org/10.33407/itlt.v72i4.2561

Stankin, M. I. (1987). *Psikhologo-pedagogicheskie osnovy fizicheskogo vospitaniia* [Psycho-pedagogical principles of physical education]. Prosveshchenie. https://www.twirpx.com/file/1150675/

Ter-Ovanesian, A. A. (1978). *Pedagogicheskie osnovy fizicheskogo vospitaniia* [Pedagogical principles of physical education]. Fizkultura i sport. http://repository.ldufk.edu.ua/handle/34606048/20323