

A.M. Kononov, S.K. Kononova, T.K. Davydova,
M.A. Varlamova, Y.I. Khabarova, A.S. Fedotov, A.E. Adamova,
P.S. Nazarova

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ADAPTIVE PHYSICAL CULTURE AS AN INTEGRATIVE SCIENCE ABSTRACT

Adaptive physical culture forms a conscious attitude to one's strength, the ability to overcome not only physical, but also psychological barriers that prevent one from leading a fulfilling life. In article the authors defined adaptive physical culture not only as a method of using physical education for people with health problems, but also as a research task in the general program for studying neurodegenerative diseases at the Yakut Science Centre of Complex Medical Problems.

Keywords: adaptive physical culture, rehabilitation, quality of life, disability.

Introduction. The first attempts to introduce disabled people to sports were made in the 19th century, when, in 1888, the first sports club for the deaf was formed in Berlin. The first "Olympic Games for the Deaf" were held in Paris on August 10-17, 1924. The program of the games included competitions in athletics, cycling, football, shooting and swimming. Disabled people with injuries of the musculoskeletal system began to actively engage in sports only after the Second

World War. In 1944, a sports program was developed at the National Spinal Injuries Centre at Stoke Mandeville Hospital as an essential part of comprehensive treatment. Its creator, professor Ludwig Guttman, a neurosurgeon, eventually became the director of the Stoke Mandeville Hospital and the president of the British International Organization for the Treatment of Disabled People with Injuries to the Musculoskeletal System [6].

The extensive long-term history of disabled sports and the rehabilitation of persons with disabilities in foreign countries presents a significant amount of scientific research and publications [22,23,24,27]. Physical activity is inextricably linked with the quality of life and psychological well-being of a person since childhood [21,23]. The social adaptation of the disabled is organized at a high level, innovative methods of physical and psychological rehabilitation are also being developed [24,26,27,32]. In foreign scientific literature, the expression "adaptive physical culture" is not used, terms like "rehabilitation", "exercises or fitness", "physical activity in individuals with disabilities", etc. are utilized instead [21,26,32].

Since 1980, Russia has hosted various sports competitions and tournaments for the disabled. In 1989, the first All-Union Spartakiad of the Disabled was held. But it was only in 1992 in Barcelona that our disabled athletes participated in the Paralympic games for the first time. Until that time, according to the ideology of the Soviet government and the social system, it was believed that there were no problems in the USSR, which meant that there weren't any disabled people as well [9].

Medical and social assistance to the disabled occupies an important, essential part of the overall social policy of any state. Legal regulation of restorative medicine for people with disabilities is based on international treaties and conventions,

supplemented by a system of national legislation. Federal Law of 04.12.2007 No. 329-FL "On Physical Education and Sports in the Russian Federation" establishes: physical rehabilitation is the process of restoring impaired or temporarily lost functions of the human body and abilities using the means and methods of adaptive physical culture and adaptive sports. The law states that the regional authorities and local self-governing bodies have the right to assist in the development of physical education and sports for people with disabilities, adaptive physical culture (APC) and adaptive sports [1].

Adaptive physical culture has divided into different areas of research in Russia: educational, sports and fitness, medical, social, psychological.

Scientific research in these areas is diverse and broad. Analyzing the features of physical education of students with health disorders, the authors conclude that the socio-psychological and didactic adaptation of students is poorly developed. They are not characterized by perseverance and determination, the ability to collect themselves and overcome laziness. They have low resistance to colds, suffer from physical inactivity, are skeptical of physical culture. The task of physical culture teachers is to organize classes in such a way that they have a visible healing and training effect, aimed at gradually and sequentially improving physical fitness and increasing the students' functional capabilities [19]. This is possible, according to the authors, only if a number of didactic principles are abided:

- the principle of systematicity (continuous use of any means of physical culture);

- the principle of "simple to complex" (a gradual increase in the physical requirements for students, more complex types of exercises are periodically included in the content of classes and the

KONONOV Aleksey Mihailovich – junior researcher of the laboratory of hereditary pathology, Yakut Science Centre of Complex Medical Problems, Yakutsk, Russian Federation; Alexkon10@mail.ru, **KONONOVA Sardana Kononova** – senior researcher of the laboratory of molecular genetics, Yakut Science Centre of Complex Medical Problems, Yakutsk, Russian Federation; konsard@rambler.ru; **DAVYDOVA Tatyana Kimovna** – PhDs in Medicine., head of the laboratory of neurodegenerative diseases Yakut Science Centre of Complex Medical Problems, Yakutsk, Russian Federation tanya.davydova.56@inbox.ru, **VARLAMOVA Marina A.** – junior researcher of the laboratory of hereditary pathology, Yakut Science Centre of Complex Medical Problems, Yakutsk, Russian Federation; Varlamova.m@yandex.ru, **KHABAROVA Yulia Ilinichna** – junior researcher of the laboratory of hereditary pathology, Yakut Science Centre of Complex Medical Problems, Yakutsk, Russian Federation, september062007@mail.ru, **FEDOTOV Aleksandr Sergeevich** – student of the Medical Institute M.K. Ammosov North-Eastern Federal University, Yakutsk, Russian Federation; uni.fedotov@gmail.com, **ADAMOVA Alina Evgenevna** – junior researcher of the laboratory of hereditary pathology, Yakut Science Centre of Complex Medical Problems, Yakutsk, Russian Federation, adalina666@yandex.ru, **NAZAROVA Pelageya Stanislavovna** – junior researcher of the laboratory of hereditary pathology, Yakut Science Centre of Complex Medical Problems, Yakutsk, Russian Federation, pelageyanazarova83@gmail.com

volume and intensity of physical activity increases);

- the principle of accessibility (all means of physical education should be accessible both in structure and in terms of physical activity);

- the principle of alternation, or diffuse muscle load;

- the principle of conscious activity (active participation of the student in classes, their understanding of the tasks and opportunities of physical exercises) [19].

On the study of the social capabilities of the Russian system of rehabilitation and social adaptation of children with disabilities, the authors emphasize that it is not correct to solve the problems of rehabilitation practice for people with disabilities only by medical methods, since adaptive physical culture is an object of interest for various social institutions. Currently existing methods for assessing the health and functional status of this category of the population, for the most part, are limited to the statement of medical problems. At the same time, questions of an emotional, psychological, correctional, pedagogical, and social orientation that make up the quality of life and require the involvement of sociological tools remain open [8].

Adaptive physical culture is a historically established and widely used practice, acquiring the characteristic features of a social institution, using centuries-old achievements and traditions of medical, social and professional pedagogical rehabilitation [8].

The human body, as a self-organizing system, is able to develop and mutate in an unstable environment. The presence of consciousness, the ability to reflect and the presence of will allow one to direct their own development in the desired direction. However, the complexity of the structure of our body, the abundance of possibilities that go beyond our understanding, the presence of compensatory mechanisms, whose work often, due to their multicomponent nature and elusive manifestations can't be comprehended, cause problems in the aspect of control and management. In the course of an organized process that forms the basis of physical training, the marked diversity, variability and multifunctionality of the subject of transformations becomes the cause of complex obstacles that cannot always be overcome blindly relying on the strength of their own design, acting simply and bluntly. Currently available teaching and training methods are quite numerous and diverse, differ from each other in content, effectiveness, and focus. It can

also be said about methods, schools, and entire areas of special physical training that they all occupy their own niche, have their own advantages, disadvantages, and characteristic features [14].

The use of diverse means and forms of APC as an innovative educational field is actively expanding, aimed at "... the maximum possible development of the vitality of people with persistent deviations in health status, by ensuring the optimal mode of functioning of bodily-motor characteristics and spiritual forces released by nature or remaining in the process of life, their harmonization for maximum self-realization as socially and individually significant subjects of society" [10].

The use of adaptive physical culture tools and methods in working with people with various developmental disorders, learning difficulties, and difficulties in adaptation allows overcoming these disorders, preventing the development of pathological conditions, and strengthening their mental health. At the same time, many years of experience in the use of physical rehabilitation in a number of foreign countries shows an undeniable improvement in the condition of patients with various degrees of impairment. This improvement is manifested in an increase in overall performance and a greater susceptibility to traditional therapeutic methods, often associated with a reduction in the necessary drug treatment [17].

Adaptive physical culture as an integrative science. Currently, a person is considered not only as an instrument of one or another activity for the transformation of nature and society, but as the goal, result, meaning of these transformations and the existence of society itself. This is due to the emergence of a new conceptual system of views, according to which it is the person with all its unique properties and characteristics that forms the center of theoretical understanding of social phenomena. Such a reassessment of the role of the individual in the development of our society is associated with the processes of humanization, democratization, liberalization, and increased publicity. It is these processes that have revealed one of the most complex problems of our time - the problem of disability, and attracted the attention of the general population of our country, including politicians, scientists, public figures, secondary and higher education workers. In Russia, the greatest experience in the application of physical education tools and methods in working with people with health problems is accumulated in the medical and

educational fields (especially in special education). Therefore, very often adaptive physical culture is interpreted as part of physical therapy or is reduced to adaptive physical education in special (correctional) educational institutions for children with developmental disabilities. Recognizing the indisputable achievements of domestic specialists in these areas, it is not necessary to narrow the functions of such a capacious and wide social phenomenon as APC [2, 3, 5, 7, 12].

For example, many researchers of the problems of rehabilitation for traumatic spinal cord injury believe that substitutional compensation methods, which are based on an increase in the patient's motor abilities due to segments of the spinal cord that partially retained their structure and were not previously involved in such movements, as well as the involvement of weakened muscles of the transition zone above the level of trauma in motor acts together with healthy muscle groups are most important. These mechanisms are the theoretical justification for the use of physical culture means in the complex. The tactic of rehabilitation is based on the general principles of long-term, continuous and systematic exposure to a complex of restorative means, the leading place among which is given to physical exercises (kinesitherapy) and the formation of regularity in physical activity. Methodological techniques have been developed that allow you to make the patient perform the movement and believe in the possibility of rehabilitation, measures to restore the functions lost as a result of spinal cord injury. The effectiveness of kinesitherapy is increased if it is used in combination with physical methods of treatment and targeted medications. The restoration of lost functions under the influence of physical exercises is achievable only in patients with eliminated spinal cord compression, restored anatomical integrity of the spinal canal and stabilization of the vertebrae. In other cases, only adaptation to the defect is possible [11].

Studies on APC in children with visual impairment showed their poor physical development, impaired coordination and accuracy of movements, functional disorders of the cardiovascular and respiratory systems, deviations in the functions of the musculoskeletal system. The adaptive physical education complex consisted of: 1) physical education classes (morning gymnastics to music, outdoor activities, conditioning to the cold, etc.); 2) therapeutic physical culture (TPC) and seasonal intake of age-specific doses of adaptogens and vitamins, phytotherapy;

3) individual classes in various types of gymnastics (special physical exercises for large muscle groups, special gymnastics for eyesight). Particular attention was paid to exercises of the respiratory system, as visually impaired children are prone to frequent respiratory diseases due to reduced immunity. As one of the means of adaptive physical education of children with visual impairment, therapeutic physical culture classes in water were chosen. Universal flexibility exercises performed in water helped to increase joint mobility, since the water's pushing force provides passive stretching, and the drag provided by water limits the speed of movement and reduces the risks of damage to joints and muscles [15].

The theory of APC as a science explores the content, structure, functions of APC, its purpose, principles, tasks and means, features of the activities of students and specialists in this field; develops the conceptual apparatus, and also studies the goals, objectives, methods, content of various components (types) of APC, substantiates and validates in practice its new types and forms aimed at satisfying the diverse needs of people with deviations in health, including persons with disabilities. One of the main problems of the theory of APC is the problem of studying the needs, motives, interests, values of people with deviations in health and disabled people, their personality and individuality; the problem of studying the process of formation and adjustment of the axiological concept of life in this category of the population, overcoming psychological complexes using APC tools and methods [3, 4, 12, 17].

The theory of APC should reveal its complex relationships with other areas of society's science and practice - healthcare, education, social welfare, PE, etc., and also develop technologies for the formation of society's readiness to accept disabled people as equal members with self-worth and great creative potential in the various types of human activity. The most important problem of the theory of APC is the study of mental, moral, aesthetic and labor education features in the process of physical education [4, 13, 18].

APC for neurodegenerative diseases (NDDs). NDDs are characterized by gradually increasing motor disorders and muscle atrophy. Physical exercises for groups of patients with NDDs are necessary for improvement of motor functions, respiration, and general health. A significant body of research supports the view that for people living with various slowly progressive disorders,

exercise and physical activity gives positive psychosocial effects and wider therapeutic benefits, such as restoring self-confidence, removing the emphasis on one's physical disabilities, restoring a sense of control over physical health and emotional well-being, preservation of self-identity, restriction of psychological disorders associated with the disease and nurturing a sense of belonging through the establishment of relationships with other people [20, 22, 24, 28, 30, 31].

Physical exercises that are aimed at pleasant experiences, such as doing exercises for your inner satisfaction and enjoyment, and not for reasons that are simply related to improving physical condition and the development of social support can also have a positive impact on quality of life [25, 33].

Significant psychosocial benefits were obtained. Which indicate that multiple interacting psychosocial constructs underlie active participation in physical exercises for people living with progressive NDDs [29].

Conclusion. We believe it is important to study the research field of adaptive physical culture for patients with NDDs as part of the development of the Center for Neurodegenerative Diseases in the Clinic of the YSC CMP. One of the main goals of APE is the problem of studying the needs, motives, interests, values of people with deviations in health and disabled people, their personality and individuality; the problem of studying the process of formation and adjustment of the axiological concept of life in this category of the population, overcoming psychological complexes using APE tools and methods. In this area, APC intersects with bioethical and psychosocial areas of research.

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