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PREVENTION OF DISORDERS OF THE FUNCTIONAL MACHINERY FUNCTION IN STUDENTS BY MEANS OF PHYSICAL EDUCATION

The article describes the prevention of musculoskeletal disorders in student youth through physical education. As a result of the study of literature sources and practical developments of famous Ukrainian scientists, it was found that modern techniques aimed at preventing disorders of the musculoskeletal system are mainly recommended for work in sanatoriums. Since modern youth, according to statistics, have health problems, in particular, the largest percentage is due to musculoskeletal disorders, so in our opinion, it would be appropriate to focus on the application of existing and development of new techniques that could be applied to physical education classes in higher education institutions, in order to prevent disorders of the musculoskeletal system. It is also found that the level of motor activity in children and youth is largely due to the organization of physical education in schools and institutions of higher learning and their involvement in organized and independent classes in extracurricular time

One of the causes of abnormalities in health, reduced physical development, the emergence of pathological processes - functional disorders of the body man. The close relationship between musculoskeletal status and health has been proven in numerous studies where

It is emphasized that the absence of abnormalities in the state of the musculoskeletal system is a prerequisite for the normal functioning of organs and systems, the development of the whole organism, improving the physical performance of children and improving their health. In the context of this problem, the issues of forming the right posture deserve special attention and support-spring properties of the foot of children and youth in the process of physical education, because it is on these characteristics that we determine the functional condition of the musculoskeletal system.

Key words: students, musculoskeletal system, physical exercises, health.

Гаврилова Н., Мохунько О., Михайленко В. Профілактика порушень функції опорно-рухового апарату у студентів засобами фізичного виховання. В статті описано профілактику порушень опорно-рухового апарату у студентської молоді засобами фізичного виховання. В результаті опрацювання літературних джерел та практичних напрацювань відомих українських науковців виявлено, що сучасні методика, які спрямовані на профілактику порушень опорно-рухового апарату в основному рекомендовані для роботи в санаторно-оздоровчих закладах. Оскільки сучасна молодь, за статистикою мають проблеми зі здоров'ям, зокрема, найбільший відсоток припадає на порушення опорно-рухового апарату, тому на нашу думку, доцільно було б акцентувати увагу на застосуванні існуючих і розробці нових методик, які можна було б застосовувати на заняттях з фізичного виховання у закладах вищої освіти, з метою профілактики порушень опорно-рухового апарату.

Ключові слова: студенти, опорно-руховий апарат, фізичні вправи, здоров'я.

Formulation of the problem. Today, alarming data on the systematic deterioration of health, reducing the level of physical and motor fitness of students are becoming commonplace. And although data on the number of such children are contradictory, all researchers agree that these negative trends continue to intensify.

The problem of "Healthy Child" as one of the main medical and social issues of health care and education of children in scientific and practical pediatrics and pedagogy is actively discussed over the past 10-15 years. This is due to the fact that in the modern education of children there are clear contradictions between the achievements in the field of education and the loss of their health. It is becoming obvious that today we need a scientific view of the activities of educational institutions not only in terms of solving educational problems, but also purposeful education of the healthy generation.

The ever-increasing negative impact on the human body of various socio-economic, psychological, technological and other factors lead to a deterioration in human health, to a decrease in their physical and mental potential. Health-improving physical culture in the most developed countries plays a leading role in the prevention, compensation and correction of the effects of adverse factors on human health [1].

Regular physical activity is one of the important factors in ensuring the normal functioning of people. It is the energetic and organizing basis of physical and mental development in human ontogenesis.

The engine that provides active recreation that meets the natural needs of children in motion - the most important health and prevention factor of the general routine. The positive effect of the optimal amount of motor activity during the day is manifested in children in the work of all organs and physiological systems.

Analysis of literature sources. According to the scientific works of Yu. Belyak (2011), V. Sosina, A. Nakonechna (2010), Yu. Usachova, V. Zinchenko, V. O. Zhukova, P. Kozubeya (2011), popular among modern youth is health aerobics, which, due to the emotional background and the use of simple and affordable dance and gymnastic exercises, has a positive

effect on the body: strengthens the cardiovascular and respiratory systems, increases aerobic capacity, develops strength, flexibility, coordination of movements, improves general and strength endurance, helping to increase the level of physical fitness [3]. In view of this, the optimization of physical activity, as the main factor in improving the health of students, through the use of health fitness is relevant and socially important. And although fitness is a young type of exercise, it is developing very rapidly, which leads to the study of the problem of individualization of health fitness programs.

Thus, an important scientific and applied problem of inconsistency of existing approaches aimed at the formation of a high quality of life, the needs of society and the state. In this regard, it is important to develop the theoretical and methodological foundations necessary for the applied adjustment of quality of life with the use of recreational and health technologies.

Presentation of the main material of the study. Modern economic development has caused great changes in the position and composition of students. The need for educated staff everywhere has caused a rapid increase in the absolute number of students, as well as their share in the total population. Due to the consolidation of higher education institutions, the concentration of students is increasing, campuses are becoming more crowded.

Students are connected by a common type of activity and form a certain socio-professional group. During training there is a choice of a way of life, construction of plans for the future. The realization of the set goal begins - work on the chosen specialty [3].

The period of study in higher education institutions is a difficult stage in the life of young people due to the crisis of 17 years, which arises at the turn of the usual school and new adult life. For those who are having a hard time with this crisis, there are various fears: responsibility to oneself and one's family for one's choices. Real achievements and failures at this time are already a big burden.

Systematic studies of the health of the population of our planet show that in recent years there has been a marked increase in the number of diseases of the musculoskeletal system. According to the World Health Organization, every fifth inhabitant of the planet has joint dysfunction or complains of pain or restriction of movement in them. More than 4% are prone to diseases of the joints of the extremities and spine [5].

Diseases of the joints take second place after acute respiratory diseases. On average, diseases of the musculoskeletal system rank third among the class of diseases that cause premature disability.

This pathology is especially worrying among young learners. Students of higher education institutions are a special risk group, they are more often than other social groups exposed to negative environmental factors and suffer from various diseases.

Occurrence of disorders of the joint and ligament apparatus at a young age due to a number of factors: congenital pathology, trauma, adverse environmental conditions, poor nutrition, lack of physical activity, hereditary predisposition, stress, which have a negative impact on the body. disease.

Musculoskeletal disorders limit the motor activity of students, and thus hinder socialization, reduce the possibility of interpersonal communication, exacerbate the crisis of 17 years, negatively affect the professional choice of future professionals, worsen the functional state of the body.

Thus, it becomes obvious that musculoskeletal disorders are an important social problem that requires a thoughtful and thorough approach to solve it. Otherwise, disorders of the articular and ligamentous apparatus become irreversible, gradually turning a large part of the student youth into invalids.

At the same time, experts consider exercise to be an integral means of correcting musculoskeletal disorders.

It follows that it is very important to carry out health measures aimed at correcting the situation. During the period of study of students in higher education institutions, it is most reasonable to decide on training sessions in physical culture.

Exercise is primarily in the nature of health. Their difference from classes with students of the main department is not only in content, focus, but also in the amount of load, intensity of exercises.

Theoretical analysis and generalization of special literature have shown that of the persons with musculoskeletal disorders the most appropriate are exercises that increase the joint space; improving joint mobility, nutrition and blood supply to periarticular tissues; improving the functional state of the body [6].

All existing techniques are designed for use in special medical institutions (hospitals, clinics, sanatoriums and rehabilitation centers), where for the correction of the functional state of the musculoskeletal system is the most acceptable and effective health swimming and exercises performed in the water, because the support the musculoskeletal system of a person in water does not feel static load and this makes it possible to perform movements with greater amplitude and force without harm to the joints.

At the same time, in the special literature there are recommendations for the use of swimming in the physical education of students of higher education, but they do not reflect the method of conducting classes with people with musculoskeletal disorders and more informative.

Thus, in connection with the increase in disorders of the joint and ligament apparatus in the student environment, the urgency of the problem is determined by the urgent need to develop new targeted to a specific nosological group methods of systematic use of health physical culture in the discipline of "Physical Education" at a special educational department of a higher education institution [2].

The essence of the problem lies in the contradictions between the availability of an effective and affordable means of correcting musculoskeletal disorders – about healthy swimming, and the lack of scientifically sound methods of systematic use of this tool in training sessions on physical culture with students of special medical groups with these disorders.

The way of life of modern society is characterized by a high degree of dynamism, tension, a sharp increase in information. The expressed imbalance of loadings strengthens maladaptation of the person. The situation in Ukraine is

characterized by negative processes that have been observed in all spheres of Ukrainian society: reduced life expectancy, reduced physical activity, increased non-communicable chronic diseases, significantly reduced financial security of health and fitness, loss of healthy lifestyle, alienation from physical culture children, youth and adults. Analysis of scientific research shows that physical activity significantly encourages people to comply with all components of a healthy lifestyle, distracts children and young people from antisocial behavior, is important for the prevention of a number of chronic diseases.

Thus, one of the important components of the modern paradigm of recreational physical activity is the concept of forming a person's health through involvement in a healthy lifestyle, the key and generating factor of which is physical activity.

The current state of health of the population of Ukraine in general, children and youth in particular is a significant challenge to society and the state and, without exaggeration, poses a real threat to humanitarian security [1].

Numerous studies conducted in recent years show that the massive nature of functional disorders of the musculoskeletal system - postural disorders in the sagittal plane with increasing and decreasing physiological curves of the spine, scoliotic posture, impaired musculoskeletal disorders of the foot - one of the most pressing problems of modern society .

Numerous relationships between functional disorders of the musculoskeletal system and indicators of physical condition have been noted in the special scientific and methodological literature. The negative impact of musculoskeletal disorders on health is also pointed out: the efficiency of certain human organs and systems, especially on the cardiovascular, respiratory, central and autonomic and digestive systems.

Functional posture disorders are among the most common disorders of the musculoskeletal system in children and adolescents. In recent years, the number of children suffering from flat feet has increased significantly. This pathology of the foot is mainly acquired, because the congenital flat foot is formed due to a violation of the normal anatomical and physiological development of the fetus and is extremely rare.

Over the past decades, an array of scientific knowledge has been accumulated on the problems of prevention and correction of posture disorders and support-spring properties of the foot in children and youth in the process of physical education. However, this data is not integrated into a single system. At the same time, in our opinion, preventive and corrective measures should be comprehensive [5].

In particular, it is necessary to take into account the individual features of the spatial organization of the body of children and youth, to apply a differentiated approach depending on the type of posture, the presence or absence of violations of the support-spring properties of the foot.

Conclusions. Physical education of students is part of the educational process. One of the urgent problems of physical education of student youth is reliable pedagogical control over determining the level of physical fitness. For the effective implementation and correction of recreational and health-improving technologies in the educational process of physical education of students, it is necessary to include the following organizational and methodological blocks: health-improving and prophylactic - a set of pedagogical measures aimed at strengthening and preventing youth health by means of physical culture and sports in the process of educational and daily activities; differentiation of health-improving and preventive measures aimed at strengthening the health of students, depending on the season, climatic changes and examination sessions; control and correctional - pedagogical measures aimed at operational, current and stage control of physical and functional indicators of youth health with their subsequent correction in the academic year and throughout the entire period of study at the university; individual-independent - a set of pedagogical activities aimed at the formation of knowledge, skills and abilities for an individual approach to personal health with subsequent self-correction.

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