5. Domina Zh. (2010) Technique of navchannya has the right to coordinate the directing of the music teachers in the process of physical communication: author. dis. Cand. ped. Sciences: 13.00.02 / Zh. G. Domina .– Kiev: NPU Dragomanova. - 22 p.

6. Dubogay O. (1995) Methodology of physical education of students who lead health behind the camp to a special medical group: the head master. / O.D. Dubogay, V.I. Zavatsky, Yu. O. Korop. - Lutsk: Nadstyrrya, - 220 p.

7. Ganchar A., Garkusha S. (2012) Fiziceskoe vospitanie studentov [Physical Education of Students]. vol.3, pp. 24 – 28.

8. Tymoshenko O. (2016) Yak modernizuvati the national system of physical wickedness? Happy Holy Week / O. Tymoshenko, J. Domina // Osvita: all Ukrainian. thunder-polit. tizh. - 2016. - No. 15 (April 13-20). - S. 6; Osvita. - No. 21/22 (25 grass-1 worm). - S. 6.

9. Volkov V.L. (2004) Fundamentals of professional and applied training of student youth: navch. posibnik / V.L. Volkov. - K: Knowledge of Ukraine, 81 p.

DOI 10.31392/NPU-nc.series15.2022.12(158).05

Golubeva V.
senior lecturer at the Department of Health Technology and Sports
National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"
Martinov Yu.
senior lecturer at the Department of Health Technology and Sports
National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"
Nazymok V.
senior lecturer at the Department of Health Technology and Sports
National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"

THE INFLUENCE OF PHYSICAL EDUCATION LESSONS ON THE DEVELOPMENT OF APPLIED PHYSICAL QUALITIES IN STUDENTS OF NON-PHYSICAL SPECIALTIES

The article discusses approaches to the development of key physical qualities of students not majoring in physical education. It was revealed that one of the main components of student training in institutions of higher education is the development of applied physical qualities necessary for future work, which contributes to the formation of the necessary physical and mental qualities, motor skills in relation to the profile of the future profession. A student's physical and mental performance have a common physiological basis of support systems that are interconnected. Therefore, a low level of physical fitness can have a negative impact on the effectiveness of assimilation of training programs in the specialty, and in the future - on the possibility of being a capable specialist.

The reform in education places high demands on the physical training of future specialists. From the point of view of the peculiarities of physical activity, it makes sense to consider two directions: direct manipulation or operations on the patient's body and purely intellectual activity related to the clarification of the clinical situation, the choice of diagnostic and treatment tactics. However, in everyday activities it is often difficult to separate manual and intellectual activities.

Therefore, any specialty requires such qualities as the mobility of nervous processes; coordination of movements and muscle efforts; the ability to withstand long-term stress, the body's resistance to adverse environmental influences; emotional stability and will, concentration of attention, self-control, determination, stability.

Keywords: *physical qualities, physical exercises, students, physical education.*

Голубєва В., Мартинов Ю., Назимок В. Вплив занять з фізичного виховання на розвиток прикладних фізичних якостей у студентів нефізкультурних спеціальностей. *У статті розглянуто підходи до розвитку ключових фізичних якостей студентів не фізкультурних спеціальностей. Виявлено, що однією з головних складових підготовки студентів у закладах вищої освіти є розвиток прикладних фізичних якостей, необхідних для майбутньої трудової діяльності, яка сприяє формуванню необхідних фізичних і психічних якостей, рухових навиків стосовно профілю майбутньої професії. Фізична і розумова працездатність студента мають спільну фізіологічну основу систем забезпечення, які пов'язані між собою. Тому низький рівень фізичної підготовки може негативно впливати на ефективність засвоєння навчальних програм із спеціальності, а в подальшому – на можливість бути працездатним фахівцем.*

Ключові слова: *фізичні якості, фізичні вправи, студенти, фізичне виховання.*

The urgency of the problem. The reform in education places high demands on the physical training of future specialists. From the point of view of the peculiarities of physical activity, it makes sense to consider two directions: direct manipulation or operations on the patient's body and purely intellectual activity related to the clarification of the clinical situation, the choice of diagnostic and treatment tactics. However, in everyday activities it is often difficult to separate manual and intellectual activities [1].

Therefore, any specialty requires such qualities as the mobility of nervous processes; coordination of movements and muscle efforts; the ability to withstand long-term stress, the body's resistance to adverse environmental influences; emotional stability and will, concentration of attention, self-control, determination, stability. Most specialties are constantly exposed to acute and chronic stress conditions associated with professional activity, the most common of which are the development of

emergency conditions in patients, the constant pressure of responsibility for the health and lives of patients, the discrepancy between the efforts expended and moral and material rewards, etc.

Analysis of literary sources. It has been proven that, in general, such stressful effects are associated with low physical activity according to the type of "vicious circle": they are worse tolerated with low endurance and can themselves reduce physical activity. Thus, professional activity is exhausting and leads to premature aging and death. Specialists die from cardiovascular diseases more often than representatives of other specialties. On the other hand, endurance and agility have been proven to be key physical qualities that prevent aging [1]. Therefore, in our opinion, the training of these most important qualities of professionals, which ensure the effectiveness of their activities and the prevention of occupational diseases, is the most important task of physical education of medical students.

Presentation of the main research material. Dexterity is a complex psychophysical complex that includes: the ability to allocate and concentrate attention, the ability to quickly orient, think quickly, direct willpower to manage emotions and perform complex coordinated actions. This is a comprehensive quality that allows: to quickly and accurately react to situations that arise unexpectedly; to perform complex movements rationally and economically; accurately perform movements in difficult and unexpected conditions; quickly and qualitatively master new movements or quickly rebuild them. There is general and manual (physical) dexterity [2].

General (physical) dexterity refers to the ability to perform specific tasks through quick, coordinated and purposeful physical movements. Approaches to dexterity training in physical education classes largely depend on the general physical fitness of students. It is a universal recommendation in classes to combine small and more significant movements that involve many different muscle groups. In general, gymnastics and all game sports, both group (football, volleyball, basketball) and pairs (fencing, wrestling, boxing, tennis and badminton) contribute to the development of dexterity. It should also be noted that playing sports promotes socialization, which, in turn, accelerates the development of dexterity and prevents the loss of acquired skills [2].

For students of the main group in physical education classes, the following complex is recommended for training dexterity: support jumps, legs to the sides, legs bent; jumps are performed through a goat; moving between chips or racks forward by jumping; jumping over the bench; fast running between chips; dribbling the basketball between the chips at different speeds, slow, medium and fast; a running jump up and forward, in flight to try to catch a tennis ball thrown by the teacher.

Students who have achieved success in ball games can be offered the same exercises: starting position (V.P.) - standing with the ball in hands. Throw the ball up with your hands, sit on the ground, get up quickly, jump up and catch the ball; in. p. – standing with the ball in his hands. Throw the ball up with your hands, roll forward and try to catch it; in. p. - o. c.- juggling a ball with two legs; in. p. – standing with the ball in his hands. Throw the soccer ball up and forward with your hands, roll forward, quickly stand up; as soon as the ball touches the ground, start driving it between the chips; in. p. – in front of the wall at a distance of 8-10 steps. A throw over the head into the wall, after that - roll forward and catch the ball on the rebound from the wall; the exercise is performed in pairs: partners stand approximately 2-3 steps away from each other with balls, each begins to juggle the ball. After the command, they send the balls to each other, after receiving the balls, they continue juggling [3].

Along with the general, there is also the so-called manual dexterity or hand dexterity, that is, the ability to perform small precise movements under visual control. The requirements for this quality are high for such specialties as surgery, dentistry, and work in the laboratory. Playing musical instruments, sculpting, painting, creating miniature jewelry, etc., are useful for the development of hand dexterity [3].

In physical education classes, students of medical universities develop such physical qualities as dexterity and endurance.

Endurance is the ability to resist physical exhaustion in the process of muscular activity. The measure of endurance is the time during which muscle activity of a certain nature and intensity is carried out. For example, in cyclic types of physical exercises (walking, running, swimming, etc.), the minimum time to cover a given distance is measured. In game activities and martial arts, the time during which the given level of efficiency of motor activity is carried out is measured. In complex coordination activities related to the performance of precise movements, the indicator of endurance is the stability of the technical performance of the action [4].

General, special and coordination endurance are distinguished.

General endurance is the ability to perform work of moderate intensity for a long time with the global functioning of the muscular system. It is also called aerobic endurance in another way. A person who can sustain a long run at a moderate pace for a long time is capable of doing other work at the same pace. The main components of general endurance are the capabilities of the aerobic system of energy supply, functional and biomechanical economization. General endurance plays a significant role in optimizing life activities, acts as an important component of physical health and, in turn, serves as a prerequisite for the development of special endurance. General endurance is closely related to dexterity and the development of willpower: the ability to perform work despite pain in tired muscles, "heart palpitations", feeling tired, etc., that is, the ability to withstand adverse conditions of the external and internal environment.

Special Endurance is weather ivity in relation to a certain motor activity. Special endurance is classified according to the characteristics of the action by which the motor task is solved (for example, jumping endurance); according to the signs of motor activity, in the conditions of which the motor task is solved (for example, game endurance); according to signs of interaction with other physical qualities (abilities), which are necessary for the successful solution of a motor task (for example, strength endurance, speed endurance, coordination endurance, pumping, etc.) [2].

Means of developing general (aerobic) endurance are exercises that cause maximum performance of the cardiovascular and respiratory systems. Muscle work is provided mainly due to an aerobic source; the intensity of work can be moderate, high, or variable; the total duration of the exercises ranges from several to tens of minutes.

In practice, physical education classes use a wide variety of cyclic and acyclic physical exercises, for example, long

running, cross-country running (cross), games and game exercises, cyclic exercises (including 7-8 and more exercises performed in the circle medium pace) etc. The main requirements proposed for them: exercises must be performed in areas of moderate or high intensity of work; their duration should be from several to 60-90 minutes; the work should be done with the global functioning of the muscles [1].

The main methods of developing general endurance are: the method of combined (continuous) exercise with a load of moderate and variable intensity; method of repeated interval exercise (phases of intense physical activity alternate with phases of recovery); method of cyclical training (consists in alternating non-stop execution of several exercises with a short break between each exercise and a long period between rounds; in this way, conditions are created for active rest of different muscle groups); game method; competitive method.

To develop endurance for strength work in physical education classes, various exercises with weights are used, performed by the method of repeated efforts with repeated overcoming of submaximal resistance until significant fatigue or "to failure", as well as by the method of cyclic training. To develop endurance for strength work in a static mode of muscle work (this is important, for example, for surgeons), the method of static efforts is used. Exercises are selected taking into account the optimal angle in one or another joint, at which the maximum effort is developed in this exercise [2].

Coordination endurance is mainly manifested in motor activity, characterized by a variety of complex technical and tactical actions (gymnastics, sports games). Methodical aspects of increasing coordination endurance are quite diverse. For example, practice lengthening combinations, shorten rest intervals, repeat combinations without resting between them. Coordination endurance training is closely related to agility training.

Special types of endurance also include endurance to overheating (exercises accompanied by significant heat generation: long running, intensive movement on skis and skates, diving), pumping (exercises with a rapid change in the position of the head and the whole body in space: turns, tilts and rotation of the head at a high pace on the spot, in combination with running, walking; circular rotations with closed and open eyes, gymnastic exercises on rings, bars, bars and special shells, acrobatic exercises, diving, slalom) [4].

Conclusion. Thus, agility and endurance training in the future should be simultaneously aimed at increasing the ability to perform heavy and coordinated work under conditions of stress and fatigue, as well as at minimizing the impact of heavy working conditions on health, in particular the cardiovascular system.

After all, it is well known that in humans, systematic endurance training leads to a decrease in heart rate at rest, an increase in myocardial oxygen saturation, a uniform increase in the mass of the myocardium of the left and right ventricles within the physiological norm, that is, to optimal conditions for the functioning of the cardiovascular system and the prevention of cardiovascular diseases .

At the same time, the most important principle of dexterity and endurance training for medical university students is the availability of training, because most students do not have special sports training. The variety of approaches and types of sports that develop dexterity and endurance allow you to compose tasks that correspond to the capabilities, age, gender, state of health, and inclinations of students with a gradual increase in the load.

Reference

1. Van Heuvelen MJ1, Kempen GI, Brouwer WH, de Greef MH. Physical fitness related to disability in older persons [Text] / van Heuvelen MJ1, Kempen GI, Brouwer WH, de Greef MH. – Gerontology, 2000 Nov-Dec;46(6):333-41.

2. Aron S. Buchman, MD. Association Between Late-Life Social Activity and Motor Decline in Older Adults /Aron S. Buchman, MD; Patricia A. Boyle, PhD; Robert S. Wilson, PhD; Debra A. Fleischman, PhD; Sue Leurgans, PhD; David A. Arch Intern − Med. 2009;169(12):1139-1146.

3. Indiana University Bloomington: Manual Dexterity [Електронний ресурс]. Режим доступу: http://hpplc.indiana.edu/ohp/d-md.shtml

4.Griban, G., Kuznietsova, O., Tkachenko, P., Oleniev, D., Khurtenko, O., Dikhtiarenko, Z., Yeromenko, E., Lytvynenko, A., Khatko, A., Pustoliakova, L. (2020). Formation of the students' volitional qualities in the process of physical education. International Journal of Human Movement and Sports Sciences, 8 (6), doi: 10.13189/saj.2020.080625. http//www.hrpub.org.