**Conclusions.** Thus, regularly organized physical activity effectively affects the level of physical fitness of students. The analysis of literary sources and practical developments indicates an increase in the level of development of physical qualities and physical fitness. Physical activity significantly improves the overall physical fitness of young people, increases the level of independent work, increases interest in physical education, and increases motivation for a healthy lifestyle.

In addition, it has been proven that physical activity after the main classes is one of the ways to correct the mental state and relieve the tension accumulated during the school day. And systematic classes in physical education improve physical condition, increase the body's resistance to stressful situations, adverse environmental conditions, and contribute to a steady trend towards an increase in the level of physical fitness. Regular physical activity makes it possible to enrich the state of physical, mental, and moral health.

## Reference

- 1. National strategy for healthy physical activity in Ukraine for the period until 2025 "Physical activity healthy lifestyle healthy nation", approved by the Decree of the President of Ukraine dated 09.02.2016 No. 42/2016.
- 2. Nosko M. O. The problem of motor activity of youth in modern literature // Pedagogy, psychology and medical and biological problems of physical education and sports. Kh. 2001. No. 24. c. 15–24.
- 3. Redkina M. A. Modern technologies of self-control of students' motor activity in the aspect of implementation of health-improving tasks of physical education // Scientific journal of M. P. Drahomanov National University of Science and Technology. Series #15. Scientific and pedagogical problems of physical culture (physical culture and sport): coll. scientific works. K.: Publishing house of M. P. Drahomanov NPU. 2019. Issue 3 K (110) 19. P. 484-487.
- 4. Roztoka A. Peculiarities of daily motor activity of schoolchildren of grades 5–6 // Physical education, sport and health culture in modern society: a collection of scientific papers. K. No. 2 (34). 2016. p. 15-19.
- 5. Romanenko V. V., Kuts O. S. Motor activity and physical condition of female students of higher educational institutions: study. manual for teaching physics higher education closing education Vinnytsia state ped. University named after M. Kotsyubynskyi. Vinnytsia. 2003. 132 c.
- 6. Redkina M. Features of physical health of students who have low motor activity // The scientific heritage No. 46 (4) (2020). Budapest, 2020. pp. 53-56.

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## FACTORS THAT ENSURE AN ADEQUATE LEVEL OF PHYSICAL FITNESS IN FEMALE STUDENTS OF HIGHER EDUCATION INSTITUTIONS

The article discusses the factors that ensure the appropriate level. It was determined that physical capacity is the maximum mechanical work that a person is able to perform. Assessment of a person's physical capacity is necessary for solving a wide range of practical problems: determining the state of health, the results of sports training, and others.

It has been proven that physical performance depends on many factors: body composition and anthropometric indicators, muscle strength and endurance, the state of the musculoskeletal system, functional and endocrine systems. Factors such as energy potential, completeness of its use and cost-effectiveness of movements are also important. It has been established that work capacity is ensured by both aerobic and anaerobic processes of energy generation, and according to the preference of one of them, aerobic physical work capacity, anaerobic and mixed are distinguished.

Despite the fact that the indicators of physical development of student youth show positive dynamics, the general state of health of modern youth is deteriorating, which negatively affects their physical and mental capacity. The most acute social problem in Ukraine is the deterioration of the health of children and youth. Negative factors that reduce the level of health are improper nutrition, hypokinesia, psycho-emotional overstrain, and bad habits.

Effective means of improving not only physical, but also emotional health of a person include aqua fitness. Nowadays, there is no doubt about the possibility of a positive effect of physical exercises in water on the state of physical and mental health, improving the activity of the cardiovascular, respiratory, and hormonal systems and developing the physical qualities of a person.

**Key words:** physical capacity, physical education, students, physical exercises.

Зеніна І., Гаврилова Н., Кузьменко Н., Качалов О. Фактори, які забезпечують належний рівень фізичної працездатності у студенток закладів вищої освіти. В статті розглянуто фактори, які забезпечують належний рівень. Визначено, що фізична працездатність - це той максимум механічної роботи, який спроможна виконати людина. Оцінка фізичної працездатності людини необхідна для вирішення широкого кола практичних задач: визначення стану здоров'я, результатів спортивного тренування і інших.

Доведено, що фізична працездатність залежить від багатьох факторів: складу тіла і антропометричних показників, сили і витривалості м'язів, стану опорно-рухового апарату функціональних і ендокринних систем. Важливими є також такі фактори, як енергетичний потенціал, повнота його використання і економічність рухів. Встановлено, що працездатність забезпечується як аеробними, так і анаеробними процесами енергоутворення і за перевагою одного з них розрізняють аеробну фізичну працездатність, анаеробну і змішану.

Ключові слова: фізична працездатність, фізичне виховання, студенти, фізичні вправи.

**Formulation of the problem.** Conditions of modern compliance with increasingly higher requirements for biological and social capabilities of a person. New opportunities can be created with the help of a balanced, scientifically based system of raising children, protecting and developing their health. History shows that it is physical culture and sports, or more precisely, a holistic system of physical education, that is able to give people the most important thing - health.

The most acute social problem in Ukraine is the deterioration of the health of children and youth. Negative factors that reduce the level of health are improper nutrition, hypokinesia, psycho-emotional overstrain, and bad habits.

Despite the fact that the indicators of physical development of student youth show positive dynamics, the general state of health of modern youth is deteriorating, which negatively affects their physical and mental capacity.

Effective means of improving not only physical, but also emotional health of a person include aqua fitness. Nowadays, there is no doubt about the possibility of a positive effect of physical exercises in water on the state of physical and mental health, improving the activity of the cardiovascular, respiratory, and hormonal systems and developing the physical qualities of a person.

Analysis of literature sources. One of the popular types of innovative technologies and programs among student youth, especially among girls, are classes in the aquatic environment. Yes, works are devoted to the issue of aquafitness; a program of classes for students using recreational types of swimming was developed, a program of classes in the aquatic environment for students of a special medical group was proposed, a program of classes in the aquatic environment with female students using elements of basketball was substantiated.

At the same time, the analysis of scientific research showed that the specified problem has not been sufficiently studied.

**Presentation of the main material of the study.** The main factors of the physical capacity of female students are the functional reserves of the body and the quality of their regulation.

Physiological reserves are understood as the ability of organs and systems of the body to change the intensity of their functions, as well as the interaction between them, in order to achieve the level of functioning of the body that is optimal for specific conditions. The material basis of physiological reserves are the mechanisms of maintaining homeostasis, information processing and coordination of vegetative functions and motor acts, and the executors are the corresponding reflex organs.

The main factors of working capacity are directly related to the period of ontogenesis (chronological and biological age), hereditary conditioning, health status, and the direction of the training process in a specific period of the annual cycle of sports training [4, 5]. It should be emphasized that the body's reserves or resources are affected by a number of factors that can have both a positive and (in certain conditions) a negative impact that limits physical performance.

The maximum strength of the body's functioning is related to the level of energy metabolism, the activity of hormonal and enzymatic activity, the morpho-functional development of sensory and effector systems - cardiorespiratory, muscular. The power of functioning of physiological systems is related to the level of energy supply of muscle work, that is, it depends on the reserves of energy sources and the activity of the development of aerobic and anaerobic mechanisms of energy generation. The speed of deployment of energy-generating mechanisms is largely genetically determined. Thus, it is considered that the individual value of maximum oxygen absorption in each person is up to 75% genetically determined [2].

It is customary to talk about the intensity of work on the basis of the percentage of oxygen consumption when it is carried out from the maximum oxygen absorption for a given person. This indicator is especially informative for assessing the physical performance of untrained people or low-skilled athletes, while its value slightly decreases with increasing sports improvement [1].

The value of the maximum oxygen consumption primarily characterizes the adaptive capabilities of the cardiorespiratory apparatus and reflects the increase in oxygen consumption at the maximum stress of this apparatus during the performance of the test load compared to the state of rest.

Also, in healthy, physically developed untrained people, the reserve of oxygen consumption at limit loads of people, the reserve of oxygen consumption at limit loads exceeds the level of oxygen consumption in the stream by 10-12 or more times. Factors such as age, genotype, health and training determine an important parameter of working capacity - heart reserve [3]. An important factor in the physical capacity of female students is the reserve capacity of the skeletal muscles, which plays not the least role in the implementation of a motor act and mostly determines the level of energy supply. Muscle reserve is an important factor of working capacity also in connection with its direct participation in energy supply [1].

An important criterion of physical capacity, determined by the interrelationship of its structural elements, is adaptation in the process of performing high physical loads.

Currently, it is well known that motor activity is also one of the key factors in the normal development of a person and

the course of biological processes in his body. Its functional role is quite multifaceted (motor, motivational, creative, training, protective, stimulating, thermoregulatory, rhythmic, speech-forming and corrective components [5].

A person's motor activity is determined by a large number of biological, social and natural factors, the main ones of which include: living conditions, work and rest regime, professional competence of the teacher, attitude of parents and friends to physical exercises and sports, climate-geographic living conditions, state of health, age and gender differences and others [6].

Motor activity ensures human development due to the mobilization of body systems, improvement of compensatory capabilities, increasing its resistance to colds, contributing to the growth of work capacity and labor productivity [1].

Therefore, education of students' understanding of the role of motor activity in achieving a high level of health, harmonious perfection is a very important pedagogical task. It is important to ensure that young people have sufficient knowledge about health and a healthy lifestyle, as well as sustainable motivation for health. After all, permanent disturbances in a person's health are, as a rule, a consequence of leading an incorrect lifestyle for a long time [2].

At the same time, the formation of such motivation, as the basis of a persistent need for physical exercises, to maintain health, the implementation of which can be carried out by:

- increasing the social significance of physical exercises;
- Improving the quality of the physical education process;
- Improvement of material and technical and scientific and methodological support of physical education;
- formation of a conscious attitude to physical exercises on the basis of theoretical and methodological knowledge;
- argumentation of the significance of systematic physical exercises for the realization of life and professional goals important for students:
  - more complete consideration of students' interests in other sports and physical exercise groups.

In this case, only a healthy lifestyle as a way of life, which corresponds to the typological features of a specific individual and the specific conditions of his existence, allows a person to purposefully form, preserve and strengthen health, which ensures the full performance of his socio-biological functions. From these initial positions, it seems obvious that the most important basis of such an approach is the personal and motivational multifacetedness of a person, his life orientations, which in themselves can act as serious incentives for leading a healthy lifestyle and for the formation of its content and features [7].

A healthy lifestyle is always relevant. Physical activity, proper nutrition and a positive attitude - all this is the key to a great appearance and excellent well-being. Doing sports helps us stay in shape every day. And if professional sports wear out the body, then fitness has only a beneficial effect on it, the main thing is to choose "your" fitness.

Currently, it is well known that fitness is one of the most popular areas in the field of health technologies among girls. Its purpose is to preserve and improve the physical condition of those who are involved, which ensures their effective performance of their social and professional functions in society.

Fitness represents a fundamentally new direction of health-improving physical culture, which includes modern types of physical activity, modern forms, means, methods and technologies used in the process of classes, taking into account the individual characteristics of physical fitness, morpho-functional indicators, the functional state of body systems, psychological and motivational necessary characteristics that are involved [1].

Currently, the popularity of the fitness system is expressed in the intensive growth of not only the corresponding infrastructure, but also the number of fitness programs. Moreover, it is so multifaceted that regardless of sex, age and individual characteristics of a person, it can be successfully used to solve the problems of mass improvement of the population [2]. Currently, various centers and clubs that implement various fitness programs are especially popular, which ensures the most complete satisfaction of individual needs in physical exercises and accounting for the individual capabilities of the population [3]. And this corresponds to the state policy in the field of physical culture, sports and disease prevention of citizens, a large number of whom suffer from various diseases of the cardiovascular system, metabolic processes, excess weight and others related to a sedentary lifestyle, poor nutrition [4].

The solution to this problem lies in the field of increasing the physical activity of the population, where fitness allows you to choose different types of exercises and their complexes that contribute to improving health, the functional state of the body's systems, as well as the correction of morphological parameters of the physique. Moreover, the selection of individually oriented fitness programs allows to influence both the body in general and locally [2].

Their various forms make it possible to meet the needs of different social groups of the population for independent motor activity with a health-oriented focus. Due to the availability and high emotionality of fitness programs, systematic classes allow you to effectively solve the tasks of physical training, physical development, health promotion, prevention of various diseases of different population groups.

Conclusions. The system of physical education of student youth is currently aimed only at solving today's problems - the passing of control and assessment standards, which does not contribute to developing in them the desire for independent improvement, aims at the education of an obedient performer, oriented to compliance with the requirements of the physical education program. Physical education in institutions of higher education, regulated by the content and volume of mandatory hours of the curriculum, according to our observations and numerous results of other studies, is not able to fully solve the complex of tasks related to physical fitness, intellectual and spiritual development of students.

The improvement of the educational process should involve a planned transition from mandatory forms to the process of physical self-improvement of students. Meanwhile, the educational orientation of physical education will be justified in the case of a close relationship between the processes of theoretical assimilation of knowledge and their practical use in the self-organization of a healthy lifestyle. In this regard, it becomes obvious that the educational approach should be combined with targeted education of motivation, interest and value attitude to physical culture and the state of personal health of female students.

## Reference

- 1. Balamutova N. (2012) Fiziceskoe vospitanie studentov [Physical Education of Students]. Vol.1, pp. 13 17.
- 2. Balamutova N., Sidorenko G. (2011) Fiziceskoe vospitanie studentov [Physical Education of Students]. Vol.3, pp. 8 11.
- 3. Bazyliuk T., Kozina ZH., Beznes E., Koveria V. (2010) Fiziceskoe vospitanie studentov [Physical Education of Students]. Vol.6, pp. 8 12.
- 4. Bubley T. (2018) Methodology of differential education of physicists has the right of the main school scholars with health outcomes: author. dis. ... Cand. ped. Sciences: [special] 13.00.02 "Theory and technique of navchannya (physical culture, bases of health)" / Bubley Tetyana Anatoliyivna; Nat. ped. un-t im. M.P.Dragomanova. Kiev, 19 p.
- 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 Éducation of Students]. vol.3, pp. 24 28.

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## ВПЛИВ ЗАСОБІВ АКРОБАТИКИ НА ФІЗИЧНУ ПІДГОТОВЛЕНІСТЬ СПОРТСМЕНІВ ВІКУ 10-12 РОКІВ ЗІ СПОРТИВНОГО ТАНЦЮ

Стаття присвячена питанню покращення рівня фізичної підготовленості спортсменів віку 10-12 років зі спортивного танцю за рахунок використання засобів акробатики під час навчально-тренувального процесу. Мета дослідження - експериментально обґрунтувати вплив засобів акробатики на рівень фізичної підготовленості спортсменів віку 10-12 років зі спортивного танцю. У ході педагогічного експерименту було створено основну та контрольну групи. До дослідження були залучені юнаки та дівчата віком 10-12 років, відповідно по 20 спортсменів в кожній групі. Контрольна група - 10 спортивних пар (n = 20) займалися за традиційною методикою навчально-тренувального процесу; основна група - 10 спортивних пар (n = 20), в якій було запроваджено в навчально-тренувальний процес використання засобів акробатики. Підтвердженням ефективності використання засобів акробатики є статистично значущі зміни рівня фізичної підготовленості наприкінці дослідження у спортсменів основної групи зі спортивного танцю віку 10-12 років.

**Ключові слова:** тестування, рухові здібності, спортсмени, спортивний танець, засоби акробатики, техніко-естетичні види спорту.

Batieieva N., Kyzim P. The influence of acrobatic tools on the physical fitness of 10-12-year-old athletes from sports dance. A complex-coordinating and technical-aesthetic type of sport - sports dance requires high-quality mastering of a wide arsenal of technical elements during the educational and training process and competitive activities. The article is devoted to the issue of improving the level of physical fitness of athletes aged 10-12 in sports dance due to the use of acrobatics during the educational and training process. The purpose of the study is to experimentally substantiate the effect of acrobatics on the level of physical fitness of sportsmen aged 10-12 years in sports dance. In the course of the pedagogical experiment, the main and control groups were created. Boys and girls aged 10-12 were involved in the study, respectively 20 athletes in each group. The control group - 10 sports couples (n = 20) practiced according to the traditional method of the educational and training process; the main group - 10 sports couples (n = 20), in which the use of acrobatics was introduced into the educational and training process. In the course of the study, the peculiarities of the application of the content of acrobatics in the educational and training process of sports dance athletes of the main group were determined. Statistically significant changes in the level of physical fitness at the end of the study among athletes of the main group of sports dance aged 10-12 years are a confirmation of the effectiveness of the use of acrobatics.

Key words: testing, movement abilities, athletes, sports dance, acrobatic means, technical and aesthetic sports.

Постановка проблеми. Спортивні танці як складно-координаційний та техніко-естетичний вид спорту вимагає від спортсменів-танцюристів якісного оволодіння широким арсеналом технічних елементів під час навчально-тренувального процесу та змагальної діяльності. Для досягнення високих результатів танцювальний дует повинен демонструвати винятковий рівень технічної майстерності та фізичної підготовки [6, с.173]. Адже реалізація технічної