

## **CIRCUIT TRAINING AS AN EFFECTIVE MEANS OF PHYSICAL DEVELOPMENT OF HIGHER EDUCATION APPLICANTS**

Today, at such a pace of life, when almost all institutions of higher education have switched to a distance learning format and more and more time is spent in front of computers, it is extremely important to stay healthy. Sedentary lifestyle, low physical activity, lack of necessary knowledge and lack of physical activity in everyday life lead to deterioration of health, reduced work capacity and poor psycho-emotional state. Modern complex living conditions dictate high requirements for the biological development of higher education applicants, with the help of physical training they help to focus all the internal resources of the body on achieving the goal, increasing mental and physical performance, strengthening health, unloading the nervous system, switching from mental labor to physical.

The main task of the teacher of physical education is the formation of higher education applicant's stable motivation to engage in physical exercises, skills to master health-saving technologies, studying the characteristics of their body, rationally use their physical potential, leading a healthy lifestyle.

In the system of means and methods of physical education, a significant place is given to circuit training, a system of specially selected physical exercises, methodical techniques to strengthen health, harmonious physical development and improvement of human motor abilities. Circuit training is one of the organizational and methodological forms of physical exercises, aimed mainly at the complex development of motor qualities. One of the most important features of this form of employment is a clear rationing of physical activity and at the same time its clear individualization. Circuit training complexes include physical exercises that contribute to harmonious physical development, namely: the development of physical qualities of a person; improvement of the cardiovascular system; working out all muscle groups, increasing muscle definition, intensive calories burning and improving metabolism. Another advantage is the adaptability of training, that is, you can choose the option of physical activity, which will allow you to engage with individual intensity, taking into account the level of physical development while remaining interesting and achievable for people with any level of physical fitness. Since the institution of higher education is the last link in the educational process where the most important task of the teacher in physical education is the involvement of higher education applicants in independent exercise in further life, then the ultimate goal of this task is a conscious attitude towards the acquisition of knowledge by higher education applicants, skills, health promotion, physical and bodily perfection, assimilation of hygienic skills, increased efficiency, improved psycho-emotional state, knowledge of risk factors and ability to implement in practice a complex of preventive means and methods of physical culture. In order to find effective methods and means of introducing higher education applicants to the values of physical culture, this

study was conducted. The conducted analysis of the literary sources of the theory and practice of physical education give grounds for concluding that at the present stage the most effective form of harmonious physical development is the performance of a set of physical exercises of circuit training. So, according to many authors, exercise is the only means that ensures the development and preservation of a satisfactory physical condition of a person. In the process of conducting scientific research by many authors who worked in this direction, it was proved that systematic physical exercises contribute to harmonious physical development, increase neuropsychic resistance to emotional stress, maintain mental performance at an optimal level and improve health. The formation of the goals of the work consisted in the provision of theoretical and practical knowledge and skills, the selection of optimal physical activity, the training of the technique of execution and the introduction into the practical application of a set of physical exercises of circular training for independent studies in the future by higher education applicants in order to harmonious physical development. The following methods were used in the study: study and theoretical analysis of scientific and methodological literature, pedagogical method of persuasion, surveys, questionnaires, anthropometric methods, analysis of the data obtained. The object of the study was higher education applicants the second-year full-time of the National Technical University of Ukraine Igor Sikorsky Kyiv Polytechnic Institute.

Results of the study. At the beginning of the semester, during practical classes in the discipline "Physical Education", higher education applicants were invited to participate in the study of the effectiveness of performing a set of physical exercises of circular training for harmonious physical development. Thus, an experimental group was created, which included 26 higher education applicants. The main condition for participation in the study was systematic exercise circuit training, strict adherence to the correct technique of exercise and normalization of physical activity.

At the first stage of the study, higher education applicants were provided with all the necessary information to assess the level of physical fitness and a survey and questionnaire were conducted. The study provided for training higher education applicants methods of self-control in their level of health, psychophysical state and physical fitness. The whole system of self-control was based on the use of simple and accessible tests, which were recorded in the diary of self-control. The expediency of using a self-control diary was to obtain reliable comprehensive information and an objective assessment at all stages of independent exercise. This made it possible to follow the principles of proper dosage of loads, as well as optimal pulse regimes during their independent classes. So, higher education applicants needed to perform motor tests that made it possible to assess the level of physical fitness, namely: the development of speed – running 100 meters from the high start; development of flexibility – tilting the body from a sitting position; development of force – flexion-extension of the hands in the rest lying; development of agility – shuttle running; endurance

development – running at 3000 m (men) and 2000 m (women). To determine the reserve capabilities of the cardiovascular system, the Ruffier test was conducted. The Ruffier test is a test to measure aerobic resistance to short-term exertion and the heart's ability to recover, and therefore helps determine the level of fitness. After testing, higher education applicants entered all indicators of their physical condition in the diary of self-control and also indicators of body weight, height, body mass index, heart rate, blood pressure. After processing the data on the results of testing, we found that more than 30% of higher education applicants had a low level of physical fitness. Based on the results of testing and wishes during the survey and questionnaire, we compiled individual complexes of physical exercises of circular training for low, medium and high levels of physical fitness. As well as circuit training programs, which included a variety of exercises, the purpose of which was aimed at solving problems, namely: development of physical qualities, development of muscle groups, increase of musculature relief, intensive burning of calories and improvement of metabolism, etc. Performance of circuit training physical exercises consisted in the fact that the entire volume of a specially modeled complex was subject to normalized performance in a strictly specified time interval, a certain sequence, with a gradual increase in loads and taking into account individual characteristics of physical development. At the same time, at all stages of circuit training, it was necessary to maintain feedback between the teacher and higher education applicants, to maintain strict control over physical development and health. The circuit training method was used in three versions depending on the tasks that were set, namely: each exercise to perform the agreed time at an arbitrary pace as accurately as possible; each exercise to perform the specified time a certain number of times; each exercise is performed with an individual dosage for each. A characteristic feature of circuit training was the alternate dosed performance of a complex of 6—10 exercises (stations), the training effect of which is aimed at the development of a specific motor quality or certain functional systems of the body. The training task consisted of 2-4 times repetition of a certain complex in a precisely defined time. At the same time, depending on the task, 2-4 times the same exercise is performed, and then in the same mode the second, third and so on, or at each station one approach was made, and in this version the whole complex (all stations) was repeated several times. Usually, the circular training method used working phases up to 30 seconds, rest intervals between stations ranged from 30 to 90 seconds, and between circles – 2-3 minutes. During this time, the heart rate (HR) was calculated and the corresponding entries were made in the self-control diary. When performing exercises, the load had to be done gradually. At the last stage of the study, among the higher education applicants who participated in the experiment, questionnaires and surveys were conducted, and they performed motor tests and all indicators of physical condition were entered into the diary of self-control. After processing the data obtained, positive dynamics was noted in almost all higher education applicants, and this is an improvement in the general physical condition, the formation of skills for

independent exercise of circuit training in the future and the ability to exercise self-control over general well-being and physical activity.

**Conclusions.** Based on the obtained results of the study, we see that the circuit training method is an effective means for physical development, and therefore aimed at developing physical qualities, expanding the functional and adaptive capabilities of the cardiovascular, respiratory, neuromuscular and other systems, increasing efficiency and improving the psycho-emotional state. The knowledge and skills gained brought up in higher education applicants an awareness of the need to regularly engage in physical exercises to preserve and strengthen health in the future.

Further research will be aimed at drawing up and improving training programs and determining their effectiveness, which may contribute to the involvement of higher education applicants in motor activity, motivation for independent classes, and improving physical fitness indicators.