

**INFLUENCE OF NORDIC WALKING ON THE PHYSICAL CONDITION
OF NTU "KHPI" STUDENTS**

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Purpose: to determine the impact of Nordic walking on the physical condition of students in the process of educational and health activities.

Material and methods: analysis of scientific and methodological literature and regulations on the organization of physical education at the Department of Physical Education at NTU "KhPI" , express assessment of the physical condition of students by V.I Belov [1], student survey. The surveyed group consisted of 45 students of NTU "KhPI" humanities specialties of the Faculty of Social and Humanitarian Technologies, which belong to the main medical group.

Results: the article analyzes the main forms of organization of educational and health activities of the discipline of physical education, determines the level of physical condition of female students before and after Nordic walking. Analyzing the results of the primary indicators of physical condition, the students were asked to practice Nordic walking to improve their physical condition. Classes were held for 10 weeks 3 times a week, where each week had its own focus. According to the results of the study, recommendations were given for the introduction of Nordic walking in the discipline of "Physical Education" NTU "KhPI".

Conclusions: physical condition testing. Therefore, it is possible to propose to introduce Nordic walking into the educational process of the discipline of physical

education.

Keywords: female students, Nordic walking, physical condition, physical education, influence.

Introduction

Student life consists of many areas and activities. One of the directions of the student educational process is the recovery of students. The discipline "Physical Education" is responsible for this direction in higher education institutions. Forms of organization of the discipline of physical education in higher education institutions are different: sectional, professionally-oriented, traditional, individual. But each of them is aimed at teaching students the basics of using physical activity to lead a healthy lifestyle and improve physical fitness. Each form of physical education includes a list of appropriate means of educational and recreational activities for students. Problems of reforms in the system of physical education of higher education institutions were considered by scientists Krutsevich T., Malakhova J. The following scientists Petrenko NV, Gavrilova, NM were engaged in the introduction of new technologies of training in the system of discipline of the physical education. , Lamfon, GN considered the features of physical activity in students before admission and during training. Podsiadło Szymon, Agnieszka Skiba, Anna Kałuża, Bartłomiej Ptaszek, Joanna Stożek, Amadeusz Skiba, and Anna Marchewka studied the influence of Nordic walking on the body of elderly women in the elderly, Jakub Kortas. Scientists such as Marcus Tschentscher, David Niederseer, Josef Niebauer have studied the influence of Nordic walking and its comparison with simple walking and jogging. But Nordic walking as a means of educational and recreational activities of students in the learning process is not considered enough. Therefore, it is important to consider such an issue as the introduction of Nordic walking in the educational process of physical education of student youth. The study will determine the possibility of adding Scandinavian walking to the means of educational and recreational activities of student youth.

The purpose of the work is to determine the influence of Nordic walking on the physical condition of students in the process of educational and health activities.

Tasks of work:

1. To analyze the form of organization of the discipline of physical education at NTU "KhPI".
2. To determine the level of the physical condition of students of NTU "KhPI" before and after Nordic walking.
3. Provide recommendations for the introduction of Nordic walking in the educational and recreational activities of the discipline of physical education.

Material and Methods of research

Analysis of scientific and methodical literature and provisions on the organization of physical education at the Department of Physical Education at NTU "KhPI", methods of mathematical statistics, express assessment of the physical condition of students by V.I. Belov [1], student survey. The study involved 45 students of NTU "KhPI" humanities, which belong to the main medical group.

Results of the research

Analyzing the provisions on physical education at NTU "KhPI" at the Department of Physical Education, it was determined that the form of organization of the discipline of physical education is traditional. This form means that physical education is a compulsory discipline with classroom hours and summarizing at the end of each semester assessment, in the form of credit and inclusion of the discipline in the schedule of students. The discipline of physical education belongs to the general block of disciplines in the curricula of all specialties of NTU "KhPI" and meets the needs of general competence to use different types and forms of physical activity for active recreation and healthy living. Educational and recreational activities include theoretical and practical classes, as evidenced by the curriculum of physical education.

In the block of the theoretical component of physical education - knowledge on the safety of physical education, the basics of a healthy lifestyle, hygienic norms of the body are formed. Forms of theoretical classes on physical education at NTU

"KhPI" at the Department of Physical Education - are lectures, participation in scientific conferences, seminars.

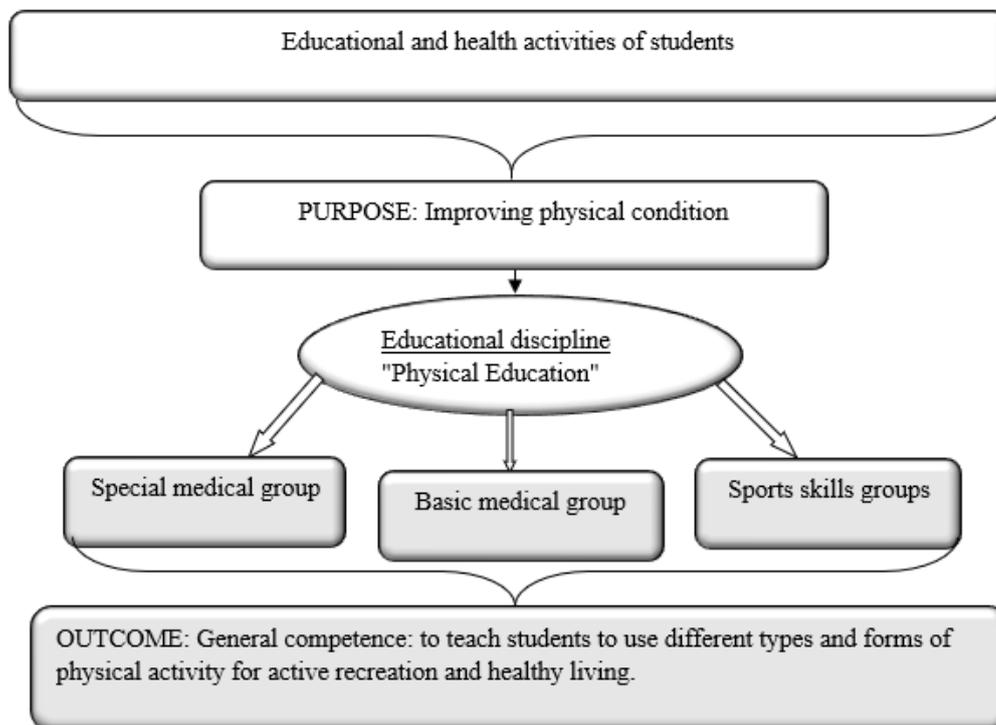


Fig. 1 Direction of educational and health activities of students

In the section of practical classes, students are engaged in professional and applied physical training, participate in competitions of various qualifications. Students attending physical education classes are assigned to the appropriate direction, from different types of physical activity. The Department of Physical Education of NTU "KhPI" has a wide range of sports, namely: athletics, basketball, football, volleyball, tennis and table tennis, badminton, swimming, aerobics, weightlifting, weightlifting, sambo, tourism, climbing, gymnastics, free and Greco-Roman wrestling. Each type of physical activity in physical education at NTU "KhPI" has its own history of implementation, work program, and syllabus, so the student has the opportunity to be acquainted with the purpose, objectives, requirements, and competencies that form this discipline.

Further development of physical culture and sports, increasing the need for young people to new types of physical activity requires the introduction of new forms of physical education in the educational process, especially, it is relevant to health

types. To determine the importance of the introduction of Nordic walking in the educational process, our study was conducted. Its influence on the physical condition of students was analyzed.

To determine the level of the physical condition of students, V.I. Belov conducted an express assessment of the physical condition of students. The level of physical condition was determined by the number of points scored by dividing them by 9. Express assessment included indicators: heart rate at rest (1 min.), Blood pressure at rest, (mm.rt.st.), VL by body weight ($\text{ml} * \text{kg}^{-1}$), experience exercise at least twice a week for 30 minutes. and more, running 2 km, (min., s.), long jump (see), lifting the torso from a supine position, hands behind his head (women) times, the number of colds during the year (times), number of chronic diseases of internal organs (times).

Analyzing the obtained data with the criteria for assessing the level of physical condition, it was determined that 2 (4%) female students scored 5 or more points and corresponds to a very high level of physical condition, 4 (9%) female students scored in the range of 4,0 – 4,9 that corresponds to a high level of physical condition, 14 (31%) female students scored in the range of 3,0-3,9, which corresponds to the average level of the physical condition of female students, 20 (45%) female students scored in the range of 2,0-2,9 having a low level of physical condition, 5 (11%) students showed results corresponding to 1,0-1,9 is an indicator of a very low level of physical condition.

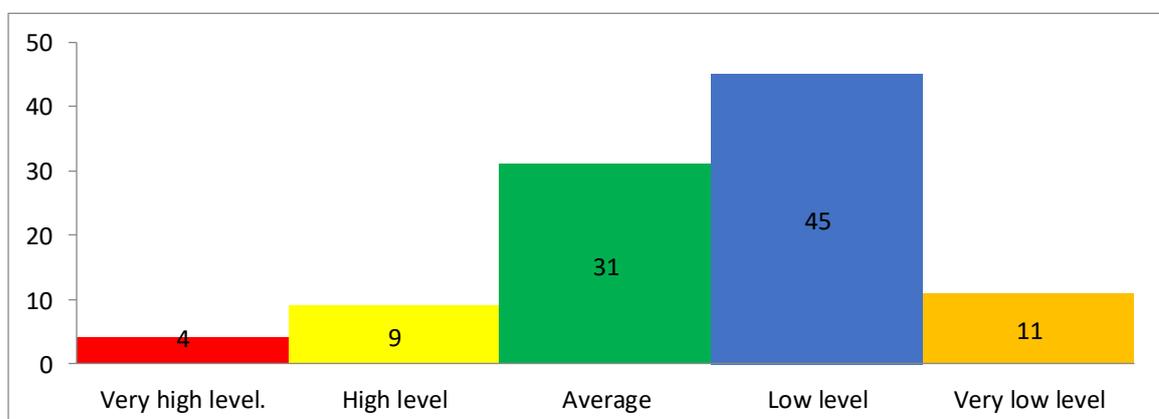


Fig. 2 The level of the physical condition of female students as a percentage of attendance at Nordic walking classes

Analyzing the results of assessing the level of the physical condition of students in the majority of female students who participated in the study, the average and low level of physical condition, which indicates that the student has a low level of health and physical activity. Physical condition as an indicator of student health was considered by the authors Pavlenko I.O., Vorona, V., Kylik, N., Lytvynenko, V., Ratov, A., Lazorenko. Therefore, we can say that students lack physical activity in the curriculum, which suggests that it is necessary to propose and introduce new forms of physical activity for physical education classes for students.

To improve their physical condition, the students were asked to attend 10 Nordic walking classes 3 times a week. Every 2 weeks, students were asked to increase the pace of walking. At the beginning of the classes, students were provided with theoretical knowledge of safety in Nordic walking lessons and exercises were presented, the task of which was to find a comfortable step length for each student and to catch a comfortable rhythm of walking.

The following tasks were proposed:

- Start with walking on the spot, increasing activity, then move on to vigorous walking forward. The purpose of walking is to achieve wide and free movements.
- Perform an exercise for proper foot function. Stand on the sock, gently roll the foot on the heel. Perform the exercise in reverse order.
- Put the sticks near the foot, try to move the center of gravity forward, along with the repulsion of the stick.
- Perform freehand movements back and forth with sticks, standing still.
- Learn to properly adjust the amount of the sling. For this purpose, it is necessary to take sticks in hands and to check the fastening of a sling, to take away hands one by one back, and to feel opening palms that the stick does not slip out.
- Perform active walking with sticks, while keeping them only lowered down and pulling on the ground.
- Short and wide movements. Take the sticks in the middle, and walk until the correct movement of the hands and coordinated work of the arms and legs.

- Take only one stick and walk with it, focusing on the place of the stick (changing hands).

Classes for 1-4 weeks were conducted in a preparatory mode, at a slow pace in the range of 50-60% of the maximum heart rate. Heart rate at rest does not exceed 90 beats per minute.

Classes for 5-8 weeks in training mode, aimed at improving the functional state of the cardiovascular system, as well as increasing the physical load on the body of students by increasing the duration of classes. In this mode, the functional heart rate of students should not exceed 80 beats per minute at rest.

Classes of 9-10 weeks are held in sports mode, which is most pronounced in terms of duration and intensity of exercise and training effect on the body of students. In this mode, the use of short-term accelerations that occupy 75-80% of the threshold heart rate is allowed. Walking in sports mode is allowed for students whose heart rate at rest ranged from 60 to 80 beats per minute. Students who did not meet such indicators were engaged in the second mode. After attending classes, students were asked to conduct a repeat rapid assessment of their physical condition. Analyzing the results of the repeated express assessment, students had the following indicators: 2 (4%) female students scored 5 or more points and correspond to a very high level of physical condition, 5 (12%) female students scored points between 4.0 - 4.9 which corresponds to a high level of physical condition, 21 (47%) female students scored in the range of 3.0-3.9, which corresponds to the average level of the physical condition of female students, 15 (33%) female students scored in the range of 2.0-2.9, having a low level of physical condition, 2 (4%) students showed results corresponding to 1.0-1.9 is an indicator of a very low level of physical condition.

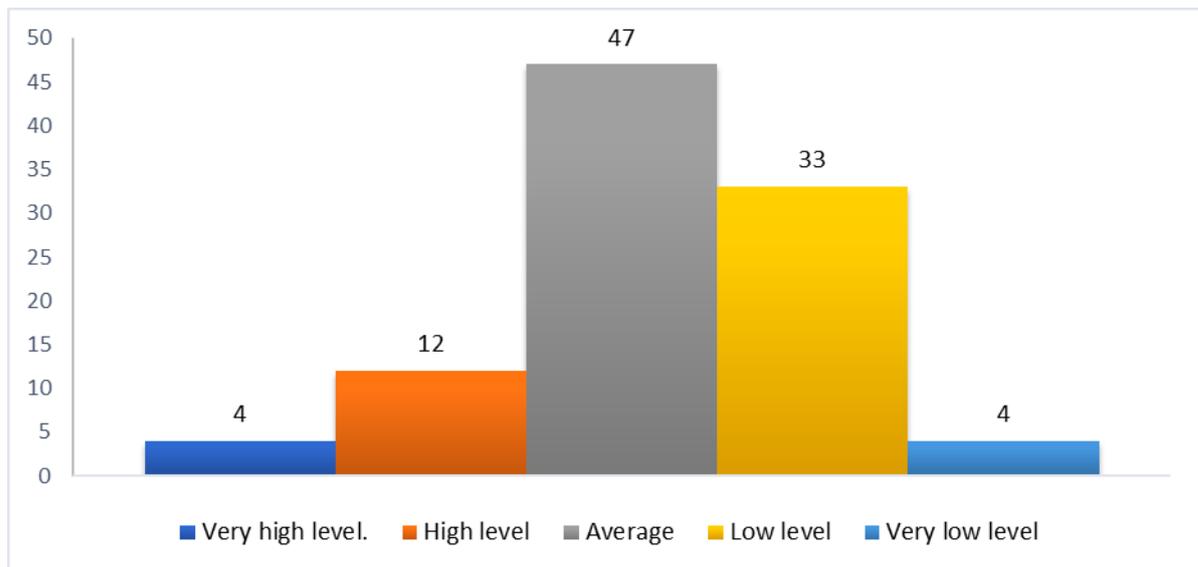


Fig. 3 The level of the physical condition of female students as a percentage after attending Nordic walking classes.

According to the indicators of re-testing, we can say that Nordic walking, as a form of health activity of students is suitable for students in the process of physical education. Therefore, for the introduction of Nordic walking in the educational and health program of the educational component "Physical Education" the following recommendations are proposed:

- Conduct introductory classes in Nordic walking.
- Conduct a course of lectures on the impact of Nordic walking on student health and the basics of performing technical elements in Nordic walking.
- Introduce Nordic walking to the list of types of physical activity of the Department of Physical Education in the distribution of students in sections.
- To develop a curriculum in Nordic walking for students of the main medical group, the purpose of which will be the formation of knowledge, skills, and abilities to use Nordic walking as a healthy activity of students in the process of physical education.
- Develop a video lesson on Nordic walking to learn the technical elements of walking with sticks.

Conclusions / Discussion

During the analysis of the documentation, it was determined that the main form of organization of the discipline "Physical Education" at NTU "KhPI" is a traditional form.

Analysis of the results of retesting allowed to determine the level of the physical condition of students of humanities NTU "KhPI" Faculty of Social Sciences and Humanities: 4% of students have a high level of physical condition, 12% of students have a high level of physical condition, 47% of students have an average level of physical condition, 33% of female students have a low level of physical condition, 4% of female students showed results that correspond to indicators of a very low level of physical condition. Data from re-testing the level of the physical condition of female students show that Nordic walking can be included in the educational process of physical education in the Free Economic Zone. Therefore, recommendations were proposed for the introduction of Nordic walking in the educational and recreational activities of the educational component "Physical Education".

Prospects for further research: Further research will be aimed at developing a program of Nordic walking in the process of physical education of students according to their level of physical condition.

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