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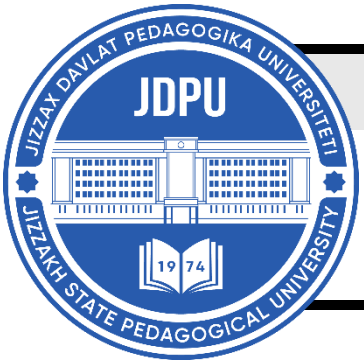

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ANALYSIS OF THE PHYSICAL DEVELOPMENT OF STUDENT YOUTH THROUGH HEALTH-PROMOTING GYMNASTIC TOOLS

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ABOUT ARTICLE

Key words: health-promoting gymnastics, physical development, student youth, fitness aerobics, health correction, healthy lifestyle.

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Abstract: This article presents a scientific analysis of the physical development and health status of student youth studying in non-specialized higher educational institutions through the use of health-promoting gymnastics tools. The research focuses on improving students' physical development, functional condition, and overall health by implementing modern wellness-oriented gymnastic methods, particularly fitness aerobics. Morphological and functional indicators, health indices, and cardiovascular responses to physical load were analyzed using pedagogical testing, questionnaires, and experimental methods. The results demonstrate that systematic health-promoting gymnastics significantly improves cardiovascular efficiency, respiratory function, motor abilities, and general physical fitness. The study substantiates the effectiveness of fitness aerobics as an optimal means of health correction and physical development for student youth and highlights its importance in forming a healthy lifestyle within the higher education system.

Introduction. In the context of global social and economic development, ensuring the health and physical well-being of the younger generation has become one of the most urgent tasks of modern society. The level of physical development and health of student youth largely determines the labor potential, intellectual productivity, and social stability of the country.

Therefore, the formation of a healthy nation through the development of physical culture and sports remains a priority direction in many countries around the world.

Modern living conditions are characterized by an accelerated pace of life, increasing academic workload, widespread use of digital technologies, reduced physical activity, environmental problems, and chronic stress. These factors negatively affect the health status of young people, especially students of higher educational institutions. Numerous studies indicate a steady decline in the physical fitness level, functional reserves, and general health indicators of student youth.

In non-specialized higher educational institutions, physical education classes often remain the only organized form of physical activity for students. However, the volume of hours allocated to physical education in curricula is gradually decreasing, which limits the possibility of maintaining optimal motor activity. As a result, students experience hypodynamia, decreased endurance, impaired posture, excess body weight, and reduced functional capacity of the cardiovascular and respiratory systems.

In this context, scientifically grounded health-promoting approaches aimed at correcting physical development and improving health indicators become especially relevant. Health-promoting gymnastics, including fitness aerobics, rhythmic gymnastics, stretching, and breathing exercises, is considered one of the most effective and accessible tools for enhancing students' physical condition and forming a healthy lifestyle.

Purpose and Objectives of the Study

The purpose of the study is to improve and correct the level of physical development and health of student youth through the systematic use of health-promoting gymnastics tools.

The objectives of the study are:

- to analyze the attitude of student youth toward physical education and sports in non-specialized higher educational institutions;
- to assess students' physical development and health status using morphological and functional indices;
- to determine the effectiveness of health-promoting gymnastics and fitness aerobics in improving functional indicators of the body;
- to substantiate methodological approaches to organizing health-promoting gymnastics classes for students.

Object and Subject of the Study

The object of the study is the process of physical development and health improvement of student youth studying in non-specialized higher educational institutions.

The subject of the study is the influence of health-promoting gymnastics tools on the physical development and health correction of students.

Research Methods

The following research methods were applied in the study:

- analysis of scientific and methodological literature;
- questionnaire surveys;
- assessment of health status based on morphological and functional indices;
- pedagogical experiment;
- pedagogical testing;
- methods of mathematical statistics.

Scientific Novelty of the Study

The scientific novelty of the research lies in the following:

- the effectiveness of fitness aerobics compared to classical aerobics in improving the functional condition of the body of student youth has been scientifically substantiated;
- the content and structure of fitness aerobics classes were optimized by regulating exercise intensity, rest intervals, and workload volume based on students' functional capabilities;
- the influence of health-promoting gymnastics on fatigue reduction and recovery processes in students was determined.

Methodology

Assessment of Physical Development and Health Indicators

To assess the physical development and health status of students, widely used morphological and functional indices were applied.

Body Mass Index (BMI, Quetelet Index)

The body mass index allows assessment of the correspondence between body mass and height and is calculated using the formula:

$BMI = m / L^2$,

where m is body mass (kg), L is height (m).

Evaluation scale:

- ≤16.9 – low (–2 points)
- 17.0–18.6 – below average (–1 point)
- 18.7–23.8 – average (0 points)
- 23.9–26.0 – above average (+1 point)
- ≥26.1 – high (+2 points)

Vital Index (VI)

The vital index reflects the functional state of the respiratory system and is calculated as:

VI = VC (ml) / body mass × 1000

Evaluation scale:

- ≤40 – low (–1 point)
- 41–45 – below average (0 points)
- 46–50 – average (+1 point)
- 51–55 – above average (+2 points)
- ≥56 – high (+3 points)

Health as a Multidimensional Concept

Health is considered one of the most important human values. According to the World Health Organization, health is defined not merely as the absence of disease, but as a state of complete physical, mental, and social well-being. Modern scientific approaches emphasize the dynamic and integrative nature of health, reflecting the adaptive capabilities of the organism to environmental conditions.

Health indicators are interconnected and can be quantitatively expressed, which allows for objective assessment and monitoring. The functional reserves of the organism play a decisive role in maintaining work capacity and preventing pathological changes.

Health-Promoting Approach in Physical Education

A health-promoting approach in physical education represents a strategic methodology for managing the process of developing and educating a healthy personality. This approach is based on humanistic and democratic principles and emphasizes the priority of health preservation in the educational process.

In higher education institutions, the organization of physical education requires reconsideration due to the unsatisfactory health status of a significant proportion of students. Studies indicate that only 20–25% of students' required motor activity is provided by compulsory physical education classes. Moreover, 30–50% of students have various health deviations or chronic diseases.

The situation is particularly concerning among female students who do not engage in sports activities. Sociological research demonstrates a low level of regular physical activity among students, which further declines in senior courses.

Health-Promoting Gymnastics as an Effective Tool

Health-promoting gymnastics is a complex of physical exercises aimed at forming a healthy lifestyle, improving physical development, and increasing work capacity of student youth. These exercises take into account anatomical and physiological characteristics of students and positively affect muscular, cardiovascular, and respiratory systems.

Main Components of Health-Promoting Gymnastics:

- General developmental exercises improve muscle strength, posture, and musculoskeletal stability.
- Breathing exercises increase lung capacity, reduce stress, and normalize nervous system activity.
- Elements of sports games develop speed, agility, coordination, and teamwork skills.
- Rhythmic and dance gymnastics enhance motor coordination and aesthetic perception.
- Stretching exercises increase flexibility, joint mobility, and prevent injuries.
- Aerobic exercises improve endurance, normalize body weight, and strengthen the cardiovascular system.

Development of Physical Qualities

Systematic use of health-promoting gymnastics contributes to the development of essential physical qualities:

- strength;
- endurance;
- speed;
- agility;
- flexibility;
- balance and coordination.

Mechanisms of Influence on the Body

Health-promoting gymnastics:

- improves blood circulation and respiratory efficiency;
- accelerates metabolism;
- normalizes autonomic nervous system function;
- enhances psychological stability;
- reduces professional and academic fatigue;
- restores work capacity during the learning process.

Principles of Organizing Classes

Principle	Content
Regularity	2–4 sessions per week, 45–60 minutes
Gradual intensity increase	Progressive workload adaptation
Individual approach	Consideration of health status and fitness level
Differentiation	Accounting for gender and functional differences

Results and discussions. The functional response of the cardiovascular system to physical load, assessed using the Martinet test, showed an increase in heart rate and blood pressure by 40–50%, followed by recovery within three minutes in most students. This reaction corresponds to a normal-tonic type and is evaluated as "good."

At rest, students' hemodynamic indicators corresponded to age norms characteristic of untrained individuals, confirming the necessity of systematic physical training. The results demonstrate that health-promoting gymnastics, especially fitness aerobics, effectively improves physical development, functional reserves, and health status of student youth.

The results of the present study confirm that health-promoting gymnastics is an effective and scientifically grounded means of improving the physical development and health status of student youth studying in non-specialized higher educational institutions. Modern educational conditions, characterized by high academic workload, reduced motor activity, and increased psycho-emotional stress, create serious risks for students' physical and functional well-being. In this context, the purposeful integration of wellness-oriented physical activities into the educational process becomes not only relevant but necessary.

The research demonstrated that systematic use of health-promoting gymnastics tools, particularly fitness aerobics, has a positive influence on key morphological and functional indicators of students. Improvements were observed in body mass regulation, respiratory capacity, cardiovascular efficiency, and overall functional reserves of the organism. The application of such indices as the Body Mass Index and the Vital Index made it possible to objectively assess changes in students' health status and to confirm the corrective potential of regular physical activity. The positive dynamics of these indicators indicate improved adaptation mechanisms and increased resistance of the organism to physical and psycho-emotional loads.

Special attention should be paid to the cardiovascular system's response to physical load. The results of the Martinet functional test showed that most students demonstrated a normal-tonic reaction type, characterized by a moderate increase in heart rate and blood pressure followed by rapid recovery. This confirms that health-promoting gymnastics

contributes to the formation of economical and efficient cardiovascular functioning, which is especially important for young people with initially low levels of physical fitness. The normalization of recovery processes also indicates a reduction in fatigue and an increase in functional stability during the educational process.

Another important outcome of the study is the proven effectiveness of fitness aerobics as a modern and accessible form of physical activity for student youth. Compared to traditional approaches, fitness aerobics provides greater emotional engagement, variability of exercises, and adaptability to individual functional capabilities. This significantly increases students' motivation to participate in physical education classes and promotes the formation of a sustainable interest in regular physical activity. The development of such physical qualities as strength, endurance, flexibility, coordination, and balance further enhances students' overall physical preparedness and daily work capacity.

The health-promoting approach implemented in this study emphasizes the priority of health preservation within the physical education system. It allows for the optimization of training loads, differentiation of exercises according to gender and fitness level, and consideration of individual health characteristics. This approach is especially important in non-specialized higher educational institutions, where physical education classes often remain the only organized form of motor activity for many students.

Conclusion. In conclusion, the findings of the study clearly indicate that health-promoting gymnastics is not only a means of physical development but also an effective tool for health correction, prevention of functional disorders, and formation of a healthy lifestyle among student youth. The introduction of wellness-oriented gymnastic programs into higher education curricula can significantly improve students' physical and functional condition, increase their academic and social performance, and contribute to the development of a physically and mentally healthy generation. The results obtained can be recommended for practical implementation in the physical education system of higher educational institutions and serve as a basis for further scientific research in this field.

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