

# Current state of students' health and factors as well as means of its improvement

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## ABSTRACT


**Aim:** To assess the current state of students' health in higher educational institutions in Ukraine and identify the main measures, factors, and means of its improvement.

**Materials and Methods:** The research was conducted in 2022–2023 and involved 266 second-year students (82 males, 184 females) from different faculties. Research methods: analysis of literary sources, observation, questionnaire surveys, and statistical methods.

**Results:** A general downward trend in the level of health among students in higher educational institutions in Ukraine has been established. The deterioration of the health of male students is particularly worrying: the number of students with good health has decreased by 34.1 % over the past 10 years, while the number of students with poor and very poor health has increased by 14.0 % and 3.7 %, respectively. It has been found that 41.5 % of male and 34.2 % of female students do not know the cause of their illness and do not know how to prevent it. Students are well aware of the value of their health but do not care about it, are too lazy to exercise and rely on medications or a doctor when they are ill.

**Conclusions:** A student's health is his or her social and personal values, level of culture, ability to withstand heavy physical and mental stress, and ability to adapt to various external factors. Therefore, the primary task of physical education departments should be to form the interests, desires, and motives of students for physical exercise.

**KEY WORDS:** health, health factors, physical activity, students

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## INTRODUCTION

Currently, Ukraine is experiencing a steady deterioration in the health status of students in higher educational institutions (HEIs) due to low levels of physical fitness, physical inactivity, and a large number of diseases of the respiratory, digestive, eye, cardiovascular, nervous and endocrine systems, as well as various musculoskeletal disorders, infectious and parasitic diseases, etc. [1, 2]. In recent years, the health status of students has been negatively affected by the Covid-19 pandemic and martial law caused by the armed aggression of the Russian Federation [3, 4]. The ongoing pandemic and air alerts have forced HEIs to conduct classes remotely. The introduction of the self-isolation regime limited the motor activity of students, sports grounds and gyms stopped working,

and this prompted students to perform exercises at their place of residence, which led to the development of hypokinesia [5, 6]. Hypokinesia is one of the factors in the development of various diseases, a decrease in the mental and physical working capacity of a person [7]. Therefore, the relevance of the research is due to the need to form students' motivation to take care of their health and to create a personality-oriented program of physical improvement and disease prevention through physical exercises in the present conditions.

## AIM

The aim is to assess the current state of students' health in higher educational institutions in Ukraine

and identify the main measures, factors, and means of its improvement.

## MATERIALS AND METHODS

The research was conducted at the Ivan Franko Zhytomyr State University in 2022-2023, involving 266 second-year students (82 males, 184 females) from different faculties.

The methodology of the scientific research on the state of students' health was carried out based on the following structural components: philosophical, general scientific, specific scientific, and technological. The research involved such general scientific methods as analysis of literary sources, which allowed to systematize scientific knowledge on the issues of students' health in HEIs (20 sources from the databases Scopus, PubMed and others were investigated); observation and questionnaire surveys, which contributed to the assessment of the real state of students' health in HEIs; statistical methods, which contributed to the qualitative interpretation of the data and the formulation of conclusions.

The health status of students in HEIs was assessed using a questionnaire survey developed by us, which contained 4 sets of questions that allowed us to establish 1) the current state of students' health; 2) measures they used to prevent their diseases, and improve their health; 3) factors that effectively influence health improvement; 4) means of motor activities used by students to improve their health during educational and independent physical training sessions.

The questionnaire survey was anonymous without any references to the authors of the article in the answers. The results were used for scientific purposes only. The questionnaire was assessed by the experts in this field (3 professors and 5 associate professors) and was approved by the Academic Council of Zhytomyr Ivan Franko State University (Protocol No. 2 dated 20.09.2022). Consent to voluntary participation in the survey was obtained from all the respondents involved in the research. This research followed the regulations of the World Medical Association Declaration of Helsinki – ethical principles for medical research involving human subjects.

## RESULTS

The results of self-assessment of health by students in HEIs in 2022-2023, compared to 2012-2013, are presented in Table 1.

Self-assessment of students' health confirms the general downward trend in the level of health during

their studies in the HEI. The deterioration in the health of male students is particularly worrying; the number of students with poor and very poor health increased by 14.0 % and 3.7 %, respectively. At the same time, the number of male students in good health decreased by 34.1 %, and the number of female students decreased by 7.6 %. This situation encourages instructors to create a positive psychological environment during the educational process to distract students from everyday stressful situations, provide necessary assistance, formulate goals, and value orientations for the future, engage in a healthy lifestyle, and identify factors that positively affect their health.

At the same time, the survey of students who attended physical education training sessions showed that 41.5 % of men and 34.2 % of women could not clearly explain the nosology of their disease, its causes and preventive measures and limitations, and did not know their medical history and means of treatment. Our further research has shown that for the prevention and treatment of diseases and health promotion, students use the following measures: sleep, passive rest, purchase of medicines, active rest, visiting a family doctor, folk medicine remedies, increased motor activity, therapeutic physical education, etc. (Table 2). It is rather unfortunate that students consider the most important measures of health recovery and improvement to be not primary, namely: increased motor activity, therapeutic exercise, changes in study and life-sustaining style, and nutrition.

The value orientations of the student determine his/her motivation, purposefulness, life-sustaining activity and stance, desire to move towards mastering professional skills, and professional competencies, and, accordingly, care for his/her health and adherence to a healthy lifestyle. Among the main factors that influence the health of students are: nutrition (men – 74.4 %, women – 61.4 %); rest (50.0 % and 58.2 %, respectively); motor activity (47.6 % and 54.9 %, respectively); sleep (56.1 % and 52.7 %) (Table 3).

Among the means of motor activity that students use and want to use during educational and independent physical education training sessions, they prefer exercises on simulators (men 28.1 %, women – 28.8 %); modern fitness technologies (22.0 % and 22.3 % respectively); sports and outdoor games (19.5 % and 21.2 % respectively); table tennis and badminton (11.0 % and 18.5 %, respectively); health-improving physical culture (17.1 % and 17.9 %, respectively); swimming (9.8 % and 11.4 %, respectively); walking (8.5 % and 9.8 %, respectively) and other types (Table 4). Practical experience, observations, and conversations with students during physical education training sessions showed that mod-

**Table 1.** Comparative analysis of health self-assessment by students in HEIs of different instructional years (%)

Health status	Gender	Instructional years		The difference (%)
		2012-2013 (n = 265; male – 106; female – 159)	2022-2023 (n = 266; male – 82; female – 184)	
Perfect	male	10/9.4	2/2.4	- 7.3
	female	5/3.1	6/3.3	+ 0.2
Good	male	71/67.0	27/32.9	- 34.1
	female	82/51.6	81/44.0	- 7.6
Satisfactory	male	23/21.7	37/45.1	+ 23.4
	female	59/37.1	56/30.4	- 6.7
Poor	male	2/1.9	13/15.9	+ 14.0
	female	12/7.6	32/17.4	+ 9.8
Very poor	male	-	3/3.7	+ 3.7
	female	1/0.6	9/4.9	+ 4.3

**Table 2.** Use of measures for disease prevention and health promotion by students in HEIs (n = 266, %)

Measures	Male (n = 82)	Female (n = 184)
Sleep	68/82.9	159/86.4
Passive rest	43/52.4	104/56.5
Visiting a pharmacy to purchase medicines	31/37.8	78/42.4
Active rest	30/36.6	56/30.4
Visiting a family doctor	18/22.0	53/28.8
Folk medicine remedies	21/25.6	51/27.7
Increasing motor activity	19/23.2	47/25.5
Exercise therapy training sessions	16/19.5	38/20.7
Changing the mode of study and life-sustaining activities	9/11.0	23/12.5
Making adjustments to your nutrition	4/4.9	11/6.0

**Table 3.** Assessment by students in the HEI of the most important factors of positive impact on health status (n = 266, %)

Factors	Male (n = 82)	Female (n = 184)
Nutrition	61/74.4	113/61.4
Rest (active, passive)	41/50.0	107/58.2
Motor activity (physical education)	39/47.6	101/54.9
Sleep	46/56.1	97/52.7
Family, love	49/59.8	86/46.7
Prevention of diseases	33/40.2	81/44.0
Environment	48/58.5	72/39.1

**Table 4.** Means of students' motor activity in HEIs during their academic and independent training sessions in physical education (n = 266, %)

Types of physical activities	Male (n = 82)	Female (n = 184)
Training on simulators	23/28.1	53/28.8
Modern fitness technologies	18/22.0	41/22.3
Sports and outdoor games	16/19.5	39/21.2
Table tennis and badminton	9/11.0	34/18.5
Recreational physical education	14/17.1	33/17.9
Swimming	8/9.8	21/11.4
Walking	7/8.5	18/9.8
Recreational running	4/4.9	12/6.5
Strength sports	15/28.3	9/4.9

ern students are mostly inactive and uninterested in physical education training sessions, the main motive being to get a high grade on the test. This suggests that the modern system of physical and health-promoting education should look for new forms, means, and methods of activating and encouraging students in HEIs to exercise and take care of their health.

In general, it can be noted that the current system of physical education in HEIs is not effective enough for the development of the physical culture of students, the formation of care for their health, and the health of their loved ones and others. There is a need for a socially oriented system of scientific knowledge that would form students' high aesthetic qualities, knowledge of health, positive needs for a healthy lifestyle, and the availability of means of self-improvement and self-education.

## DISCUSSION

The concept of "health" of the population is characterized by a set of indicators: demographic (birth rate, mortality, life expectancy), physical development (morphofunctional and biological development, harmony), morbidity (general, infectious), disability (primary, general), quality of donozological states (immunity, enzyme activity) [8]. Some scientists [9] consider health as a dynamic state of the highest physical and psycho-emotional well-being, which is based on a harmonious ratio of interrelated functions and structures provided by a high energy level of the body at the lowest cost of its adaptation to the conditions of life. Some experts [10] consider the main indicators of health to include: the level of immune protection and resistance, the level and harmony of physical development, the functional state of the body and its reserve capabilities, the normalcy of sexual development and sexual behavior, the presence of disease development defects, the level of moral and volitional as well as value-motivational attitudes. Among the main signs of health, the authors [11] identify the structural and functional integrity of human systems and organs, human adaptability to the physical and social environment, and preservation of the normal state of health. Scientists [12-14] distinguish the most typical definitions of the concept of "health": 1. Normal function of the body at all levels of its organization (organs, histological, cellular, and genetic structures, normal course of physiological and biochemical processes that contribute to individual survival and reproduction). 2. Dynamic balance of the organism and its functions with the environment. 3. The ability to fully perform basic social functions, participation in social activities, and socially useful work. 4. The ability of the organism to adapt to constantly changing environmental con-

ditions, the ability to maintain the constancy of the internal environment of the organism, ensuring normal and versatile life-sustaining activities and preservation of the living principle in the organism. 5. Absence of disease, disease states, and disease changes. 6. Full physical, spiritual, mental, and social well-being. A critical understanding of a large number of definitions of health shows that this concept is multifaceted and has different interpretations that require specificity and certainty. Therefore, we can agree with the WHO Charter, which states that health is a dynamic state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity [15].

The crisis state of the physical education system in HEIs, which does not meet state and international requirements for the health and physical fitness of students; three years of the Covid-19 pandemic, which led to self-isolation and a sharp decline in motor activity; two years of martial law, which further deepened the physical education crisis and increased psycho-emotional stress among young people in Ukraine, have created new challenges for HEIs and Ukrainian society [16, 17]. Currently, the trend of deteriorating health is progressing, and there is a decrease in the interest and motivation of students to engage in physical exercise and sports. At the same time, the state policy in the field of education is aimed at ensuring human health in all its components: spiritual, social, mental, and physical. The priority task of the education system is to teach people to take responsibility for their health and the health of others as the highest individual and social values. According to many scientists [18-20], this should be done through the development of effective valeological education, comprehensive medical care, optimization of the educational process, creation of an environmentally friendly living space, and involvement of all participants in the educational process in physical culture and sports.

## CONCLUSIONS

A general downward trend in the level of health among students in higher educational institutions in Ukraine has been established. The deterioration of the health of male students is particularly worrying: the number of students with good health has decreased by 34.1 % over the past 10 years, while the number of students with poor and very poor health has increased by 14.0 % and 3.7 %, respectively. It has been found that 41.5 % of male and 34.2 % of female students do not know the cause of their illness and do not know how to prevent it. Students are well aware of the value of their health but do not care about it, are too lazy to exercise and rely on medications or a doctor when they are ill.

A student's health is his or her social and personal values, level of culture, ability to withstand heavy physical and mental stress, and ability to adapt to various external factors. Therefore, the primary task of physical education departments should be to form the interests, desires, and motives of students for physical exercise. It is necessary to identify the needs that can motivate students to engage

in active and conscious physical education and health activities. Purposeful, systematic, and well-organized work to involve students in physical education and health activities can be the basis for improving their health.

Prospects for further research are aimed at studying the areas of students' involvement in HEIs in a healthy lifestyle under martial law.

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## CONFLICT OF INTEREST

The Authors declare no conflict of interest

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