Physical activity as a basis for the health of students of a pedagogical university

PhD, Associate Professor **N.A. Koshkina**[1]
G.A. Popova[1]
PhD, Associate Professor **E.G. Shushkanova**[2]
[1]Vyatka State University, Kirov
[2]Kirov State Medical University, Kirov

Corresponding author: usr11894@vyatsu.ru

Abstract
Objective of the study was to evaluation of students' physical activity and its correlation with various aspects of a healthy lifestyle.
Methods and structure of the study. One hundred and fifty students in their first year of study in the pedagogical program at Vyatka State University in Kirov participated in the experiment. To evaluate the elements of a healthy lifestyle, we employed the questionnaire «Prozozh». The level of activity of the participants was assessed using the questions from the SAN methodology. The vitality and strength indices were calculated using standard methods. The statistical analysis was conducted using the Jamovi software (version 1.6). The correlation between the components of a healthy lifestyle and the activity scale was determined using the Spearman's rank correlation coefficient.
Results and conclusions. The findings demonstrate the average level of healthy lifestyle components among first-year students. A responsible approach to health was observed in 50% of the participants. The majority of respondents (66%) do not engage in regular physical activity or exercise. Insufficient sleep was reported by 59% of the participants, which may have a negative impact on their performance and overall well-being. A positive correlation has been established between the indicators of physical activity and the SAN activity scale: the higher the physical activity score, the higher the overall activity score, and vice versa ($r=0,161$; $p=0,049$). Therefore, increasing physical activity and implementing educational initiatives to promote healthy lifestyle habits are crucial for maintaining the health of students.

Keywords: *health, healthy lifestyle, physical activity, pedagogical university, students.*

Introduction. Currently, the issues of maintaining health and involving students in a healthy lifestyle (HLS) are becoming more and more relevant. Research has shown that the reasons for the decline in health indicators during university studies are changes in the usual behavioral stereotype, deterioration in the quality of nutrition, reduction in physical activity, combining study with work, often at night. In addition, one of the significant factors influencing the maintenance of health is sufficient physical activity. Prolonged sitting increases the static load on the muscles and leads to changes in the musculoskeletal system and functional systems, the development of physical inactivity. Data from empirical studies of health indicators among students show that 50-70% of students have a lack of physical activity [1, 2]. The issues of the relationship between a healthy lifestyle and physical activity of students remain relevant today.

Objective of the study was to evaluation of students' physical activity and its correlation with various aspects of a healthy lifestyle.

Methods and structure of the study. The experiment was conducted at Vyatka State University (VyatSU) in Kirov with first-year students majoring in pedagogy (n=150, average age 18,52±0,05 years). The components of a healthy lifestyle (HLS), including physical activity, were assessed using the Healthy Lifestyle Profile (Healthy Lifestyle Profile) questionnaire

adapted by M.D. Petrash for a Russian sample [5]. The questionnaire includes 52 questions-statements grouped into six scales (Table 1). The respondents expressed their attitude to the proposed statements of the questionnaire on a scale from 1 to 4 points. To determine the degree of activity of the subjects, the following questions from the SAN methodology were used: well-being, activity, mood, where the activity scale was assessed, containing 10 pairs of opposite characteristics showing the degree of expression of the respondent's activity state from 1 to 7 points (the norm is 5,0-5,5 points). Measurement of vital capacity of the lungs (VC, ml) and muscle strength of the dominant hand (MS, kg) were carried out using standard methods, vital (VI, ml/kg) and strength (SI, %) indices were calculated.

The data analysis included descriptive statistics, which allowed us to assess the level of expression of the components of a healthy lifestyle in the general sample of respondents. To identify the relationship between the components of a healthy lifestyle and the activity scale, the Spearman rank correlation coefficient was used. Statistical data analysis was performed using the Jamovi program (Version 1.6).

Results of the study and discussion. The analysis of the obtained results shows the average level of formation of the components of a healthy lifestyle from the total sample of respondents. Comparative indicators of the formation of the components of a healthy lifestyle among students are presented in Table 1 (according to the data of the questionnaire «ProZHOZH»).

Based on the obtained results, the greatest expression of average values is noted among the overwhelming majority of students among the scales «Interpersonal Relationships» and «Internal Growth» and is 83,8% and 77,3% of the total number of respondents, respectively. Less developed among the respondents are the levels on the scales characterizing the stress resistance of the individual (63,9%), the students' attitude to maintaining individual health (56.3%), the necessary physical activity (57,1%) and nutrition (57,1%), which

is 1,3-1,5 times less compared to the indicators of the scales of the cognitive and emotional component of a healthy lifestyle from the total number of respondents. In connection with the above, more than 40% of first-year students in general have a decrease in physical activity, value attitude to health and an increased level of stress, which confirms the relevance of the issue we are studying. Thus, the analysis of the «Responsibility for Health» scale revealed that only 50% of respondents are able to take a responsible attitude towards their health. At the same time, when acute symptoms of diseases appear, a significant part of respondents (89.3%) consider it important to seek qualified medical help, which is significantly higher than the share of students who systematically seek medical help - 45% of the total number of respondents. Less than half of the respondents (42%) are interested in knowledge about preventing various diseases, ways of maintaining and improving health, receive information from different sources (24%), attend special health programs (4,7%). Our data are consistent with the studies of N.S. Zhuravskaya et al. [3], confirming the low responsibility of students for their health. The survey data on the assessment of physical activity show that about half of the respondents (47,3%) train without taking into account the functional and individual characteristics of the body. The majority of respondents (60%) deny or hold a negative opinion about the need to perform increased physical activity, while 40% of respondents train at least 3 times a week. Only one third of respondents (34%) consider it necessary to actively organize personal free time with elements of physical activity (swimming, dancing, cycling, etc.).

A significant majority (80%) of respondents from the total number of respondents confirm that the presence of special individual systematic physical activity is not the main criterion for maintaining health and maintaining a healthy lifestyle.

Despite the systematic organization of the training process and sports, only the smallest part of re-

Table 1. Average indicators of the formation of the components of the "Healthy Lifestyle Profile" of 1st-year students of Vyatka State University

Indicator	Average (M±m)	Standard deviation (SD)
Responsibility for health	2,253±0,030	0,522
Physical activity	2,282±0,037	0,635
Nutrition	2,285±0,029	0,499
Internal growth	3,091±0,029	0,501
Interpersonal relationships	3,353±0,028	0,490
Stress management	2,554±0,031	0,545
General scale	2,660±0,021	0,363

Table 2. Average indicators of PI and LI of 1st year students of Vyatka State University

Indicators	Young men (n=17) M±m	Standard indicators	Girls (n=133) M±m	Standard indicators
Power index (PI, %)	49,0±1,01	65-75	38,9±0,89	50-60
Life index (LI, ml/kg)	56,1±2,12	60-65	45,6±2,74	50-55

spondents (15%) measure their pulse during physical exercise as a criterion for assessing the response of the cardiovascular system to physical activity, considering this important for monitoring their health. Insufficient physical activity of students (up to 58% of respondents) is shown in the works of domestic and foreign authors, which is consistent with the data of our studies [4].

The scale of stress resistance of students showed that the majority of respondents (78%) understand the importance of alternating mental and physical activity, which is the main condition for restoring the body's performance. At the same time, 59% of respondents have insufficient sleep duration, which indicates a lack of understanding of the value of full physiological sleep for maintaining a healthy state of the body. Research by L.I. Chufarova [6] confirms the disruption of students' sleep patterns, reducing their duration as one of the factors maintaining mental and physical health.

The assessment of the level of activity of the subjects using the SAN method showed an average level of general vital activity and amounted to 4,44 ± 0,10 out of 7 maximum points. When comparing the indicators of physical activity «ProZHOZH» and the SAN activity scale, a significant positive relationship was established (r = 0,161; p = 0,049). The higher the indicator of physical activity, the higher the indicator of general activity and vice versa.

The data obtained confirm the interdependence of the necessary systematic physical activity and the general activity of the student, which contributes to the overall strengthening of health, a positive emotional background of students, and creates a favorable environment for maintaining a healthy lifestyle. With regard to the remaining indicators of the questionnaire «ProZHOZH Profile» and the SAN activity scale, no significant relationships were established.

An assessment of the muscle strength of the dominant hand and the vital capacity of the lungs showed a decrease in the values of the strength and vital indices relative to the age norm, which is possibly associated with insufficient motor activity and leads to weak development of the respiratory muscles and hand muscles of the subjects (Table 2).

Conclusions. The conducted studies showed an average level of formation of healthy lifestyle components among student teachers, the absence of responsibility for their health among the overwhelming majority and insufficient physical activity. Many students underestimate the importance of physical exercise and sports activities as a criterion for maintaining and strengthening health, have reduced values of strength and vital indices, and insufficient sleep duration. To maintain and preserve the health of students, increasing physical activity and conducting targeted educational work on the formation of a healthy lifestyle is an integral part of the educational and educational activities of the university.

References

1. Antonova A.A., Yamanova G.A. Zdorovyy obraz zhizni i zdorovye sovremennykh studentov. Mezhdunarodnyy nauchno-issledovatelskiy zhurnal. 2022. No. 7 (121). Part. 2. pp. 7-9.
2. Gairbekov M.M., Bazaeva F.U. Problemy formirovaniya potrebnosti v zdorovom obraze zhizni u studencheskoy molodozhi. Mir nauki, kultury, obrazovaniya. 2019. No. 5 (78). pp. 209-211.
3. Zhuravskaya N.S., Alenitskaya M.V., Yanovich V.A. K voprosu o formirovanii vospriyatiya zdorovogo obraza zhizni studencheskoy molodezhi (na primere studentov Vladivostokskikh vuzov). Zdorovye naseleniya i sreda obitaniya. 2022. No. 12. Vol. 30. pp. 37-44.
4. Maltsev V.P., Govorukhina A.A., Lozhkina-Gametskaya N.I. Kharakteristika komponentov zdorovogo obraza zhizni studentov pervokursnikov pedagogicheskogo vuza v kontekste lichnostnykh osobennostey. Azimut nauchnykh issledovaniy: pedagogika i psikhologiya. 2021. Vol. 10. No. 4 (37). pp. 348-351.
5. Petrash M.D., Strizhitskaya O.Yu., Murtazina I.R. Validizatsiya oprosnika «Profil zdorovogo obraza zhizni» na rossiyskoy vyborke. Konsultativnaya psikhologiya i psikhoterapiya. 2018. No. 3. Vol. 26. pp. 164-190.
6. Chufarova L.I., Tetkina E.A. Psikhologicheskoye otnosheniye studentov pedagogicheskogo vuza k fizicheskoy kulture i zdorovomu obrazu zhizni. Nauka-2020, publ. 2023. No. 6 (67). pp. 58-65.