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**ФАКТОРЫ РИСКА, ВЛИЯЮЩИЕ НА СТАТУС ЗДОРОВЬЯ СТУДЕНТОВ
БГМУ, И СПОСОБЫ ИХ МИНИМИЗАЦИИ**

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**RISK FACTORS AFFECTING BSMU STUDENTS' HEALTH STATUS
AND WAYS TO MINIMIZE THEM**

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Резюме. Исследование анализирует факторы образа жизни, влияющие на здоровье студентов первого курса БГМУ, на основе результатов анкетирования, проведенного среди студентов разных факультетов. Основными проблемами являются недостаток сна, учебный стресс, нерегулярное питание, психоэмоциональная усталость, вредные привычки, незащищенные половые связи и чрезмерное использование гаджетов. В исследовании предлагаются методы решения данных проблем на разных уровнях: индивидуальном, образовательном и государственном.

Ключевые слова: состояние здоровья, студенты-медики, вредные привычки, здоровый образ жизни.

Abstract. The research analyzes lifestyle factors affecting the health of first-year BSMU students based on the results of a questionnaire survey conducted among students from different faculties. The main problems include sleep deprivation, academic stress, irregular nutrition, psycho-emotional fatigue, harmful habits, risky behaviors, and excessive gadget use. Practical recommendations for solving these problems at different levels: individual, educational, and state levels – are proposed.

Keywords: health status, medical students, bad habits, healthy lifestyle.

Relevance. Due to the ever-increasing pace of life, the growing number of tasks, the inability to set priorities, and the desire to succeed in all spheres of University life, students begin to neglect the basics of a healthy lifestyle, sacrificing the body's basic needs for the sake of their goals. As a result, all components of health suffer – not only the biological aspect, as it might seem at first glance, but also the mental and social aspects. The balance of physical, mental, and social well-being is disrupted. Therefore, there is an urgent need to assess the risks associated with the lifestyle of medical students and implement preventive measures.

Aim: to identify problematic aspects of students' life activities that contradict the concept of a healthy lifestyle, to compile an average profile of the analyzed group, and prepare practical recommendations for combating conditions that deviate from the norm.

Objectives:

1. To make an overview of literature concerning the main factors influencing students' health.

2. To conduct a questionnaire survey among students from different faculties and analyze the results.

3. To identify the most common problems affecting the health status of first-year BSMU students.

4. To determine the relationship between students' lifestyle and the deterioration of their physical and psycho-emotional health.

5. To develop practical preventive measures and ways to solve the identified problems at individual, educational, and state levels.

Materials and methods. The research involved a systematic review of analytical information regarding the specific features of lifestyle patterns and their influence on human health. A questionnaire consisting of 10 sections (65 questions) was developed for medical students to find out their lifestyle patterns including nutrition, sleep, physical activity, psycho-emotional state, communication problems, bad habits, technology use, and medical history. The statistic data of the survey involving students from 7 faculties (the Faculties of General Medicine, Pediatrics, Dentistry, Pharmacy, Military Medicine, Preventive Medicine, the Medical Faculty for International Students) were analyzed and systematized. Conclusions about the most serious contradictions with a healthy lifestyle were made and practical recommendations for modifying the students' lifestyle to improve their health status were suggested.

Results and their discussion. The greatest value for every person is their life. Everyone dreams that their life will be long, full of good events and memories, and rich in valuable experiences. Every life is individual, but many people say that the brightest and happiest period is youth. Youth is the time when we are already independent and self-aware. We have more freedom in our actions and decisions. Our physical and emotional strength can reach its highest level. For this reason, it is important not only to preserve health, but also to strengthen it. However, the speed of modern life keeps growing. Students have more tasks, less time, and often poor prioritisation. Many take part in all activities offered and to be successful in everything. As a result, students sacrifice sleep, rest, and regular nutrition for academic goals.

All the analyzed groups consisted of first-year students, as they are in the transitional phase of adapting to university life. This period is characterized by changes in academic workload, independence, and personal responsibility. 65.4% of students live independently in hostels or rented apartments.

The students living in hostels or alone are not regularly supervised by their parents and are more likely to experience more stress during the adaptation period, poorer time managements, an increased risk of unhealthy habits and often absence of proper meals during the day.

26.9% of students who took part in the research confessed that usually skipped breakfast. 38.5% of respondents said they had only two main meals per day, and 8.7% of students reported that they ate only once a day. Due to a lack of time, instead of proper meals they often consume fast food and sugary snacks and beverages. Absence of a consistent meal schedule exposes the students to the risk of metabolic imbalance, fluctuations in energy levels, digestive problems (gastritis, peptic ulcers) and decreased cognitive performance. However, it should also be noted that 48% of students try to strictly follow a diet regimen and to monitor the approximate composition of the food they consume.

Disruption of the normal sleep pattern is one of the most critical problems among junior students. Only 26% of the respondents of the survey stated they managed to sleep 7-8 hours a day. However, 56.7% of the first-year students sleep 5-6 hours on weekdays and 17.3% – less than 5 hours per day.

Among the factors that interfere with sleep, the students named excessive amounts of academic workload, stress, anxiety and uncomfortable sleeping conditions (including noise and light in the hostel room at night).

25% of students noted that smartphone use significantly impaired their sleep quality. Using a device before going to bed can make it difficult to fall asleep due to the combination of blue light and content that stimulates brain activity. This is scientifically explained by the fact that prolonged digital media use before bedtime disrupts melatonin secretion and delays sleep onset. Furthermore, most students tend to keep their phones close to their head during sleep (at a distance of 1-1.5 m), which exposes the brain to chronic radiofrequency electromagnetic field, fragment sleep causes microarousal and suppresses melatonin.

In general, chronic sleep deprivation increases the risk of memory impairment, reduced academic performance and concentration, emotional instability, low productivity and contributes to long-term health problems such as obesity, cardiovascular disease, and metabolic disorders.

A high academic workload largely contributes to a sedentary lifestyle among students, which exposes them to a high risk of developing hypodynamia, obesity, cardiovascular diseases and musculoskeletal disorders. The research showed that on average 45.2% of BSMU students exercise 1–2 times per week. The Faculty of Military Medicine should be highlighted separately, as the majority of its students exercise every day and state that they are involved in all types of physical activity, that improves their stamina and makes their physical condition significantly better than physical state of most other students at BSMU.

According to the results of the survey the occurrence of bad habits in BSMU students is relatively low but still significant. 50% of the participants of the research reported they were not engaged in harmful behaviors at all. However, half of the students confessed that had some addictions such as regular tobacco smoking, alcohol use, frequent energy drink consumption, and high fast food intake (see Table 1).

Tbl. 1. Frequency of bad habits among respondents of the survey

Faculty	General medicine	Pediatrics	Pharmaceutical	Preventive medicine	Military medicine	International students	Dentistry	BSMU
Bad habit								
Smoking tobacco	4.1%	11.1%	0%	9.1%	8.3%	25%	9.1%	6.7%
Using electronic cigarettes	4.1%	11.1%	12.5%	18.2%	0%	0%	9.1%	6.7%
Drinking energy drinks	14.3%	22.2%	25%	9.1%	0%	50%	18.2%	15.4%
Eating fast food	20.4%	100%	100%	100%	16.7%	50%	18.2%	42.3%
Drinking alcoholic beverages	6.1%	11.1%	12.5%	9.1%	0%	0%	9.1%	6.7%
Unprotected sex	6.1%	0%	0%	0%	0%	0%	9.1%	2.2%
Gambling	6.1%	0%	0%	0%	0%	0%	0%	6.1%

Of particular concern is tobacco smoking reported by 6.7% of students. This behavior is associated with future development of COPD, multiple malignancies (lung, oral, esophageal cancer), and increased risk of myocardial infarction and stroke.

Consumption of energy drinks (noted by 15.4% of respondents) is linked to hypertension, arrhythmias, and metabolic disorders. The combination of tobacco smoking and energy drink use creates a dangerous synergy: nicotine constricts cerebral blood vessels, while caffeine disrupts sleep architecture, together increasing the risk of chronic migraines.

Consumption of fast food contributes to obesity, diabetes, and fatty liver disease. Alcohol consumption reported by 6.7% of survey participants damages the liver and increases the risk of esophageal, liver, colorectal cancer.

2.2% of the respondents stated that had unprotected sex. One should be aware that this behavior is associated with sexually transmitted infections, unplanned pregnancy, and infertility.

When combined, these habits have a synergistic negative effect on health that require preventive interventions.

Of particular concern is the fact that 95.2% of students indicated a high level of constant psychological tension and 88.5% of BSMU students reported experiencing chronic mental and psychological fatigue, which may lead to emotional burnout if not properly managed. 76% of the participants reported that they have experienced depression during their studies and 4.8% have already had psychological trauma since entering university. The main causes of stress include academic workload, oral exams, lack of sleep and interpersonal conflicts.

One of the factors of psychoemotional state is group social activity. 45.2% of students report that they never go out with their group. Social isolation combined with stress creates a high risk for depression. The combination of sleep deprivation and social withdrawal activates the same neural pathways as physical pain, making these students more vulnerable to suicidal ideas.

Particularly alarming is that 42.4% of students confessed that they used sedatives to relieve stress. However, the use of sedatives may lead to daytime drowsiness, reduced concentration, impair cognitive functions, cause addiction and trigger depression in case of long-term use without medical supervision.

Other common conditions among first-year students included respiratory diseases (colds, flu), myopia and scoliosis.

Conclusions. Based on the results of the survey, several practical recommendations can be suggested at different levels in order to improve students' lifestyle and health.

At the individual level students should:

1. pay more attention to their daily routine
2. regularly monitor their health indicators, such as body mass index, and have preventive medical check-ups
3. pay special attention to the quality and quantity of food
4. drink 200 ml of water every hour
5. have a regular rest and 7–8 hours of sleep per night
6. limit the use of gadgets before going to bed
7. substitute online communication with live communication with their friends
8. limit their screen time by reducing the use of social networks

9. have sufficient physical activity
10. try to walk 5–7 kilometers a day, regularly do morning exercises and use stairs instead of elevators
11. maintain close contact with family and build a supportive social circle
12. regularly organize leisure group activities
13. eliminate toxic relationships that could impair social well-being in their student group.

At the university level:

1. regular surveys on sleep, stress, and nutrition should be conducted
2. the quality of food at the canteen should be controlled
3. courses/lectures on stress prevention, sleep hygiene, and the basics of a healthy lifestyle should be organized
4. lectures on sexually transmitted infections, contraception, and the risks of casual sexual encounters should be delivered.

At the national and republican levels:

1. district authorities should organize social campaigns against vapes, energy drinks, and alcohol
2. the Ministry of Antimonopoly Regulation and Trade should make restrictions on advertising of harmful products
3. the Ministry of Education should add a module on reproductive health in schools and universities
4. district authorities should create centers offering free anonymous sexually transmitted infections testing and contraception consulting
5. district administration centers should make sport more accessible for population (open free clubs/sections, offer a wide range of sport programs).

Literatue

1. The impact of light from computer monitors on melatonin levels in college students / M.G. Figueiro, B. Wood, B. Plitnick [et al.] // Neuro Endocrinology Letters. – 2011. – Vol. 32. No. 2. – P. 158–163.