



## **HYGIENIC FOUNDATIONS OF A HEALTHY LIFESTYLE IN STUDENTS: NUTRITION, SLEEP, AND PHYSICAL ACTIVITY**

Turdiev Shavkat Mamirovich

### **Abstract**

This article examines the main components of a healthy lifestyle in students from the perspective of modern hygiene: rational nutrition, sufficient sleep duration and quality, as well as regular physical activity. Based on documents of the World Health Organization, the CDC, and publications from recent years, it is shown that stable behavioral habits have a direct impact on overall health status, psycho-emotional well-being, work capacity, and academic performance. A healthy student regimen cannot be reduced to a single isolated factor. The effect is achieved through a combination of balanced and safe nutrition, adherence to a sleep schedule, limitation of evening stimulation, reduction of sedentary time, and fulfillment of the minimum recommended levels of physical activity. The need for comprehensive preventive programs in higher education institutions, including educational activities, the creation of a healthy environment, and institutional support for beneficial habits, is substantiated.

**Keywords:** student hygiene, healthy lifestyle, rational nutrition, sleep hygiene, physical activity, prevention.

### **Introduction**

The modern student environment is characterized by a high academic workload, prolonged use of digital devices, irregular daily routines, and a lifestyle strongly dependent on organizational conditions of education. Under these circumstances, hygiene issues acquire not only medical but also pedagogical significance. Everyday habits directly affect work capacity, attention stability, subjective well-being, and the prevention of chronic non-communicable diseases [1–4].

WHO emphasizes that a healthy diet should be not only sufficient and balanced but also safe, meaning free from microbial and chemical contaminants [1]. At the same time, WHO recommends that adults engage in at least 150 minutes of moderate physical activity per week or 75 minutes of vigorous activity, as well as regular strength training at least two days per week [2]. Regarding sleep, international



guidelines indicate that adults need at least 7 hours of sleep per day on a regular basis to maintain optimal health [3–5].

### **Aim of the Article**

To present modern hygienic approaches to shaping a healthy lifestyle among students and to define practical guidelines for university-level preventive work.

### **Materials and Methods**

The article is based on a review analysis of international recommendations and recent publications on nutrition, sleep, and physical activity among adults and student youth [1–7]. Priority was given to sources containing practical hygienic standards and data on the complex impact of lifestyle on well-being and academic performance.

### **Main Part**

From a hygienic perspective, student nutrition should be evaluated according to four main criteria proposed by WHO: adequacy, balance, moderation, and variety [1]. This means that the diet must meet the body's energy and nutrient needs without excess, include different food groups, and limit excessive salt, free sugars, and harmful fats [1]. In the student environment, attention should be paid not only to food composition but also to meal regularity, since skipping breakfast, late high-calorie snacks, and long breaks between meals worsen well-being and disrupt daily routines.

According to WHO, individuals over 10 years old should aim to consume at least 400 g of fruits and vegetables daily [1]. Practically, this requirement should be translated into everyday habits: including vegetables in every main meal, replacing some sweet snacks with fruits, controlling sugary drink intake, and limiting ultra-processed foods. For students living in dormitories, additional importance lies in food storage safety, drinking water quality, kitchen sanitation, and basic food hygiene skills.

The second fundamental component is sleep hygiene. The consensus of the American Academy of Sleep Medicine and the Sleep Research Society states that adults should sleep 7 or more hours per day on a regular basis [5]. The CDC recommends basic habits to improve sleep: going to bed and waking up at the same time, maintaining a quiet, relaxing, and cool bedroom environment, turning off electronic devices at least 30 minutes before sleep, avoiding heavy meals and alcohol before bedtime, and limiting caffeine intake in the afternoon and evening [3].



For students, irregular sleep is one of the most common hygienic problems. Delayed bedtimes, studying after midnight, using phones in bed, and prolonged laptop use reduce sleep quality even when its duration seems sufficient. Therefore, preventive work should emphasize not only the number of hours but also the stability of the schedule, quality of falling asleep, and absence of constant evening stimulation [3, 5]. The third component is physical activity. WHO recommends that adults aged 18–64 engage in at least 150 minutes of moderate activity per week or 75 minutes of vigorous activity, with an increase to 300 minutes for additional health benefits [2]. Strength exercises for major muscle groups should be performed at least twice per week [2]. For students, hygienically justified activity includes not only participation in sports clubs but also daily walking, active movement between campuses, short exercise breaks during prolonged sitting, and general reduction of sedentary behavior.

A systematic review by Alnawwar et al. showed that regular physical activity is associated with improved sleep quality, reduced sleep latency, and decreased severity of certain sleep disorders [6]. Thus, physical activity and sleep hygiene should not be considered separately, as they mutually reinforce preventive effects.

Modern studies of student environments confirm the importance of a comprehensive approach. Mutlu et al., in a study among medical students, found that higher academic performance was linked to regular sleep, daily walking, and other favorable behavioral characteristics [7]. The authors emphasize that this is not about one isolated factor but about a set of stable habits.

A recent review by Vasco et al. showed that in university populations, nutrition and physical activity are often studied separately, although integrated programs combining diet, exercise, and mental well-being support appear most promising [8]. The authors conclude that universities should focus on multifactorial health promotion models rather than narrow one-time campaigns [8].

From a practical hygiene standpoint, this means the need to create a healthy environment within universities. Realistic measures include providing accessible healthy meals in cafeterias and buffets, planning schedules without systematically shifting academic load to late evenings, creating safe conditions for physical activity, using short active breaks, and including topics of sleep, nutrition, and digital hygiene in mentoring sessions and preventive classes.

Digital hygiene is equally important. Although often discussed separately, uncontrolled evening screen use in student practice becomes the link between late



bedtimes, skipped breakfasts, reduced physical activity, and chronic fatigue. Therefore, preventive hygiene should be built around the daily routine as a holistic system rather than a set of fragmented tips.

Thus, a healthy student lifestyle represents a manageable and pedagogically shaped set of habits. Rational nutrition provides the energy and metabolic foundation for learning, sufficient sleep supports cognitive functions and emotional stability, and physical activity reduces the consequences of hypodynamia and improves sleep quality [1–8]. With a systematic approach, these factors can serve not only as disease prevention tools but also as resources for enhancing academic productivity.

### Conclusion

The hygienic foundations of a healthy student lifestyle include three essential interconnected components: safe and balanced nutrition, regular sleep of sufficient duration, and daily physical activity. Their combination ensures preventive and adaptive effects.

For universities, the practical conclusion is the need to move from episodic discussions to sustainable programs for creating a healthy environment. Such programs should integrate health education, organizational solutions, and regular monitoring of conditions in which students implement their nutrition, sleep, and physical activity routines.

Table 2. Practical Guidelines for a Healthy Student Lifestyle

Component	Hygienic Standard	Practical Implementation for Students
Nutrition	Diverse, balanced, and safe diet; at least 400 g of fruits and vegetables daily.	Regular meals, reduced sugary drinks and late snacks, food safety control.
Sleep	At least 7 hours of sleep per day on a regular basis.	Fixed bedtime and wake-up time, no screens at least 30 minutes before sleep, limited evening caffeine.
Physical activity	At least 150 minutes of moderate activity per week or 75 minutes of vigorous; strength training twice per week.	Daily walking, active commuting, short exercise breaks, sports clubs.
Digital hygiene	Reduced evening stimulation and prolonged sitting as factors disrupting sleep and routine.	Limiting phone and laptop use late at night, breaks every 45–60 minutes of work.



## References

1. World Health Organization. Healthy diet. 26 Jan 2026. Available from: <https://www.who.int/news-room/fact-sheets/detail/healthy-diet> (accessed: 23.03.2026).
2. World Health Organization. Physical activity. Updated 26 Jun 2024. Available from: <https://www.who.int/news-room/fact-sheets/detail/physical-activity> (accessed: 23.03.2026).
3. Centers for Disease Control and Prevention. About Sleep. Updated May 15, 2024. Available from: <https://www.cdc.gov/sleep/about/index.html> (accessed: 23.03.2026).
4. Centers for Disease Control and Prevention. FastStats: Sleep in Adults. Updated May 15, 2024. Available from: <https://www.cdc.gov/sleep/data-research/facts-stats/adults-sleep-facts-and-stats.html> (accessed: 23.03.2026).
5. Watson NF, Badr MS, Belenky G, et al. Recommended amount of sleep for a healthy adult: a joint consensus statement of the American Academy of Sleep Medicine and Sleep Research Society. *Journal of Clinical Sleep Medicine*. 2015;11(6):591-592. doi:10.5664/jcsm.4758.
6. Alnawwar MA, Alraddadi BM, Alnashri AS, et al. The effect of physical activity on sleep quality and sleep disorder: a systematic review. *Cureus*. 2023;15(8):e43595. doi:10.7759/cureus.43595.
7. Mutlu SN, Pasin O, Konar NM. The effect of nutrition, physical activity, and sleep pattern on success in medical students. *Medical Science Educator*. 2025; 35:245-256. doi:10.1007/s40670-024-02175-w.
8. Vasco P, Allocca S, Casella C, et al. Nutrition and Physical Activity in the University Population: A Scoping Review of Combined Impacts on Psychological Well-Being, Cognitive Performance, and Quality of Life. *Journal of Functional Morphology and Kinesiology*. 2025;10(4):374. doi:10.3390/jfmk10040374.