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SLEEP HYGIENE AS AN IMPORTANT COMPONENT OF PREVENTING HEALTH DISORDERS IN STUDENTS

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Abstract
The article analyzes the role of sleep hygiene in preventing health disorders in students. The main aspects of sleep hygiene are considered, including the regularity of the regime, duration and quality of sleep, as well as their impact on physical and psycho-emotional well-being. Particular attention is paid to specific factors affecting students, such as academic workload, stress and the use of electronic devices.

Keywords: Sleep hygiene, circadian rhythms, students, prevention, sleep disorders, healthy lifestyle, sleep and performance, psycho-emotional state, chronic sleep deprivation, daily routine, sleep quality, environmental factors.

Introduction

Physiology of sleep and its importance

Sleep is a natural physiological state characterized by a decrease in the activity of consciousness and bodily functions necessary for the body's recovery. Sleep is divided into two main phases: slow-wave sleep (NREM, non-rapid eye movement) and rapid eye movement (REM, rapid eye movement). Slow-wave sleep includes three stages: from light sleep to deep sleep, during which physical strength is restored, tissue regeneration occurs, and the immune system is strengthened. REM sleep, on the contrary, is associated with active brain function, dreams, and memory consolidation. These phases alternate in cycles lasting about 90 minutes, and for a full rest a person needs to go through 4-6 such cycles per night. Sleep performs a number of important functions. Firstly, it supports the body's recovery, including cell regeneration, protein synthesis, and hormonal regulation. Secondly, sleep plays an important role in the processing and consolidation of information, which is especially important for students who receive significant amounts of knowledge. During sleep, the brain organizes the data it receives, strengthening neural connections related to learning. Third, sleep supports the immune system, enhancing the body’s defenses against infections and stress. For young people aged 18-25, who make up the majority of students, the optimal duration of sleep is 7-9 hours per day. This allows the body to fully recover and maintain high performance. However, lack of sleep, caused by an irregular schedule or insufficient sleep duration, can lead to serious consequences.

Sleep patterns of students

Students are a group for whom sleep problems are especially relevant due to the specific conditions of their life and work. The main factors that disrupt sleep are high academic workload, stress, and excessive use of electronic devices. Academic obligations, such as preparing for exams, writing term papers, and meeting deadlines, often force students to sacrifice sleep for the sake of studying. Stress associated with academic and social expectations increases anxiety, which makes it more difficult to fall asleep and reduces the quality of sleep. In addition, gadgets - smartphones, laptops, tablets - play a significant role in sleep disorders. The blue light emitted by screens suppresses the production of melatonin, a hormone that regulates circadian rhythms, which leads to difficulties in falling asleep. Research confirms the widespread prevalence of sleep disorders among students. According to the National Sleep Foundation in the United States, about 70% of students sleep less than the recommended 7-9 hours per day, and 50% report problems falling asleep or maintaining sleep. In Russia, according to research, about 60% of university students experience sleep disorders, including insomnia and an irregular schedule. These figures indicate a systemic problem associated with the lifestyle of modern youth.

Basic principles of sleep hygiene

Sleep hygiene is a set of measures and habits aimed at improving the quality and duration of sleep, as well as creating conditions for its full restorative effect. This approach is especially important for students, whose lifestyle often contributes to sleep disorders. Maintaining sleep hygiene helps normalize circadian rhythms, facilitate falling asleep, and improve overall well-being, which directly affects health and academic productivity.

The basic principles of sleep hygiene include three key aspects: a regular schedule, creating a comfortable environment, and limiting stimulants. A regular sleep schedule means going to bed and waking up at the same time every day, including weekends. This helps synchronize your body’s biological clock, improving the quality of your sleep.

The environment plays an important role in sleep hygiene. The optimal temperature in the bedroom should be 16-20°C, as a cool environment promotes deeper sleep. Lighting is also important: bright light during the day helps you stay awake, but it can also help you stay awake during the day.

The Impact of Sleep Hygiene on Physical Health

Sleep hygiene plays an important role in maintaining physical health, especially for students whose bodies are subject to significant stress due to their studies and active lifestyle. Quality sleep directly affects the functioning of the cardiovascular system, metabolism, and immune system, preventing the development of chronic diseases and maintaining overall well-being.

Sleep has a significant impact on the cardiovascular system. During sleep, the heart rate and blood pressure decrease, allowing the heart and blood vessels to recover. Sleep disturbances, on the other hand, are associated with an increased risk of hypertension, atherosclerosis, and heart attacks. Research shows that chronic sleep deprivation increases levels of stress hormones

such as cortisol, which negatively affects vascular health. Sleep hygiene, including a regular schedule and sufficient sleep duration (7-9 hours), helps stabilize these levels, reducing the strain on the heart.

The Impact of Sleep Hygiene on Mental Health

Sleep hygiene is crucial for the mental health of students, who often face high levels of stress and emotional tension. Insufficient sleep or poor quality sleep is closely linked to the development of anxiety and depression. Chronic sleep deprivation disrupts the functioning of neurotransmitters such as serotonin and dopamine, which regulate mood. Research shows that students who sleep less than 6 hours a night are 2-3 times more likely to report symptoms of anxiety and depression compared to those who sleep 7-9 hours. Sleep disturbances also increase the negative perception of stressful situations, which worsens the psychological state. Sleep plays a key role in regulating emotions and increasing stress resistance. During the REM phase of sleep, the brain processes emotional experiences, helping to cope with psychological stress. High-quality sleep improves students' ability to control emotions, make informed decisions, and cope with academic problems. In contrast, lack of sleep leads to irritability, decreased motivation, and emotional instability, which negatively affects interpersonal relationships and self-esteem.

Sleep Hygiene and Academic Performance

Sleep quality directly impacts students' academic performance because it determines their ability to concentrate, remember information, and solve complex problems. During sleep, especially during the REM phase, the brain consolidates acquired knowledge by strengthening neural connections associated with learning. Lack of sleep worsens short-term and long-term memory, reduces attention, and slows down cognitive processes, making it difficult to learn material and complete tasks.

Research confirms the link between sleep and academic performance. For example, a study by the US National Sleep Foundation found that students who sleep 7–9 hours a night score an average of 0.5–1 point higher than those who sleep less than 6 hours. Russian studies also point to a correlation: students who sleep regularly perform better on exams and are less likely to burn out. These findings highlight that adequate sleep is not a luxury, but a necessity for successful study.

Practical recommendations for sleep hygiene

For students looking to improve their sleep quality and, as a result, their health and academic performance, practicing good sleep hygiene is an affordable and effective solution. Practical recommendations include creating a regular schedule, preparing for bed, optimizing sleep conditions, and considering the impact of nutrition and physical activity. Creating a sleep schedule is the foundation of sleep hygiene. Students are advised to go to bed and wake up at the same time every day, including weekends, to stabilize circadian rhythms. The optimal bedtime is between 10:00 PM and 11:00 PM to ensure 7-9 hours of sleep. Regularity helps the

body prepare for rest in advance, making it easier to fall asleep. Preparing for bed includes rituals that signal the brain that rest is approaching. Screens should be avoided 1-2 hours before bed, as blue light suppresses melatonin production. Instead, it is useful to read a paper book, meditate, or do light stretching. Creating an evening ritual, such as a warm shower or herbal tea, promotes relaxation. Optimizing your sleeping environment is important. A comfortable mattress and pillow, selected according to your individual preferences, ensure comfort and proper body position. The bedroom should be regularly ventilated, maintaining a temperature of 16-20 °C and minimizing noise. Thick curtains or a sleep mask will help create a dark environment conducive to deep sleep. Nutrition and physical activity also affect sleep. Dinner should be light and no later than 2-3 hours before bedtime; avoid caffeine, alcohol, and heavy foods. Physical activity during the day, such as walking or playing sports, improves sleep quality, but intense exercise in the evening can make it difficult to fall asleep. These recommendations will help students develop healthy habits that minimize sleep disturbances.

The role of educational programs

Educating students about sleep hygiene is an important systematic step to prevent health problems and improve academic performance. Many students are unaware of the impact of sleep on their lives due to a lack of knowledge, so university educational programs can play a key role in developing healthy habits. The need for education is due to the high prevalence of sleep disorders among students. Research shows that up to 70% of students experience sleep problems, but only a few know how to prevent them. Educational initiatives such as lectures, seminars, or online courses can increase awareness of sleep physiology, the effects of sleep deprivation, and practical measures to improve sleep quality. These programs should be accessible and targeted to the student audience, taking into account their lifestyle. Examples of successful programs already exist. For example, some universities in the United States conduct sleep hygiene seminars where students learn how to create sleep schedules and cope with stress. In Russia, universities such as Moscow State University include lectures on healthy lifestyle in their freshman orientation programs. Online platforms offering webinars and sleep checklists are also gaining popularity. These initiatives show that educating students leads to better sleep and well-being. The role of administration and faculty is to support such programs and create an environment conducive to healthy sleep. Administration can organize events, distribute informational materials, and ensure comfortable conditions in dorms (e.g., soundproofing). Faculty, in turn, can help reduce stress by avoiding excessive workloads and setting reasonable deadlines. Together, the university and students can establish a sleep-conscious culture that will positively impact health and academic performance.

Analysis of the effectiveness of measures

Evaluation of the effectiveness of sleep hygiene interventions confirms their importance for the health and well-being of students. Numerous studies show that good sleep hygiene leads to improved physical and mental well-being, as well as academic performance. However, the implementation of these interventions faces certain barriers that need to be considered.

A review of studies shows the high effectiveness of sleep hygiene. For example, a 2020 study conducted at the University of California found that students who followed recommendations for a regular sleep schedule and limited screen time reported a 30% decrease in anxiety and improved sleep quality over two months. Similar results were found at Russian universities: sleep hygiene training programs for students led to an increase in average sleep duration by 1-2 hours and a decrease in insomnia in 50% of participants. These data confirm that even small changes in habits can have a significant effect.

Real-life cases illustrate the positive effects of improved sleep. For example, a medical student who suffered from chronic fatigue due to late-night classes reported increased concentration and a 15% improvement in grades after implementing a regular sleep schedule and evening rituals. In another case, a group of students who took part in a university sleep hygiene seminar reported reduced stress and increased resilience, which helped them pass their final exams. These examples demonstrate the practical benefits of the recommendations.

Conclusion:

Sleep hygiene is a key component in preventing health problems and improving student performance. Quality sleep supports physical health by strengthening the immune and cardiovascular systems, improves mental well-being, reduces anxiety and depression, and promotes cognitive functions necessary for successful study. In contrast, sleep disorders lead to chronic fatigue, decreased productivity, and long-term health problems, which is especially critical for students who are in a period of intense study and development. A conscious approach to sleep requires discipline and an understanding of its importance from students. A regular schedule, a comfortable environment, limiting stimulants, and a healthy lifestyle can significantly improve the quality of sleep and, as a result, overall well-being. Universities can improve this process through educational programs, lectures, and creating an environment that promotes healthy sleep.

Recommendations:

Students need to incorporate sleep hygiene into their daily lives, starting with small steps like setting a regular bedtime or reducing screen time. These efforts will pay off in improved health, mood, and academic performance. Future research opportunities include developing personalized sleep hygiene approaches and expanding educational initiatives at universities. Investing in a healthy sleep culture will benefit not only individual students, but society as a whole by creating a generation of healthy, productive professionals.

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