

QUALIDADE DO SONO E DESEMPENHO ACADÊMICO EM ESTUDANTES UNIVERSITÁRIOS: UMA REVISÃO BIBLIOGRÁFICA

SLEEP QUALITY AND ACADEMIC PERFORMANCE IN UNIVERSITY STUDENTS: A LITERATURE REVIEW

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RESUMO

O sono é um processo fisiológico essencial para a saúde e para funções cognitivas relacionadas à aprendizagem, como atenção, memória e consolidação das informações. Estudantes universitários, especialmente aqueles dos cursos da área da saúde, apresentam elevada frequência de alterações do sono em decorrência da carga acadêmica, estresse, irregularidade da rotina e hábitos inadequados. O objetivo deste estudo foi analisar a relação entre qualidade do sono e desempenho acadêmico em estudantes universitários, com ênfase nos estudantes de Medicina. Foi realizada uma revisão bibliográfica, de caráter descritivo e abordagem qualitativa, com busca na literatura científica, priorizando estudos indexados na base PubMed/MEDLINE e publicações relacionadas à qualidade, duração e regularidade do sono, sonolência diurna e desempenho acadêmico. Os resultados demonstram elevada frequência de alterações do sono entre estudantes universitários e associação entre pior qualidade do sono e desempenho acadêmico inferior. Entre estudantes de Medicina, estudos identificaram alta prevalência de baixa qualidade do sono, duração insuficiente e sonolência diurna, além de evidências de associação entre parâmetros do sono e rendimento acadêmico. Entretanto, os resultados não são uniformes, indicando influência de fatores como estresse, hábitos de estudo e características individuais. Conclui-se que a qualidade adequada do sono constitui componente relevante para a aprendizagem e o desempenho acadêmico, sendo importante promover hábitos de sono saudáveis e estratégias de organização da rotina universitária.

Palavras-chave: Sono. Qualidade do Sono. Desempenho Acadêmico. Estudantes. Educação Médica.

ABSTRACT

Sleep is a physiological process essential for health and for cognitive functions related to learning, such as attention, memory, and information consolidation. University students, especially those enrolled in health-related programs, have a high frequency of sleep disturbances due to academic workload, stress, irregular routines, and inadequate habits. The aim of this study was to analyze the relationship between sleep quality and academic performance among university students, with an emphasis on medical students. A descriptive bibliographic review with a qualitative approach was conducted through a scientific literature search, prioritizing studies indexed in the PubMed/MEDLINE database and publications related to sleep quality, duration and regularity, daytime sleepiness, and academic performance. The results demonstrate a high frequency of sleep disturbances among university students and an association between poorer sleep quality and lower academic performance. Among medical students, studies have identified a high prevalence of poor sleep quality, insufficient sleep duration, and daytime sleepiness, as well as

evidence of an association between sleep parameters and academic performance. However, the results are not consistent across all studies, indicating the influence of factors such as stress, study habits, and individual characteristics. It is concluded that adequate sleep quality is an important component of learning and academic performance, highlighting the importance of promoting healthy sleep habits and strategies for organizing university routines.

Keywords: Sleep. Sleep Quality. Academic Performance. Students. Medical Education.

INTRODUCTION

Sleep is a physiological process fundamental to the maintenance of homeostasis, emotional regulation, and cognitive functioning. Processes essential for memory consolidation and learning occur during sleep, making sleep quality relevant to intellectual performance.¹

The university student population is particularly vulnerable to sleep disturbances due to routine changes, heavy academic workloads, stress, irregular schedules, and frequent use of electronic devices. These factors can reduce sleep duration and compromise sleep quality.²

This situation is particularly relevant among medical students, who face a vast amount of course material, frequent assessments, and practical activities. A systematic review and meta-analysis identified poor sleep quality in 39.8% of medical students, insufficient sleep duration in 29.1%, and excessive daytime sleepiness in 35.9%, as well as an association between sleep quality and academic performance.³

In this context, understanding the relationship between sleep and academic performance is important for identifying potentially modifiable factors and developing strategies that support both health and the learning process.

METHOD

A descriptive literature review with a qualitative approach was conducted. The search targeted the PubMed/MEDLINE database using terms related to sleep quality, university students, medical students, sleep deprivation, and academic performance.

Priority was given to observational studies, systematic reviews, and meta-analyses investigating sleep parameters and their relationship with academic indicators. The review included studies involving university students—particularly medical students—published primarily between 2020 and 2026, as well as earlier works deemed relevant to the study's foundation.

Studies unrelated to the topic or lacking sufficient information on sleep and academic performance were excluded.

RESULTS AND DISCUSSION

The literature shows that sleep disturbances are common among university students and can have negative repercussions on academic performance. A systematic review involving university students identified an association between various sleep dimensions—including duration, quality, sleepiness, and regularity—and academic performance.²

The prevalence of sleep disturbances is particularly high among medical students. A meta-analysis involving over 14,000 students identified poor sleep quality in 39.8%, insufficient duration in 29.1%, and excessive daytime sleepiness in 35.9% of the participants. The study also demonstrated a significant correlation between sleep quality and academic performance.³

Sleep quality appears to be more relevant than duration alone. A study of university students using monitoring devices demonstrated that better sleep quality, longer duration, and greater regularity were associated with better academic performance. The authors observed that habitual sleep patterns were more strongly related to grades than sleep on the single night prior to assessments.⁴

Recent evidence reinforces these findings. A systematic review and meta-analysis published in 2026, involving 59 studies and 163,357 participants, identified a positive association between sleep quality and academic performance, as well as a positive association between sleep duration and achievement.⁵ Although the correlations were small in magnitude, the results indicate that sleep is one of the factors related to educational performance.

The prevalence of poor sleep quality among medical students is also high. A meta-analysis of 57 studies involving 25,735 students found a pooled prevalence of poor sleep quality of 52.7%, demonstrating that sleep disturbances are a common problem in this population.⁶

However, the relationship between sleep and academic performance is not uniform. A study conducted with medical students in 2025 identified a high prevalence of poor sleep quality and daytime sleepiness but found no statistically significant association between sleep quality and academic performance.⁷ This discrepancy demonstrates that academic performance is multifactorial, influenced by variables such as study methods, motivation, stress, socioeconomic conditions, and individual characteristics.

Stress warrants particular attention in this context. Academic demands may lead students to voluntarily cut back on sleep to increase the time dedicated to studying. However, chronic sleep deprivation can impair attention, memory, concentration, and information processing, thereby reducing study efficiency.¹

Furthermore, irregular sleep and wake times can disrupt the sleep-wake cycle. Nighttime use of electronic devices and poor routine management can also delay sleep onset.⁸ Consequently,

strategies such as sleep hygiene, organized academic activities, and maintaining a regular schedule represent simple yet potentially useful measures.

Interventions aimed at improving sleep also show promising results. A systematic review published in 2025 found evidence supporting psychological interventions—particularly cognitive-behavioral therapy and sleep hygiene strategies—for improving sleep quality among students in medicine and other health-related fields.⁹

Thus, sleep should be viewed as an integral part of the learning process rather than time lost from studying. While it cannot be claimed that sleeping more, in isolation, guarantees better grades, evidence indicates that adequate, regular, and high-quality sleep fosters the cognitive conditions necessary for learning.

CONCLUSION

Scientific literature demonstrates an association between adequate sleep quality and better academic performance among university students, particularly medical students. Poor sleep quality, daytime sleepiness, insufficient duration, and irregular schedules are common in this population and can impair cognitive functions essential for learning.

Although this relationship is multifactorial and findings across studies vary, sleep is a significant component of health and academic performance. Strategies involving sleep hygiene education, routine organization, the reduction of factors that hinder rest, and the early identification of persistent issues can help improve students' well-being and learning conditions.

REFERENCES

1. Walker MP, Stickgold R. Sleep-dependent learning and memory consolidation. *Neuron*. 2004;44(1):121-133. doi:10.1016/j.neuron.2004.08.031.
2. Suardiaz-Muro M, Morante-Ruiz M, Ortega-Moreno M, Ruiz MA, Martín-Plasencia P, Vela-Bueno A. Sleep and academic performance in university students: a systematic review. *Rev Neurol*. 2020;71(2):43-53. doi:10.33588/rn.7102.2020015.
3. Seoane HA, Moschetto L, Orliacq F, Orliacq J, Serrano E, Cazenave MI, et al. Sleep disruption in medicine students and its relationship with impaired academic performance: a systematic review and meta-analysis. *Sleep Med Rev*. 2020;53:101333. doi:10.1016/j.smrv.2020.101333.

4. Okano K, Kaczmarzyk JR, Dave N, Gabrieli JDE, Grossman JC. Sleep quality, duration, and consistency are associated with better academic performance in college students. *NPJ Sci Learn*. 2019;4:16. doi:10.1038/s41539-019-0055-z.
5. Zhou J, Liu Y, Yue C, Wang M, Chen K, Rosales KP. The effect of sleep quality on academic performance: a systematic review and meta-analysis study. *Behav Sci (Basel)*. 2026;16(5):634. doi:10.3390/bs16050634.
6. Rao WW, Li W, Qi H, Hong L, Chen C, Li CY, et al. Sleep quality in medical students: a comprehensive meta-analysis of observational studies. *Sleep Breath*. 2020;24(3):1151-1165. doi:10.1007/s11325-020-02020-5.
7. Almalki A, Shehata M, Siddiqui K, Albulushi H, Alshehri N, Aldumri A, et al. Sleep quality among a sample of medical students and the association with academic performance: an updated data. *J Epidemiol Glob Health*. 2025;15(1):8. doi:10.1007/s44197-025-00345-6.
8. Suardiaz-Muro M, Ortega-Moreno M, Morante-Ruiz M, Monroy M, Ruiz MA, Martín-Plasencia P, et al. Sleep quality and sleep deprivation: relationship with academic performance in university students during examination period. *Sleep Biol Rhythms*. 2023;21(3):377-383. doi:10.1007/s41105-023-00457-1.
9. Mariappan VA, Mukhtar F. Psychological interventions for sleep problems among medical and paramedical students: a systematic review. *J Clin Psychol*. 2025;81(6):399-409. doi:10.1002/jclp.23781.