

INVESTIGATION AND OVERVIEW OF SLEEP QUALITY IN MEDICAL RESIDENTS

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ABSTRACT

An individual's sleep quality directly influences their daily life, positively or negatively altering work performance, learning processes, and the biological homeostasis of the body. In this context, understanding the reality of medical residents is of great importance in measuring how the negative effects of inadequate sleep can develop, affecting both daily functioning and overall quality of life. This study aimed to evaluate sleep quality among residents during hospital shifts, verify the association between residency activities and changes in sleep quality, and identify medical residency programs with higher rates of sleep deprivation and poor sleep quality. This was a cross-sectional, analytical, and comparative study conducted nationwide with 52 medical residents from national programs. The results highlight the need to adapt residency programs to the new demographic reality of the profession, with greater attention to the demands of surgical specialties and first-year residents, given the evidence of deprivation in this group. The study emphasizes the need to improve residents' sleep and to deepen research on its relationship with decision-making.

Keywords: Sleep quality; Inadequate sleep; sleep disorders.

INTRODUCTION

Rest is essential for the maintenance of life and can be characterized as a period in which consciousness and activity decrease (OLIVEIRA, 2019). Healthy sleep quality is associated with improvements in cognitive processes, such as logical thinking and language capacity, in addition to contributing to creativity and reducing emotional stress (MACIEL, 2023). Furthermore, it is important to emphasize that the elements that constitute "sleep quality" for a given individual, and their respective significance, may vary among people and can be influenced by other variables such as age, sex, diet, and biopsychosocial health (BUYSSE et al., 1989).

Based on this premise, the work of Oliveira et al. (2019) demonstrated that, in the school context, understanding this process is essential to ensure that classes are effective, and (FERREIRA, 2016), consequently, learning is successful. This clarifies that in any learning process—similarly to that of medical residency—sleep quality is decisive in shaping professional training and the biological life of the individual,

especially when correlated with the physiological stages inherent to healthy sleep (FREITAS, 2019; HECKMAN et al., 2020).

The analysis of data from this study reveals a difference among medical residency specialties with respect to daytime sleepiness and sleep quality. Specialties involving surgical and clinical skills present higher rates of daytime sleepiness and lower sleep quality. A study with Otorhinolaryngology residents supports this conclusion, indicating that first-year residents show better mental health and sleep performance compared to subsequent years, which may be linked to adaptation to the work environment (REZENDE et al., 2011).

Therefore, based on these considerations, as well as the scarcity of this topic in the Brazilian literature, the present study aims to investigate and portray sleep quality in medical residents.

METHODOLOGY

This cross-sectional, analytical, and associative study investigated the decision-making profile of 52 Brazilian medical residents, recruited by convenience. Data collection was carried out both in person and virtually, using validated questionnaires to assess sleep quality (PSQI), daytime sleepiness (ESE), and decision-making profile (MDMQ). In-person participants completed the questionnaires at different times during their shifts, while virtual participants had flexibility regarding the response time. Data collection also included demographic and occupational information.

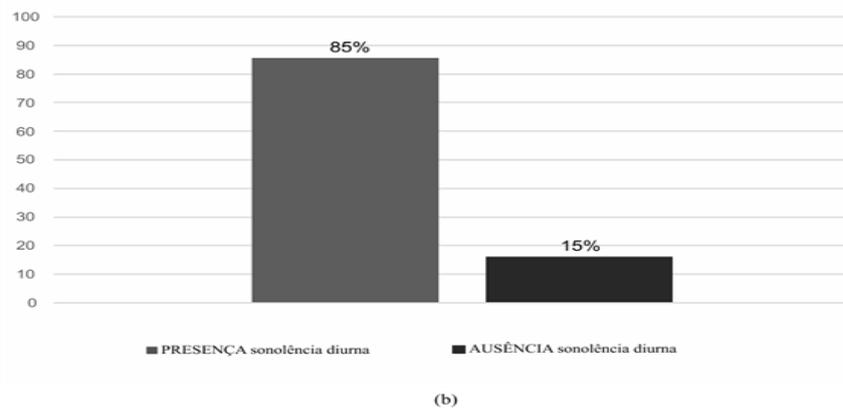
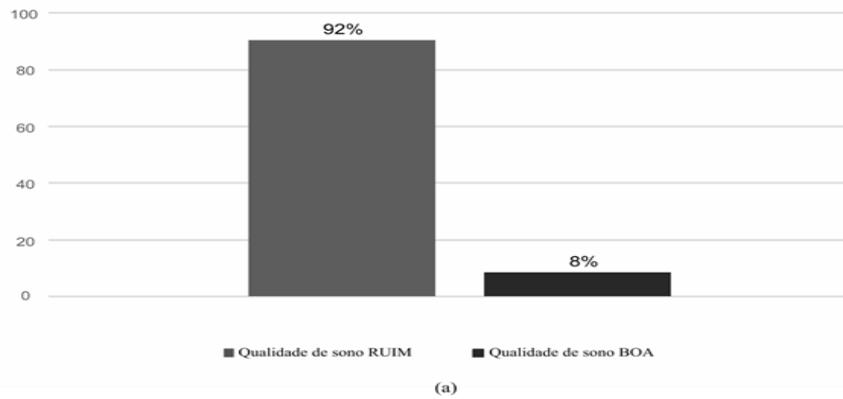
Data analysis was conducted using SPSS software, version 24, employing significance tests to verify statistical differences between proportions. The project was approved by the Research Ethics Committee of the *Universidade Evangélica de Goiás*, under registration number 6.245.749, in accordance with Resolution 466/2012 of the *Conselho Nacional de Saúde*.

RESULTS

Through the Pittsburgh questionnaire, applied to the 52 residents, it was found that the vast majority of residents had alterations related to sleep, with only 8% classified as having “good quality” sleep. In contrast, the other 92% of residents were classified as having “poor quality” sleep (Figure 1a). Furthermore, from the analysis of the

Epworth Sleepiness Scale, a high incidence of daytime sleepiness among medical residents was observed, with only 15% not presenting significant daytime sleepiness (Figure 1b).

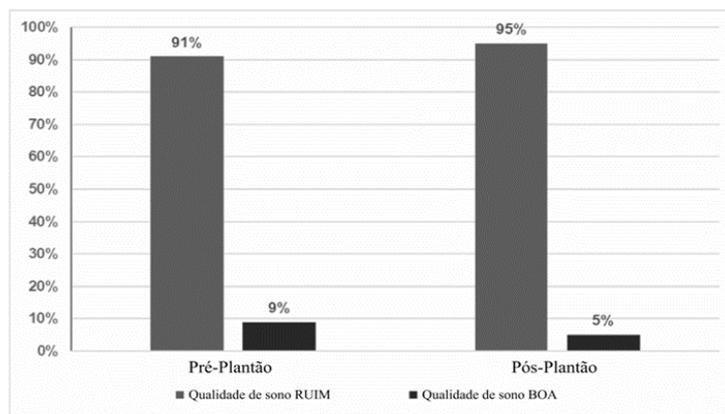
Figure 1. (a) Sleep quality among medical residents. (b) Incidence of daytime sleepiness among medical residents.



Source: Prepared by the author (2024).

According to the questionnaires applied to the 52 medical residents through the virtual form, 38% were in the pre-shift period and 62% were in the post-shift period. According to the Pittsburgh Sleep Quality Index, which categorizes sleep quality, a total of 8% of residents were classified as having “good” sleep quality, while the remaining 92% were classified as having “poor” sleep quality. Among the residents in the post-shift period, 5% were indicated as having “good” sleep quality, and in the pre-shift period, 9% of residents obtained this same classification (Figure 2).

Figure 2. (a) Incidence of sleep quality in respective hospital shifts (according to PSQI).



Source: Prepared by the author (2024).

Through the Pittsburgh questionnaire applied to the 52 residents, it was verified that the vast majority of residents presented alterations related to sleep. Among them, 8% (from the specialties of radiology, orthopedics, family and community medicine, and general surgery) achieved good sleep quality, with a score lower than 5. However, the other 92% of residents, from various areas, obtained poor sleep quality, with a score higher than 5.

CONCLUSION

Based on the data collected, it was observed that there was poor sleep quality according to the Pittsburgh questionnaire. Thus, it is suggested that most residents (92%) are subject to the diverse negative effects that poor sleep can bring, affecting everything from daily functioning to overall quality of life. Specialties involving surgical and clinical skills showed higher rates of daytime sleepiness and poorer sleep quality.

Therefore, the results of the research highlight the need to adapt medical residency programs to the new demographic reality of the profession, with greater attention to the demands of surgical specialties and first-year residents, who, as presented in the results, represent the most affected portion among those entering the career.

Accordingly, this study opens a promising path for future research, which may deepen the investigation of the issues addressed with greater methodological rigor, contributing to a more robust understanding of the impacts of sleep on residents' lives and to the development of effective interventions that promote the health and well-being of this population.

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REFERENCES

FREITAS, A. M. C. et al. Qualidade do sono e fatores associados entre docentes de educação superior. **Revista Brasileira de Saúde Ocupacional**, v. 46, e2, 2021.

MACIEL, F. V. et al. Fatores associados à qualidade do sono de estudantes universitários. **Ciência & Saúde Coletiva**, v. 28, n. 4, p. 1187–1198, abr. 2023.

HECKMAN, P. R. A. et al. A brief period of sleep deprivation negatively impacts the acquisition, consolidation, and retrieval of object-location memories. **Neurobiology Of Learning And Memory**, v. 175, 2020.

BUYSSE, D. J. et al. The Pittsburgh Sleep Quality Index: A New Instrument for Psychiatric Practice and Research. **Psychiatry Research**., v.28, p.193-213, 1989.

OLIVEIRA, Wellington de Almeida et al. Influência da qualidade do sono sobre a aprendizagem no ensino de ciências. **Rev. psicopedag.**, São Paulo, v. 36, n. 109, p. 73-86, 2019.

FERREIRA, C. M. G. et al. Prevalência de Transtornos Mentais Comuns e Fatores Associados em Estudantes de Medicina: um Estudo Comparativo. **Revista Brasileira de Educação Médica**, v. 40, n. 2, p. 268-277, abr. 2016

REZENDE, G. L. et al. The quality of life among Otorhinolaryngology residents in Distrito Federal (Brazil). **Brazilian Journal of Otorhinolaryngol**, v.77, n.4, p. 466–472, 2011.