



IMPACT OF EXAMINATION STRESS ON THE QUALITY OF SLEEP IN MEDICAL STUDENTS

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ABSTRACT

Background: Sleep is essential for the body, mind, memory, and learning. Medical students experience long duration of study period, academic over load, frequent exams, fear of failure and highly demanding lifestyle. Academic examinations stress is known to compromise sleep quality in medical students. **Objective:** The main objective is to study the impact of examination stress on the quality of sleep in medical students **Methods:** A cross sectional study was being conducted in Jhalawar Medical College, Jhalawar among 100 medical students in 1st and 2nd year of MBBS. The instruments used for data collection were a self-report Pittsburgh Sleep Quality Index (PSQI) and the Epworth Sleepiness Scale (ESS). Data was collected at both times during and without examination. **Results:** The readings of PSQI and ESS (during and without examinations) were analyzed by the Wilcoxon signed ring test and the result shows that there is a decrease in sleep quality during the exams ($p < 0.01$) i.e., highly significant and daytime sleepiness increases during exams ($p < 0.05$) i.e. significant. **Conclusions:** This study revealed that many medical students suffer from poor sleep quality during exams, Sleep disruption acts as a barrier to students' performance which adversely affects both their clinical practice and academic achievements. Encouraging awareness of proper sleep hygiene and integrating physical activity is crucial for helping students cope with stress at the institutional level.

KEYWORDS : Pittsburgh Sleep Quality Index (PSQI), Epworth Sleepiness Scale (ESS), Stress

INTRODUCTION

Sleep is essential for the body, mind, memory, and learning. Adequate sleep is essential for both mental and physical well-being, and chronic sleep deprivation has been linked to impaired cognitive and behavioural performance.¹

Sleep is a natural, recurring state of rest for the mind and body, essential for sustaining life.² It plays a vital role in normal human physiology by offering restorative homeostatic functions and is crucial for proper thermoregulation and energy conservation.³

Sleep deprivation refers to the condition of insufficient sleep, which may be either chronic or acute in nature. An average adult needs about 7 - 9 hours of sleep each night, teenagers need 9.5 hours of sleep and infants need 16 hours of sleep per day.⁴ Medical students are particularly vulnerable to poor sleep, which may partially be attributed to their extensive study years, extreme academic load, tiring clinical duties, emotionally challenging situations, and highly demanding routine.⁵

Screening for poor quality of sleep among medicos helps in finding the magnitude of the problem and applying early intervention. This will enhance their academic performance and quality of care given by them in the future. Hence this study was done with the objective to study the impact of examination stress on the quality of sleep in medical students.

MATERIALS AND METHOD

A cross sectional study was being conducted in Dept. of Physiology Jhalawar Medical College, Jhalawar among 100 medical students in 1st and 2nd year of MBBS students from May 2024 to July 2024. Informed written consent was being taken. Pittsburgh Sleep Quality Index (PSQI) and the Epworth Sleepiness Scale (ESS) questionnaire was used for data collection at both times during and without examination. Data collected was entered in Microsoft excel. SPSS trial version was used for data analysis. Wilcoxon signed ring test was applied for statistical analysis of data. p value < 0.05 was considered to be statistically significant.

RESULTS

The readings of PSQI (Pittsburg Sleep Quality Index) and ESS

(Epworth Sleepiness Scale) were analysed both during and without examinations by the Wilcoxon signed ring test. The result shows that there is a decrease in sleep quality during the exams ($p < 0.001$) i.e., highly significant and daytime sleepiness increases during examination ($p < 0.05$) i.e., significant.

	During exams	Without exams	P value
PSQI Score	7 ± 2.93	5 ± 2.71	0.002
ESS Score	10 ± 2.72	8 ± 5.03	0.0001

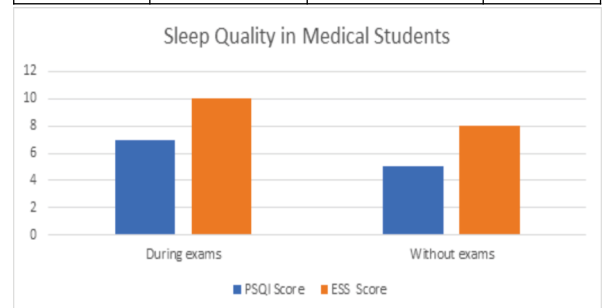


Fig 1: Shows PSQI and ESS score during and without exams

DISCUSSION

The findings of this study demonstrate a significant decline in sleep quality and an increase in daytime sleepiness among students during examination periods. The mean PSQI score was notably higher during exams (7 ± 2.93) compared to non-exam periods (5 ± 2.71), with a statistically significant p -value of 0.002. Similarly, the ESS score increased from 8 ± 5.03 to 10 ± 2.72 during exams ($p = 0.0001$), indicating greater daytime somnolence. These results align with previous studies that have reported the adverse effects of academic stress on students' sleep patterns and mental well-being.

Examinations are known to be a major source of stress, leading to irregular sleep schedules, reduced sleep duration, and increased cognitive and emotional burden. Sleep deprivation during such periods is often voluntary, driven by the perceived need to maximize study time. However, insufficient sleep can impair memory consolidation, concentration, and learning capacity, ultimately affecting academic performance.

A similar study conducted by Anuradha et al⁶ and Datta A et al⁴ also shows poor quality of sleep and excessive daytime sleepiness.

CONCLUSION

This study revealed that many medical students suffer from poor sleep quality during exams. Sleep disruption acts as a barrier to students' performance which adversely affects both their clinical practice and academic achievements. Sleep quality can be improved through counselling, providing a positive environment and practicing a healthy lifestyle. This can be achieved by establishing counselling facilities, conducting sleep educational programs, stress management courses and promoting good sleep hygiene that can enhance the quality of life of the medicos and cope with their stressful environment.

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