

Study of Quality of Sleep in First Year MBBS Students

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ABSTRACT

Background: Quality sleep is crucial for physical, mental well-being and for academic performance. First-year MBBS students often face unique challenges such as demanding curricula, high stress levels, which can significantly affect their sleep patterns. This study aims to assess the quality of sleep among first-year MBBS students.

Materials and Methods: A cross-sectional study was conducted involving 130 first-year MBBS students. Sleep quality is assessed by using a self-report questionnaire, the Pittsburgh Sleep Quality Index (PSQI).

Results: The results revealed that a significant proportion of first-year MBBS students experienced poor sleep quality, as indicated by elevated PSQI scores. Out of the 130 students, 58 were poor sleepers (44.65%) with prevalence among male and female as 20 (40%) and 38 (47.5%) respectively. Interestingly, gender differences were observed, with female students reporting more sleep problems than their male counterparts.

Conclusion: Sleep quality was significantly higher among males as compared to females among first-year MBBS students and there was no difference among hostelers and day scholars.

Keywords: Sleep quality, first-year MBBS students, Pittsburgh Sleep Quality Index, well-being.

Introduction:

The presence of good sleep quality can facilitate the enhancement of an individual's physical and psychological wellness. This is achieved through various mechanisms, including the improvement of attention, cognition, memory, and mood management. Additionally, optimal sleep quality has been found to positively impact cardiovascular function, metabolism, and the immune system. The presence of high-quality sleep is conducive to optimal brain functioning, hence facilitating knowledge enhancement and facilitating the assimilation of novel concepts (1,2).

The adverse impact of inadequate sleep on various aspects of human functioning, including IQ, memory, cognitive function, mood, behaviour, and social and interpersonal relations, has been well-documented. Medical students experience persistent stress that might potentially impact the quality of their sleep. The academic performance of medical students may be negatively impacted by poor sleep quality. Research has demonstrated that sleep deprivation can result in impaired immunological function and may be associated with the development of psychological disorders and metabolic conditions such as diabetes mellitus, metabolic syndrome, and obesity. Students who experience poor sleep quality are more likely to exhibit attention and concentration challenges. This is because adequate sleep has a crucial role in

promoting optimal neuro-cognitive processes, psychomotor performance, as well as physical and mental health. The Pittsburgh Sleep Quality Index (PSQI) is a standardized instrument utilized for the evaluation and measurement of sleep quality (3). This study has been carried out to evaluate the quality of sleep among the first year MBBS students.

Objectives:

- To determine the prevalence of poor sleep quality in first year medical students.
- To assess how the prevalence of poor sleep quality varies with gender.

Materials & Methods:

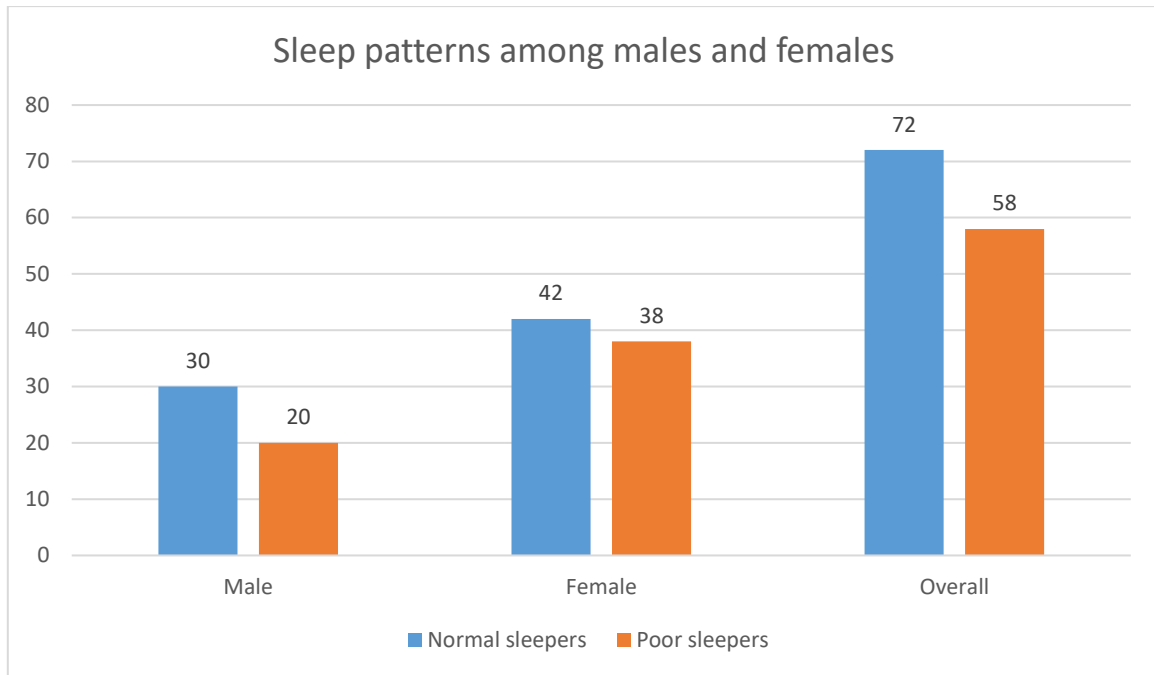
This is a cross-sectional study conducted among 130 first-year MBBS students at Andhra Medical College, Visakhapatnam. Individuals who gave consent for the study, belonging to the age of 18 and 20 years of both genders were included in the study. Individuals who did not give consent and who are less than 18 years of age and above 20 years were excluded from the study. Institution Ethics Committee clearance was obtained and written and informed consent was obtained from the participants. This study abides by the guidelines laid by the declaration of Helsinki. The students demographic details like age, gender, and residence (home/hostel) were taken. A questionnaire was provided to them to assess the quality of sleep by using the Pittsburgh Sleep Quality Index (PSQI) which measures seven components subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medications, and daytime dysfunction over the last month. The score of individual components is from 0 to 3, scores of all seven components were added to get global PSQI which ranges from 0 to 21. A global score of more than or equal to 5 indicates poor sleep quality. Individuals were given 15 minutes to answer the questionnaire. Data was collected and tabulated using Microsoft Excel software. The statistical analysis was done using SPSS 28 version.

Results:

The mean age of the study population was 19.2 ± 1.2 years. Of the 130 students, 80 were females (61.5%) and 50 were males (38.5%).

Table 1: Sleep patterns among males and females

Parameter	Normal sleepers	Poor sleepers
Male	30 (60%)	20 (40%)
Female	42 (52.5%)	38 (47.5%)
Overall	72 (55.35%)	58 (44.65%)



Among the study population, out of the 130 students, 72 were normal sleepers (55.35%), whereas 58 were poor sleepers (44.65%). 30 males (60%) had normal sleep as compared to 42 normal sleepers in females (52.5%). This difference in sleep quality among males and females is statistically significant at $p=0.04$.

Table 2: Sleep patterns among hostelers versus day scholars

Parameter	Normal sleepers	Poor sleepers
Hostelers	40 (55.5%)	32 (44.5%)
Day scholars	35 (60.3%)	23 (39.7%)

Among the study population, 72 were hostelers, and 58 were day scholars. 40 students (55.5%) among hostelers were normal sleepers and 32 students (44.5%) were poor sleepers. Among day scholars, 35 students (60.3%) were normal sleepers and 23 (39.7%) were poor sleepers. The difference between day scholars and hostelers is not significant.

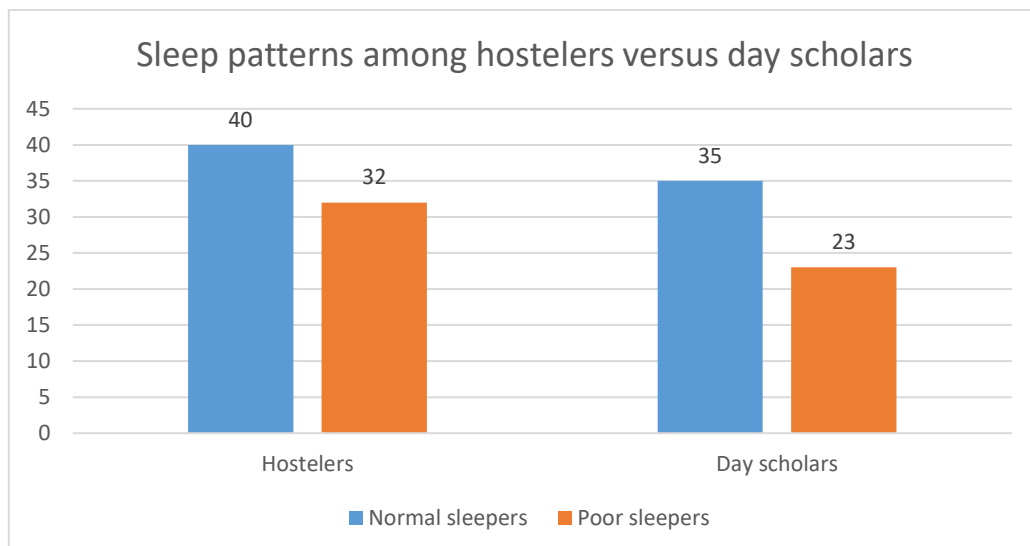


Table 3 : Duration of sleep among students

Sleep duration	No. of students
More than 7 hours	40 (30.7%)
6-7 hours	52 (40%)
5-6 hours	32 (24.6%)
Less than 5	6 (4.6%)

40 students (30.7%) had more than 7 hours of sleep regularly and 52 (40%) students has 6-7 hours of sleep.

Discussion:

Sleep is an integral component of human well-being and existence, playing a crucial role in various aspects such as cognitive processes, skill acquisition, and overall physical and mental well-being. Research has indicated that inadequate sleep, frequent episodes of limited sleep duration, and delayed bedtimes and early wake-up times have an impact on learning ability, academic achievement, and neurobehavioral functioning. Prior research has demonstrated a correlation between sub-optimal sleep patterns, such as delayed or inadequate sleep and excessive weekend wake times, as well as daytime drowsiness, and diminished academic achievement in both children and adults. Several studies have underscored the correlation between a delayed commencement of courses and academic achievement. The occurrence of decreased duration of sleep during the night or modified sleep patterns has been linked to the development of pronounced sleepiness and a decline in academic achievement (4,5).

In our study, the mean age of the study population was 19.2 ± 1.2 years. Of the 130 students, 80 were females (61.5%) and 50 were males (38.5%). 40 students (55.5%) among hostelers were normal sleepers and 32 students (44.5%) were poor sleepers. Among day scholars, 35 students (60.3%) were normal sleepers and 23 (39.7%) were poor sleepers. 30 males (60%) had normal sleep as compared to 42 normal sleepers in females (52.5%). This difference in sleep quality among males and females is statistically significant at $p=0.04$.

In 2020, a study was undertaken by Sundas et al. on the topic of Sleep Quality among Medical Students at a Tertiary Care Hospital (6). Among the 217 medical students who were chosen for this study, it was found that 96 students, accounting for 44.23% of the sample, reported experiencing poor sleep quality. Further analysis revealed that the prevalence of poor sleep quality among male students was 41 (39.8%), while among female students it was 55 (48.2%). The average duration of sleep among students was found to be 6.7 ± 1.6 hours. They concluded that a considerable proportion of medical students exhibit sub-optimal sleep quality, which has the potential to negatively influence their academic achievements and have long-term implications for their overall well-being. Efforts should be focused on the dissemination of knowledge regarding sleep hygiene and effective time management abilities. The results in this study are comparable to the results obtained in our study.

Conclusion:

Sleep quality was significantly higher among males as compared to females among first-year MBBS students and there was no difference in sleep quality among hostelers and day scholars.

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