Section: Community Medicine

Original Research Article

A CROSS SECTIONAL STUDY TO ASSESS THE SLEEP HYGIENE PRACTICES AND FACTORS AFFECTING IT AMONG UNDERGRADUATE MEDICAL STUDENTS OF FIRST YEAR AT MAHATMA GANDHI MEMORIAL MEDICAL COLLEGE INDORE (M.P.)

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Received *: 08/04/2025*
Received in revised form *: 24/05/2025*
Accepted *: 14/06/2025*

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DOI: 10.70034/ijmedph.2025.2.479

Source of Support: Nil,
Conflict of Interest: None declared

Int J Med Pub Health
2025; 15 (2); 2645-2648

ABSTRACT

Background: Sleep hygiene refers to a set of practices and habits that affects quality of sleep. Some common sleep hygiene tips can improve overall sleep quality and daytime alertness viz. maintaining a regular sleep schedule, creating a comfortable sleep environment (cool, dark, and quiet), avoiding caffeine & electronic devices before bedtime, and engaging in relaxing activities before sleep. Not getting enough sleep or poor-quality sleep can increase risk for mental health disorders. While insomnia can be a symptom of psychiatric disorders, it is now recognized that sleep problems can also contribute to the onset and worsening of different mental health problems, including depression, anxiety, and even suicidal ideation. The objective is to find out sleep hygiene practices among first year medical students. 2) To find out factors affecting sleep hygiene among first year medical students.

Materials and Methods: A cross sectional study was conducted among 150 first year undergraduate medical students admitted in the year 2023 using convenient sampling at Mahatma Gandhi Memorial Medical College of Indore city, by administering pre-designed, semi-structured questionnaire. Data entered in MS Excel and analysed in JAMOVI software.

Results: Out of 150 students, 76 were males with mean age 20.27 ±1.757yrs. Max duration of sleep was 6-7hrs, which was decreased during exam time. Most of them used electronic devices before sleep. Occasional physical activity, daytime napping and tea/coffee intake were factors affecting sleep.

Conclusion: As per the study conducted, use of electronic devices was found to be a common practice among medical students, along with tea/coffee intake, daytime napping and exams having negative impact while physical activity was found to have positive impact on sleep hygiene.

Keywords: Factors, Sleep hygiene practice, Undergraduate medical students.

INTRODUCTION

Sleep is defined as a natural state of rest during which the subject is unconscious but can awaken with the help of proper external stimuli. [1] It is well known that a good quality and adequate amount of sleep are basic human necessities. [2] According to sleep specialists, most healthy young adults require at least seven to nine hours of sleep per day for optimal health and functioning of their mind and bodies. Sleep hygiene refers to those behaviours that ensure an improved quality and quantity of sleep to a person on a regular basis. [3] Sleep hygiene practices refers to a set of habits that affects quality of sleep. Some common sleep hygiene tips can improve overall sleep quality and daytime alertness viz.[4] maintaining a regular sleep schedule, creating a comfortable sleep environment (cool, dark, and

quiet), avoiding caffeine & electronic devices before bedtime, and engaging in relaxing activities before sleep. Not getting enough sleep or poor-quality sleep can increase risk for mental health disorders.[5] While insomnia can be a symptom of psychiatric disorders, it is now recognized that sleep problems can also contribute to the onset and worsening of different mental health problems, including depression, anxiety, and even suicidal ideation.[6] Studies have shown that deprivation of sleep results in impaired consciousness, sleepiness during daytime, lack of attention, compromised relationships, and fatigue. Sleep disturbances in medical students lead to such unwanted consequences that badly affect their academic performance, learning behaviours, and overall health.[7] Therefore, the importance of sleep quality among medical students cannot be overlooked as it has an obvious impact on the mental health, stress levels, and patient care. The objective of this study was to highlight those factors that have a statistically significant association with sleep hygiene. The objective of our study was to find out sleep hygiene practices and factors affecting sleep hygiene among first prof medical students.

MATERIALS AND METHODS

This Cross-sectional study was carried out at Indore city of Madhya Pradesh state in India by the Department of Community Medicine, Mahatma Gandhi Memorial Medical College & MY Hospital, Indore over a period of 3 months (July 2024 to Sept 2024). The study participants were undergraduate students of first year admitted in the year 2023.The sample size was calculated using the formula n= 〖Z_α^2 (SD)〗^(2)/d^2 and taking standard deviation 2.30 & absolute precision 0.38.Hence total sample size came out to be 137.26, rounded off to 150 using the convenient sampling method. The data was collected after taking informed consent from the students, interpersonal interview using a pre-designed semi structured questionnaire was carried out. Data were entered into Microsoft Excel spread sheet and analysed by using JAMOVI software. Appropriate statistical tests were applied wherever necessary. Frequencies and percentages were calculated for qualitative variables. The chi square test was applied to test the significance of association between categorical variables. A p-value of less than 0.05 was considered as statistically significant.

$$\boldsymbol{n = \frac{Z_\alpha^2 (S_d)^2}{d^2}}$$

$$n = \frac{(1.96)^2 * (2.30)^2}{(0.07 * 5.50)^2} = 137.26 \approx 150$$

Z_α= confidence level at 95% (standard value of 1.96)

S_d= standard deviation (2.30)

*d= absolute precision= (0.07*5.50) =0.38*

So Total Sample Size = 150

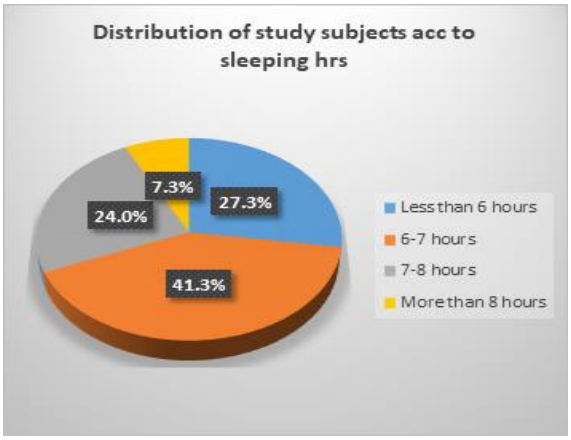
Inclusion Criteria

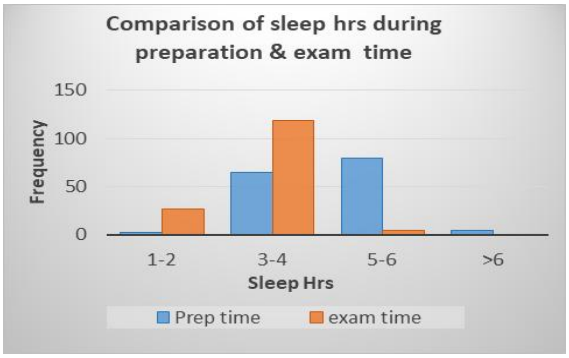
First year undergraduate medical students of the batch 2023 at Mahatma Gandhi Memorial Medical College Indore (M.P.)

Exclusion Criteria

1. The students who were not willing to participate.
2. The students who were not available during the study.

RESULTS





The present study was conducted among 150 students (76 males and 74 females) to find out sleep hygiene practices among medical students. In addition, the study also tried to determine factors that affect sleep hygiene. Out of 150 students, 76 (50.7%) students were male and 74 (49.3%) were female. The mean age of students was 20.27 ± 1.76 yrs. The maximum duration of sleep was 6-7 hrs (41.3%), followed by 27.3% of students used to sleep <6 hrs which was decreased during exam time (as shown in bar diagram). Our study reported that higher percentage of females (52.74%) had poor sleep hygiene as compared to males (47.25%) P-value=0.3835 (not significant). Students who studied late at night were 68.80% (75 out of 109) had bad sleep hygiene (the calculated p value was 0.0009) as compared to the students who do not study at night time. The association between sleep hygiene and the residence of medical students was significant as the p value obtained was 0.0017 (which is less than 0.05). The students who resided in hostels were more likely to have bad sleep

hygiene as compared to those who resided in their homes. 69.52% (73 out of 105) hostelers had bad sleep as compared to 40% (18 out of 45) day scholars (PSQI score > 5).It was observed that out of 150 medical students assessed 51.3% of students rarely/never consume coffee before sleep followed by 31.3% of students occasionally, 10% of students often and 7.3% of students consume coffee every night before they sleep. 62.7% of students used device every night before they sleep followed by 25.3% of students used it often and 10% occasionally and 10% rarely/never used any device before sleep. Other findings are39.3% students occasionally took nap during daytime. 47.3% rarely engage in relaxing activities before bedtime (e.g. reading, meditation etc). Overall sleep quality was rated as fair by 47.3%. 42% were aware of the impact of their diet on sleep and occasionally made conscious choices regarding meals.43.3% of students used to engage occasionally in physical activity.

Table 1: Socio-demographic details.

Socio-demographic	Frequency	Percentage(%)
Gender		
Male	76	50.7
Female	74	49.3
Mean Age(in years) ± SD	20.27 ± 1.76	

Table 2: Chi-square value 0.76, P-value= 0.3835 (not significant)

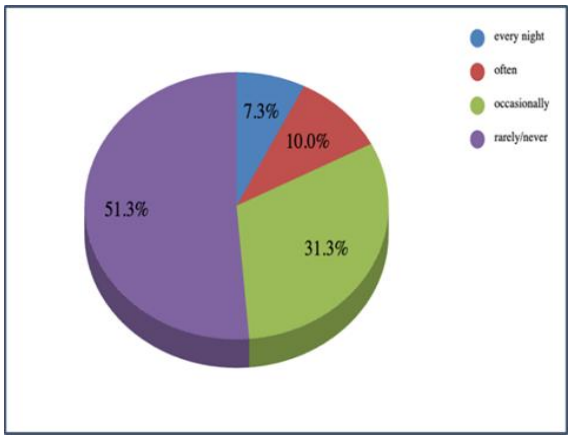
Sleep hygiene	Male	Female	Total
Good	33	26	59
Bad	43	48	91
Total	76	74	150

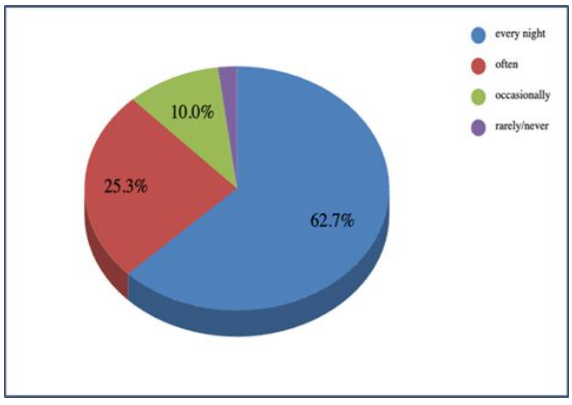
Table 3: Chi-square value 11.075, P-value= 0.0009 (significant)

Studying at night	PSQI Score		Total
	<5	≥5	
Yes	34	75	109
No	25	16	41
Total	59	91	150

Table 4: Chi-square value 9.859, P-value= 0.0017 (significant)

Residence	PSQI Score		Total
	<5	≥5	
Hostel	32	73	105
Day scholar	25	18	45
Total	59	91	150





DISCUSSION

In a study conducted by Waqas et al., on the association of academic stress with sleeping difficulties in medical students in Lahore (Pakistan), it was found that 77% of the respondents were poor sleepers which is similar to our study where 79.33% students were poor sleepers due to academic stress. An interesting finding of our study is that a statistical association was found between the residence and quality of sleep. The students who lived in hostels had comparatively bad sleep hygiene

(80.21%) than those who lived in their homes (19.78%). Our study reported that higher percentage of females (54.09%) had poor sleep hygiene as compared to males (45.9%). Our results were consistent with a study conducted in Dehradun which revealed that 59.3% of females had shown a poor quality of sleep, which was attributed to the long hours of mobile phone usage by them.

CONCLUSION

As per the study conducted, use of electronic devices was found to be a common practice among medical students, along with tea/coffee intake, daytime napping and exams having negative impact while physical activity and relaxing activities before bedtime (e.g. reading, meditation etc) was found to have positive impact on sleep hygiene.

Recommendation: It is very important to arrange educational programs for the medical students in which they should be taught about the measures to improve their sleep hygiene and the ways through which they can fix their routines.

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