



ORIGINAL RESEARCH PAPER

Psychiatry

ASSESSMENT OF FACTORS AFFECTING THE SLEEP HYGIENE OF MEDICAL STUDENTS AT TERTIARY CARE HOSPITAL: A CROSS SECTIONAL STUDY

KEY WORDS: Medical students should ensure good sleep hygiene in order to maintain their academic performance, physical health, and mental health.

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ABSTRACT

Aim:- to assess the factors affecting the quality of sleep hygiene among ug medical students

Objectives:-

1. to determine quality of sleep hygiene among medical students.
2. to determine factors affecting sleep hygiene among medical students.
3. to determine association between factors and quality of sleep hygiene among medical students.

Material and Methods:- This study was done on 200 medical students. The questionnaire that was used for the collection of data had two parts. First was related to demographic variables and second was a validated Pittsburgh sleep quality index (PSQI). All participants are UG Medical Students. Data were analysed using SPSS 23. The association was found by applying chi-square test. **Results:-** Our study revealed that out of 200 students, 61% had poor sleep hygiene (PSQI ≥ 5). Global PSQI scores among women were slightly higher than males. A statistical association was found between the residence and habit of studying at night of medical students with their sleep hygiene. **Discussion:-** Medical students should ensure good sleep hygiene in order to maintain their academic performance, physical health, and mental health.

INTRODUCTION

Sleep is defined as a natural state of rest during which the subject is unconscious but can be awoken with the help of proper external stimuli¹. It is well known that a good quality and adequate amount of sleep are basic human necessities. According to sleep specialists, most healthy young adults and adults require at least seven to nine hours of sleep per day for optimal health and functioning of their mind and bodies².

Reports show that about one-third of adults of the general population have some form of insomnia. Being a subgroup of the general population medical students are at an increased risk of developing a poor sleep hygiene, which, is mostly attributed to their challenging academic and clinical duties, long duration of study hours, stress of examination, hectic routine, and lifestyle choices³. Excessive use of caffeine, alcohol or energy drinks and unrestrained use of mobile phones, tablets or laptops before sleep are also some of those common factors that prevent maintaining good sleep hygiene⁴.

The prevalence of poor sleep quality has been estimated about 20 to 60 percent in medical students. In these studies, sleep quality was associated with sex, years of education, perceived adequate amount of sleep, stress and concern about university tasks, and irregular sleep-work hours.^{5,6} Many causes have been suggested for this issue. Some of them include high daily and nightly workload, inadequate time for leisure activities, living conditions, and high level of stress due to intensive curriculum schedule. Also, many students live away from their family in dorms. These students are more likely to have improper sleep-wake schedule that is harmful in many cases.^{7,8}

Sleep hygiene practices is one of the important variables that affects sleep quality.⁹ inappropriate sleep behaviors are harmful for sleep. These behaviors, which were introduced firstly by Peter Hauri are based on physiology of sleep.¹⁰ Many activities are considered as proper sleep hygiene that promotes good sleep. Some of them include the followings: 1) avoiding caffeine, nicotine, and alcohol near the bed time, 2) avoiding napping as an occasional pattern, 3) maintaining a regular sleep and wake time, 4) keeping bed room

comfortable and quiet, and 5) avoiding highly demanding activities in bedroom.¹¹

Medical students have a stressful educational career, thus it is necessary to spot those students with sleep problems, extent of this problem and factors contributing that.¹²

MATERIALS AND METHOD

This cross-sectional study was conducted at Tertiary care hospital after approval from the ethical review committee. A total of 200 medical students were recruited who were willing to participate in the study. The duration of study was from July 2022 to August 2022. The data were collected face-to-face using a self-administered questionnaire, which comprised of two parts (Questionnaire 1). Part one had seven questions related to demographic variables and part two was a preformed pretested Pittsburgh sleep quality index (PSQI), which is a great tool for the evaluation of sleep hygiene during the past month. It consists of 19 items, which when combined yield seven sub-scales. Scoring of each item is done on a 3 point scale. The combination of these seven subscales produces a global PSQI score whose value ranges from 0 to 21. A global PSQI score of less than five indicated 'good' sleep hygiene in that subject while a score of equal to or greater than five meant 'bad' sleep hygiene¹³.

Data were analysed using SPSS v. 23. 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.

The associated factors were exploited using both parts of the applied questionnaire.

Inclusion Criteria: all undergraduate medical students from who were willing and gave consent to participate in the study.

Exclusion Criteria: nil

RESULTS

In our study, there were 98 males and 102 females. Majority, i.e., 78% was resident of hostel (on-campus). Equal participants (20%) were chosen from each year of MBBS. The

mean age of study participants was 21.13±1.824 years.

Out of 200 students, 61% were found to have poor sleep hygiene (their PSQI score was either equal to or more than five). Global PSQI scores among women were slightly higher than males (54.09% of females vs. 45.9% of males). Use of sleep medications was higher in males. Twelve male students vs. none of the female students used medication to sleep less than once a week (this is an idiomatic phrase and it was as such mentioned as one of the options to some questions in the PSQI questionnaire. It practically means that they did not use medication every week, rather once or twice a month). There was no difference in sleep efficiency of both genders.

Components of Pittsburgh sleep quality index (PSQI)

Subjective sleep quality

According to Figure 1, 80%(n=160) students had good sleep while 20%(n=40) students regarded their sleep quality as bad.

Sleep latency

14% of study subjects it took to fall asleep within 15 minutes each night while 84% used to fall asleep after 15 minutes to more than an hour. 46% had trouble getting to sleep within 30 minutes less than once a week.

Sleep Duration

30% used to spend more than seven hours in bed. 26% spent six to seven hours, 30% spent five to six hours while 14% spent less than five hours in bed.



Figure:1 Rate Of Subjective Sleep Quality Of Medical Students

Sleep Efficiency

71% of study subjects had sleep efficiency greater than 85%.

Sleep Disturbance

23% used to wake up in the middle of the night once a week, which disturb their sleep, while 19% had disturbed sleep because of having bad dreams once or twice a week.

Daytime dysfunction Out of 200 students, 41% had trouble staying awake less than once a week while driving, eating meals and engaging in social activities while it had been somewhat of a problem for 30% to keep up enough enthusiasm to get the things done.

Use Of Sleep Medications

92% of the students did not use any type of sleep medication during the past month. 6% used sleeping medications less than once a week (zero times a week but once or twice in the past month) while only 2% used them once or twice a week.

As shown in Table 1, the p value obtained was 0.001 (which is less than 0.05), which meant that the association between sleep hygiene and the residence of medical students was significant. The students who resided on-campus were more

likely to have bad sleep hygiene as compared to those who resided in their homes.

Table:1 Association Of Residence With Sleep Hygeine

RESIDENCE	<5	GLOBAL PSQI SCALE >5	TOTAL
ON-CAMPUS	52	104	156
OFF-CAMPUS	26	18	44
TOTAL	78	122	200

PVALUE:-0.001 X²:-9.57

According to Table 2, the calculated p value was 0.0018, which confirmed that those students who studied late at night actually had bad sleep hygiene as their global PSQI scores were comparatively greater than 5.

Table:-2 Association Of Studying At Night With Sleep Hygiene

RESIDENCE	<5	GLOBAL PSQI SCALE >5	TOTAL
ON-CAMPUS	52	104	156
OFF-CAMPUS	26	18	44
TOTAL	78	122	200

PVALUE:-0.0018 X²:-9.54

Sleep hygiene of medical students did not seem to be affected by their gender as shown in Table 3.

Table:-3 Association Of Gender With Sleep Hygiene

SLEEP HYGIENE	MALE	FEMALE	TOTAL
GOOD SLEEP	42	36	78
BAD SLEEP	56	66	122
TOTAL	98	102	200

PVALUE:-0.272 X²:-1.201

CONCLUSION

In addition to the high prevalence of poor sleepers, our study has been able to find a significant association between the residence at hostel and habit of studying at night with the bad sleep hygiene of medical students. 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. Medical students should be assessed for their stress and anxiety profiles by their respective institutions and should be counselled accordingly

DISCUSSION

The findings of our study showed that 61% of all students had poor sleep hygiene. And 14% of students got less than 5 hours of sleep per night. 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 (85.24%) than those who lived in their homes (14.75%). This is opposite to the findings of a study conducted in West Indian Metropolitan city by Chutani et al.14, where more day scholars (73.7%) reported bad sleep quality as compared to hostellers (40.5%).

This could be due to the additional burden of travelling back and forth between college and home that consumes a lot of their time along with the academic load, which prevents them from getting a proper sleep. Hostellers, on the other hand, are provided with living accommodations in the vicinity of their college, so some of their time is saved that they can utilize in making up for their lost sleep due to extracurricular activities and odd sleeping hours¹⁴.

Our study reported that higher percentage of females (54.09%) had poor sleep hygiene as compared to males (45.9%).

No significant association was found between genders and

sleep hygiene in our study. This is similar to the results of another study conducted on the evaluation of sleep hygiene among medical students in Saudi Medical College¹⁵.

In a study conducted by Alsaggaf et al.¹⁶, on sleep quantity, quality and insomnia symptoms of medical students Shafique Z, et al. 276 *Sleep Sci.* 2021; 14(3):273-279 during clinical years in Kingdom of Saudi Arabia, it was reported that 30% of students had a poor sleep quality. Caffeinated beverages were taken by a high percentage (65%) of students during the day. This finding is consistent with our study where 54% of total students used to take coffee or tea every day (this was asked in first part of the applied Questionnaire 1).

No significant statistical association was found between the consumption of caffeinated drinks and poor sleep quality in our study.

Another finding of our study was that only a low percentage (6%) of students used to take sleep medications less than once a week and most of them were males.

There were some limitations in our study. The sample size was very small and it was done in only one institute so the results cannot be generalized. The effect of factors such as stress, anxiety and depression were not studied in this research. Therefore, we propose other researchers to take these points into consideration while conducting a study on sleep hygiene of medical students in future.

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