

Assessment of Sleep Hygiene among Medical Students at Gadag District, Karnataka

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Abstract

Introduction: Sleep hygiene has been defined as those behaviours that are believed to promote improved quantity and quality of sleep. College student's especially medical students are at most risk to sleep disturbances as it decreases the overall academic performance and disturbs the health and mood of the individual.

Objectives: to assess the sleep hygiene and factors influencing it among medical students at Gadag Institute of Medical Sciences (GIMS), Gadag, Karnataka.

Materials and Method: Cross-sectional study was conducted from 1st to 30th April 2017 among all medical students who are willing and consented to participate in the study at GIMS, Gadag, Karnataka. Validated Pittsburgh Sleep Quality Index (PSQI) questionnaire was used to assess the sleep hygiene and various factors influencing the sleep disturbances

Results: 293 consented to participate in the study of which 164(65.99%) were males & 129(44.01%) were females. Mean age of the study participants was 19.2+ 1.151 years. Of the 293 students, (60.06%) 176 had scored less than 5 indicating "good" sleep while (39.93%) 117 scored more than equal to 5 indicating "poor" sleep. Majority of them 223(76.1%) spent less than 8hrs in bed. Studying and indulging in assignments late into the night was statistically associated with sleep hygiene. There was no gender, urban & rural differences between maintenance of sleep hygiene among medical students.

Conclusion: significant proportion of medical students (39.9%) had bad sleep hygiene and studying late into the night was implicated in the disturbance of sleep hygiene.

Keywords: Sleep hygiene, Medical students, Sleep disturbances

Introduction

Sleep is a defined as temporary state of unconsciousness from which the subject can be aroused with appropriate sensory stimuli.⁽¹⁾ About one third of our life is spent in sleep. Sleep occurs due to periodic stimulation of reticular activating system by influences from brainstem and other regions of brain. Obtaining healthy sleep is important for both physical and mental health. It can also improve productivity and overall quality of life. Everyone from children to older adults, can benefit from practising good sleep. The various factors that cause disturbances in sleep is their age, demands of their occupation, their physiological and psychosocial characteristics, psychiatric illness, some types of physical illness.⁽²⁾

Sleep hygiene has been defined as those behaviours that are believed to promote improved quantity and quality of sleep.⁽³⁾ College students are one of the most vulnerable groups prone to sleep disturbances, due to both social & biological factors.⁽⁴⁾ This is indeed an alarming phenomenon owing to its potency to take its toll on the overall academic performance, health and mood of the individual.⁽⁵⁾ Deprivation of sleep, have been shown to have its impact on neurocognitive & psychomotor performance, as well as physical and mental health.⁽⁶⁾

Lack of adequate sleep can even have other deleterious effects on the diurnal activities like deficits in attention, drowsiness while driving, risk taking behaviour & depression and impaired relationships.^(7,8)

Sleep disturbances among medical students is common due to heavy academic load, prolonged & intense study, stress of examination and hectic schedule imposes poor quality of sleep among the medical students.^(9,10)

Materials and Method

This cross sectional study was conducted from 1st to 30th April 2017, among the medical students of Gadag district, Karnataka. Institutional ethical clearance was obtained. After obtaining a written consent, Pittsburgh Sleep Quality Index (PSQI), a validated questionnaire was used to assess various determinants of sleep hygiene like subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, day time dysfunction and use of medications in sleep, each being awarded a score between 0 & 3. The total score would lie between 0 & 21. A score greater than or equal to 5 indicated "poor" sleep in that individual. This study assesses the sleep of an individual over the last one month.

Inclusion criteria: All students who were willing and consented to participate in the study.

Exclusion criteria: Students who are not available during the study period.

Statistical analysis: Data was entered in Microsoft Excel 2010 and were analysed by SPSS 21 using statistical methods like mean, percentage & Chi-square test.

Results

Of the 298, 293 of them consented to participate in the study, of which 164(65.99%) were males & 129(44.01%) were females. Majority 64.18% (191) of them belongs to urban areas.

Among 293 participants, 148(50.52%) students belong to second year, while 145(49.48%) belonged to

first year MBBS. Mean age of the study participants was 19.2+ 1.151 years.

Components of pittsburgh sleep quality index

1. **Subjective sleep quality:** From the Table 1, 92.8%(272) opined that they had good sleep while 7.2% (21) of them considers they had bad sleep.

Table 1: Rate of overall quality among medical students

Sleep	Very Good (0)	Fairly Good (1)	Fairly Bad (2)	Very Bad (3)
Rate Overall quality of sleep	133(45.4%)	139(47.5%)	15(5.1%)	6(2.0%)

2. **Sleep latency**

- 63.8% (187) told that they fell a sleep within 15 minutes followed by 27.9% (82) opined after 15 minutes to half an hour.
- 20.8% (61) of them opined that they had trouble in getting the sleep within 30 minutes less than once a week.

3. **Sleep duration & Habitual sleep efficiency:** Majority of them 223(76.1%) spent less than 8hrs in bed. 93(31.7%) of them went to bed after 12 AM that is early in the morning. 100 (34.2%) of them got up late in the morning (Fig. 1 & 2).

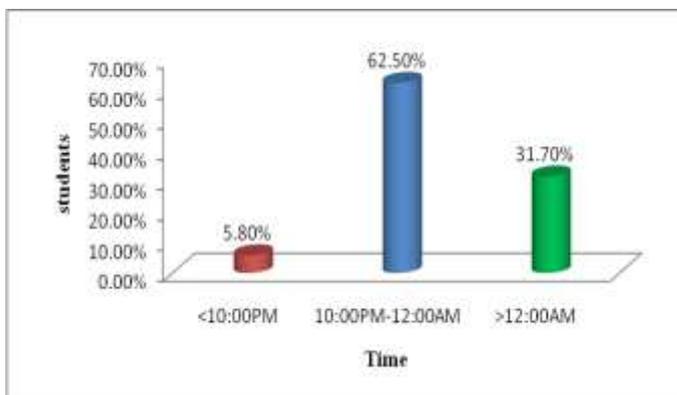


Fig. 1: Distribution of the time at which the participants went to bed

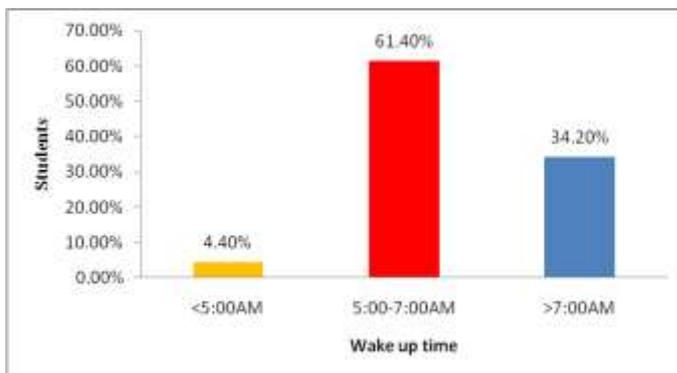


Fig. 2: Distribution of the time at which the participants got up in the morning

4. **Sleep disturbances:** 58(19.8%) students opined that they had disturbed sleep less than once week because they have to use bathroom in the middle of the night. 45 (15.4%) of them felt too hot three or times in week in the night which disturbed their sleep. 57 (19.4%) of the students had bad dreams once in a week (Table 2)

Table 2: Factors influencing the sleep disturbances among medical students

Have trouble in sleeping because	Not during the past month (0)	Less than once a week (1)	Once or twice a week (2)	Three or more times a week (3)
Wake up in the middle of the night or early morning	174(59.4%)	56(19.1%)	37(12.6%)	26(8.9%)
Have to get up to use the bathroom	201(68.6%)	58(19.8%)	17(5.8%)	17(5.8%)
Cannot breathe comfortably	275(93.8%)	11(3.8%)	3(1.0%)	4(1.4%)
Cough	271(92.5%)	15(5.1%)	3(1.0%)	4(1.4%)
Feel too cold	247(84.3%)	25(8.6%)	15(5.1%)	6(2.0%)
Feel too hot	181(61.7%)	35(11.9%)	32(11.0%)	45(15.4%)
Have bad dreams	193(65.9%)	57(19.4%)	29(9.9%)	14(4.8%)
Have pain	255(87.0%)	19(6.4%)	11(3.7%)	8(2.9%)

5. **Use of sleeping medications:** 46(15.7%) of the students are felt trouble in concentrating the daily activities less than once in a week and 53(18.1%) of them had difficulty in keeping enthusiasm.(Table 3)

Table 3: Use of sleep medications and day time dysfunction among medical students

Sleep	Not during the past month (0)	Less than once a week (1)	Once or twice a week (2)	Three or more times a week (3)
Use of sleep medications	285(97.2%)	4(1.4%)	2(0.7%)	2(0.7%)
How often you have trouble staying awake while daily activities	216(73.7%)	46(15.7%)	21(7.1%)	10(3.5%)
How much problem in keeping enthusiasm	191(65.2%)	53(18.1%)	26(8.9%)	23(7.8%)

6. **Daytime dysfunction**

From the Fig. 3 and Tables 4, 5, 6 it is seen that many factors like use of mobile phones, talking to friend late in the night, eating junk foods, watching TV, drinking tea are some of the frequent things that medical students indulge before sleeping, of which studying and indulging some assignments late into the night was statistically significant with sleep hygiene. There was no gender, urban & rural differences between maintenance of sleep hygiene among medical students.

Table 4: Association of sleep hygiene with gender

Sleep	Male	Female	Total
Good sleep	94	82	176
Bad sleep	70	47	117
Total	164	129	293

(Chisquare value(χ^2)- 1.175, df-1 p-0.82)

Table 5: Association of sleep hygiene with rural or urban differences

Sleep	Rural	Urban	Total
Good sleep	53	123	176
Bad sleep	49	68	117
Total	102	191	293

(χ^2 -3.785, df-1, p-0.056)

Table 6: Association of sleep hygiene with studying late into the night among medical students

Sleep	Studying late in the night	Not studying in the night	Total
Good sleep	91	85	176
Bad sleep	79	38	117
Total	170	123	293

(χ^2 = 7.219, df-1, p=0.008)

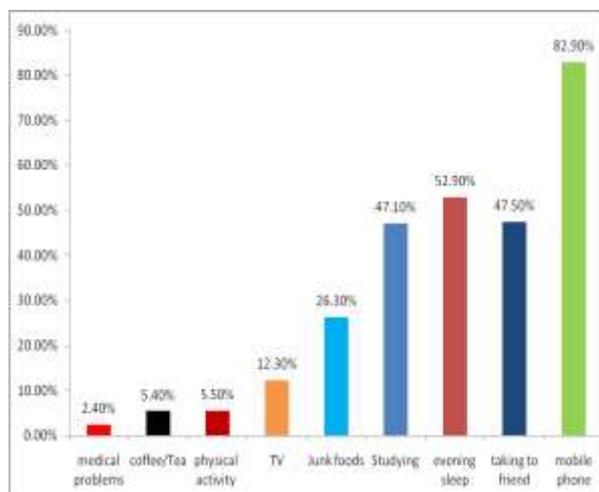


Fig. 3: Other Factors affecting the sleep hygiene

Discussion

In our study the 39.9% were poor sleepers. A study done by Lohitashwa R et al., on Effect of stress on sleep quality in young adult medical students at Davangere, reported 58.0% of the medical students had bad sleep hygiene.⁽¹¹⁾

Subhaprada SC et al., in their interventional study on sleep hygiene among medical students at Karnool medical college revealed that 20.0% of them had sleep deprivation. In our study Majority of them 223(76.1%) spent less than 8hrs in bed and 39.9% of the students were poor sleepers.⁽¹²⁾

A study on sleep hygiene practices and their relation to sleep quality in medical students of Qazvin University of medical sciences by Yazdi Z et al opined that significant association was found in males and females in maintenance of sleep hygiene where as in our study no statistical association was found.⁽¹³⁾

Conclusion

- From our study, it is concluded that out of 293 students, 176 (60.06%) had scored less than 5 indicating “good” sleep while 117 (39.93%) scored more than equal to 5 indicating “poor” sleep. studying late and indulging assignments late into the night was implicated in the disturbance of sleep hygiene among medical students.
- There was no gender, urban & rural differences between maintenance of sleep hygiene among medical students.

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