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ORIGINAL RESEARCH

Evaluation of Sleep Quality in Undergraduate Medical Students

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ABSTRACT

Background: Sleep is crucial for brain growth and function, it plays a significant role in human life and health. The present study was conducted to evaluate sleep quality in undergraduate medical students. **Methods:** 470 MBBS students of both genders were given a pre-designed pre-tested semi structured self- administered questionnaire. They were divided into 3 groups. Group I were interns, group II were third and final year and group III were second and first year. Socio-demographic data, dietary habits and physical activity was recorded. Pittsburgh sleep quality index (PSQI) was used to assess the quality of sleep. **Results:** Group I were interns, group II were third and final year and group III were second and first year. Group I had 30 males and 50 females, group II had 85 males and 105 females and group III had 92 males and 108 females. Sleep quality was very good in 31% in group I, 25% in group II and 27% in group III. It was fairly good in 49% in group I, 36% in group II and 50% in group III. It was fairly bad in 15% in group I, 20% in group II and 16% in group III. It was fairly bad in 5% in group I, 19% in group II and 7% in group III. Sleep latency <15 minutes was seen in 41.2% in group I, 23% in group II and 40.4% in group III. The difference was significant (P< 0.05).The mean subjective sleep quality score was 0.91, sleep latency was 1.3, sleep duration was 1.1, habitual sleep efficiency was 1.0, sleep disturbances was 1.4, use of sleeping medications was 0.27, daytime dysfunction was 0.82. Global PSQI score (total score) was 6.8. Sleep was good in 47% and poor in 53% medical students. The difference was non- significant (P> 0.05). **Conclusion:** The most of medical students had poor sleep quality. More focus is needed to determine the variables influencing medical students' sleep quality and to develop potential ways to avoid any long-term effects in order to improve their quality of sleep.

Keywords: PSQI score, Sleep, Intern

INTRODUCTION

Sleep is crucial for brain growth and function, it plays a significant role in human life and health.[1] However, not everyone needs the recommended eight hours of sleep, as there are natural biological and demographic variances that affect how much sleep is needed. According to WHO at single instant, as many as 50% of adults suffer from one or more sleep disorders globally and for 13% they are severe with significant morbidities.[2]A number of conditions can alter sleep patterns, which can have a detrimental impact on scholastic achievement and result in psychological illnesses like depression. Particularly medical students are more likely to experience sleep difficulties.[3]

The emotional and intellectual well-being of students has been linked to the quality of their sleep. It's interesting to note that 60% of students who score well have poor sleep quality, and high achievers are 42% more likely to have difficulties falling asleep than low achievers.[4] Pupils who had difficulty sleeping also scored higher on depression, anxiety, and stress questionnaires.[5] This runs counter to the idea that getting enough sleep helps the brain work better and improves focus. Students might also be unaware of the detrimental effects that poor sleep quality can have on their grades and mental well-being.[6] The present study was conducted to evaluate sleep quality in undergraduate medical students.

MATERIALS & METHODS

The study was carried out on 470 MBBS students of both genders. All gave their written consent to participate in the study.

Data such as name, age, gender etc. was recorded. A pre-designed pre-tested semi structured self-administered questionnaire was used to gather information about students. They were divided into 3 groups. Group I were interns, group II were third and final year and group III were second and first year. Socio-demographic data, dietary habits and physical

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activity was recorded. Pittsburgh sleep quality index (PSQI) was used to assess the quality of sleep. These questions deal with various aspects of sleep that range from the average amount of sleep during the night, the difficulty experienced in falling asleep, and other sleep disturbances. Results thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I: Distribution of subjects

Group	Group I (80)	Group II (190)	Group III (200)
Year	interns	third and final year	second and first year
M:F	30:50	85:105	92:108

Table I shows that group I were interns, group II were third and final year and group III were second and first year. Group I had 30 males and 50 females, group II had 85 males and 105 females and group III had 92 males and 108 females.

Table II: Assessment of subjective sleep quality and latency

Parameters	Variables	Group I	Group II	Group III	P value
Sleep quality	Very good	31%	25%	27%	0.01
	Fairly good	49%	36%	50%	
	Fairly bad	15%	20%	16%	
	Very bad	5%	19%	7%	
Sleep latency	<15 minutes	41.2%	23%	40.4%	0.02

Table II shows that sleep quality was very good in 31% in group I, 25% in group II and 27% in group III. It was fairly good in 49% in group I, 36% in group II and 50% in group III. It was fairly bad in 15% in group I, 20% in group II and 16% in group III. It was fairly bad in 5% in group I, 19% in group II and 7% in group III. Sleep latency <15 minutes was seen in 41.2% in group I, 23% in group II and 40.4% in group III. The difference was significant (P< 0.05).

Table III: Descriptive statistics for PSQI

Categories	Mean
Subjective sleep quality	0.91
Sleep latency	1.3
Sleep duration	1.1
habitual sleep efficiency	1.0
sleep disturbances	1.4
use of sleeping medications	0.27
daytime dysfunction	0.82
Global PSQI score (total score)	6.8

The mean subjective sleep quality score was 0.91, sleep latency was 1.3, sleep duration was 1.1, habitual sleep efficiency was 1.0, sleep disturbances was 1.4, use of sleeping medications was 0.27, daytime dysfunction was 0.82. Global PSQI score (total score) was 6.8.

Table III Sleep quality among medical students

Sleep quality	Number	P value
Good	47%	0.72
Poor	53%	

Table III shows that sleep was good in 47% and poor in 53% medical students. The difference was non-significant (P> 0.05).

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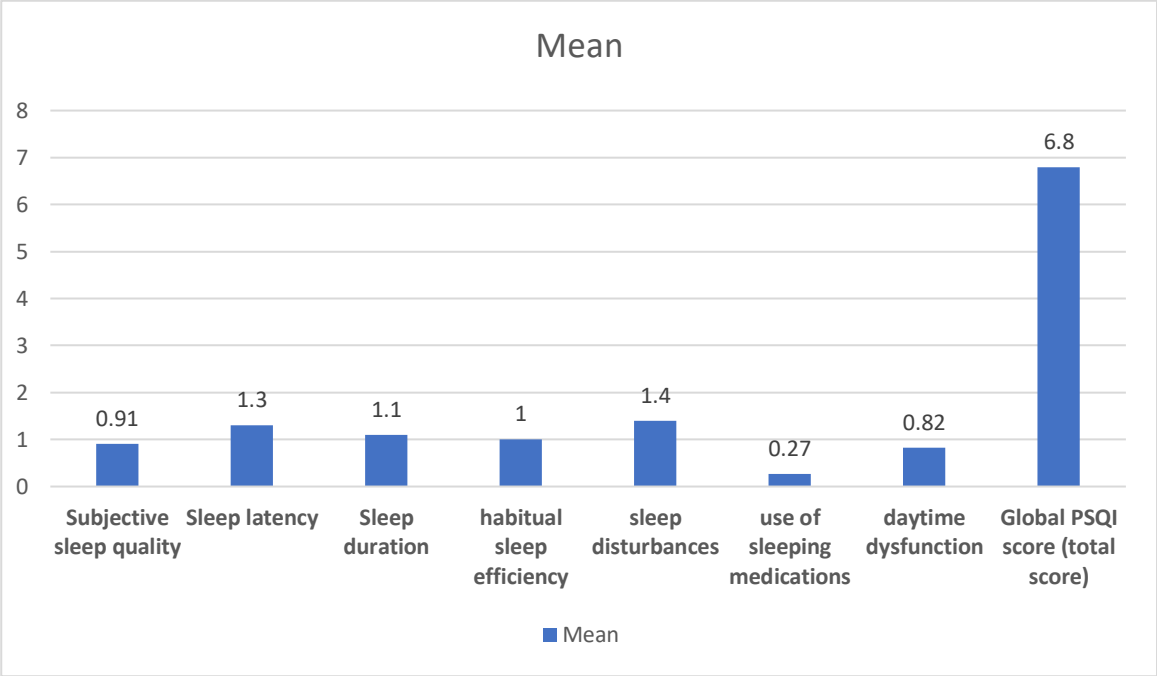
Graph I: Descriptive statistics for PSQI



DISCUSSION

Medical students may have poorer sleep quality than the typical member of modern society as a result of their demanding academic schedules.[7,8] Throughout their education and training, they frequently encounter a variety of personal and academic obstacles, which may have an effect on their overall academic success.[9,10] Among these difficulties, it has been demonstrated that poor sleep and mental health have a substantial impact on academic achievement.[11,12]The present study was conducted to evaluate sleep quality in undergraduate medical students.

We found that group I were interns, group II were third and final year and group III were second and first year. Group I had 30 males and 50 females, group II had 85 males and 105 females and group III had 92 males and 108 females. Ahlawat et al[13]assessed the quality of sleep in undergraduate medical students of Delhi. Mean age of study subjects was 21.99±1.74 years and males (67.5%) were more as compared to (32.5%) females. Most of the participants 47.4% were in first and second year, 35.5% were from third and final year and 17.1% were interns. Out of 234 participants, only 44% of study participants has good quality of sleep. Most of study participants (56%) were suffering from poor sleep quality. Batch of MBBS, relationship status, BMI and dietary habits of participants were found to be significant predictors of quality of sleep.

We found that sleep quality was very good in 31% in group I, 25% in group II and 27% in group III. It was fairly good in 49% in group I, 36% in group II and 50% in group III. It was fairly bad in 15% in group I, 20% in group II and 16% in group III. It was fairly bad in 5% in group I, 19% in group II and 7% in group III. Sleep latency <15 minutes was seen in 41.2% in group I, 23% in group II and 40.4% in group III. Yaghmour et al[14]assessed the effect of sleep quality and mental health on the academic performance of medical students. A total of 382 responses were analyzed. The majority of students (86.6%) had GPAs greater than 3.75/5, while only 1% of the sample had a GPA lower than 2.75/5. The PSQI showed a median and interquartile range of (9, 6-11). Normal DASS-21 represented the majority as follows: depression at 67%, anxiety at 63.1%, and stress at 82.2%. In the statistical analyses, sleep quality, depression, anxiety, and stress were not statistically significant with the student's GPA.

We found that the mean subjective sleep quality score was 0.91, sleep latency was 1.3, sleep duration was 1.1, habitual sleep efficiency was 1.0, sleep disturbances was 1.4, use of sleeping medications was 0.27, daytime dysfunction was 0.82. Global PSQI score (total score) was 6.8. Sleep was good in 47% and poor in 53% medical students. Menon et al[15] included seven hundred and thirteen students. Threehundred and twenty-four (45%) students reported headache, 281 (39%) students tiredness,193 (27%) back pain, 72 (10%) symptoms of acid peptic disease, 61 (9%) insomnia, 47 (7%)depression. Five hundred and forty-eight (77%) had night duties at least 1 week in a month. Comparison between PSQI (A) and PSQI (B); ESS (A) and ESS (B). Students with better sleep quality had less insomnia and depression and able to study for more hours. Students with excessive daytime sleepiness were older, had more insomnia, depression, acid peptic disease, and were doing more night duties and less ward duties. This study found thatstudents with poor sleep quality were able to dedicate fewer hours to study and eventually had poor marks and were more depressed

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than their peers. Sleep disruptions probably acts onthe cognitive control leading to depressive symptoms. The limitation of the study is small sample size.

CONCLUSION

Authors found that most of medical students had poor sleep quality. More focus is needed to determine the variables influencing medical students' sleep quality and to develop potential ways to avoid any long-term effects in order to improve their quality of sleep.

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