DOI: https://doi.org/10.53350/pjmhs2216634

ORIGINAL ARTICLE

Sleeping Trends & Academic Performance among Medical Students

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ABSTRACT

Background: Improper sleep and sleeping in the daytime affect intellectual ability of a student and have a undesirable effect on the academic performance.
Aim: To define relationship between improper sleep and educational performance.
Study design: A Cross sectional study
Place & duration of study: 4 months in Lahore Medical & Dental College, Lahore, Pakistan
Methodology: This study conducted on 103 medical students. All from fourth year MBBS studying at Lahore Medical & Dental College, Lahore. The students who participated in the study given to complete Pittsburgh Sleep Quality Index (PSQI) questionnaire to find out the quality of their sleep. Their third year annual result obtained to see their academic performance.
Results: The no of students that initially participated in the study was 133, however 103 (77%) completed the questionnaires. From the responses received 18.4% students use to be in bed before 11:00 pm, 39.8% went to bed between 11:00 pm and an hour after midnight; and 41.7% went to bed after 2 to 4 am. Most of the students, 75.7% woke up between 5:00 am & 7:00 am and only 1.3% students woke up at or after 8:00 am. There was another class of 21 students, representing 20% reported using sleeping pills. Time taken from fully awake to deep sleep mentioned by 33.0% of the students was less than 15 minutes. Half an hour reported by 46.6% students, 60 and above minutes reported by 20.4% students. Washroom usage at night reported as not causing severe sleep disturbance. 42.7% never have to get up for use of washroom during last one month. 32% and 17.5% were those who have to get up to use washroom once or twice a week.
Conclusion: Due to disturbed circadian rhythm of sleep, caused by academic busyness the lack of sleep and its quality caused. . The disturbed sleep in our study was however not associated with academic performance.
Keywords: Undergraduate medical students, academic performance, sleeping habits.

INTRODUCTION

Students in different institutions these days find difficulty in maintaining alertness in their classrooms and might even fall asleep as result of insufficient sleep. Among other consequences, they might show poor academic performance. To have better academic performances; this consequence should be addressed by searching the prevalence.

The sleep–wake cycle, which is a biological rhythm in our body and is driven by a circadian timing system, which is further influenced by factors such as physiological function, school and work schedules, and many others[1]. The sleep–wake cycle of medical students, characterized by insufficient sleep duration, delayed sleep onset and occurrence of snoozing episodes during the day[2]. Sleep deprivation can significantly impair physical, cognitive, and emotional functions. Medical students attend wards and study for long hours daily, this continuous load without recovery may be fatal for quality in student self-training, medical errors, and so patient safety.

This study will help to know relationship between student's academic performance, daytime sleepiness and chronic sleep deprivation. The data will raise awareness among medical students and teaching staff about the dangerous effects of sleep disturbances on academic performances, if any.

METHODOLOGY

A Cross Sectional Study aimed to examine the prevalence of daytime sleepiness among medical students and to explore its relationship with academic performance Place of study is Lahore Medical & Dental College, Lahore, Pakistan. Variables checked in the study: The variables of our study were sleep patterns and academic performances. Study population was 4th year MBBS students. Study sample was 133, male and female students. The duration of this study was 4 months approximately.
Data collection tool: After having detailed review of literature about the topic, we developed a simple structured questionnaire and distributed to all the fourth year MBBS students. The participation was voluntary.
Data analyzed using the SPSS version 20

Received on 12-11-2021
Accepted on 13-05-2022

RESULTS

The no of students that initially given the questionnaire were 133, of which 103(77%) responded. Of which female respondents were 61(60%) and male respondents were 42(40%). 31(30%) resided in hostel, and 72(70%) were day scholars (Table 1).

Table 1: Demographic features of population under study (n=153)

Characteristic	Frequency	%age
Gender		
Male	42	40
Female	61	60
Residential status		
Living in Hostel	31	30
Living in Home	72	70

Sleep Patrons: Nineteen (18.4%) students went to bed before 11pm, 41(39.8%) were in the bed from 11 pm to an hour after 12 am. Forty-three (41.7%) went to bed after 2 to 4 am [Fig. 1(a)]. Most of the student's 78(75.7%) woke up between 5am and 7am and only 25(1.3%) students were out of bed at or after 8am [Fig. 1(b)]. Twenty-one (20%) students were on sleep medications to enhance their sleep. Time from fully awake to deep sleep was reported as less than 15 minutes by 34(33%) of the students and half an hour was reported by forty-eight (46.6%) students. However an hour and above was reported by 21(20.4%) students (Fig. 3). To Get up and go to the washroom stated as not the main cause of sleep interference while sleeping. Forty-four (42.7%) never have to get up for use of wash room during last one month and less than once or twice a week were 33(32%) and 18(17.5%) respectively. However, students who used wash room three or more times in a week were only 8(7.8%). Regarding self-reported sleep quality, only 3(2.9%) of students reported very bad sleep quality. Twenty-six (25.2%) reported bad and 56(54.4%) reported good while only 18(17.5%) reported very well (Fig. 2). In a struggle

for assessment of sleep quality using PSQI, 86(56.2%) had scores of more than five, suggestive of poor sleep quality.

The SPQI total score was calculated as less than 5(18.4%) and these students were nineteen only, however more than five were found out to be 84 (81.6%) students, so most of the students were not having proper sleep but according to the academic performance of the same class as shown in fig. 4.

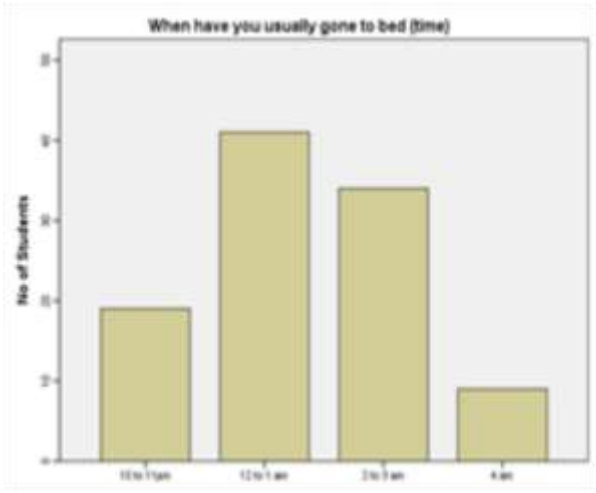
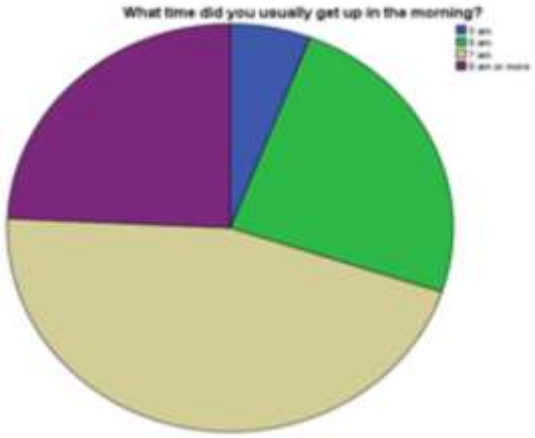


Fig.1 (a)



(b)

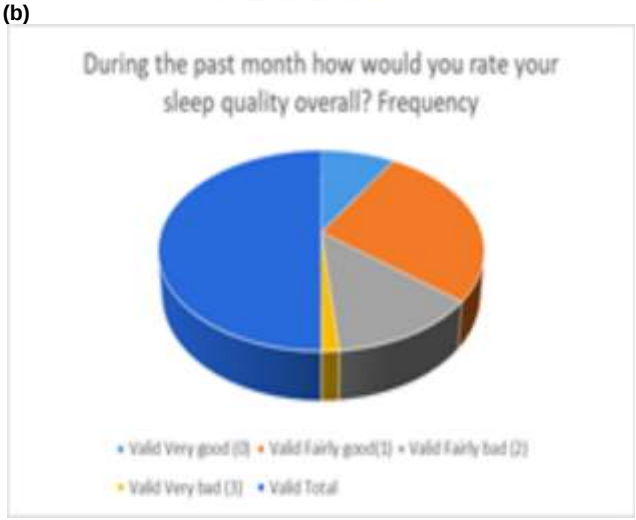


Fig. 2: Self-reported quality of sleep

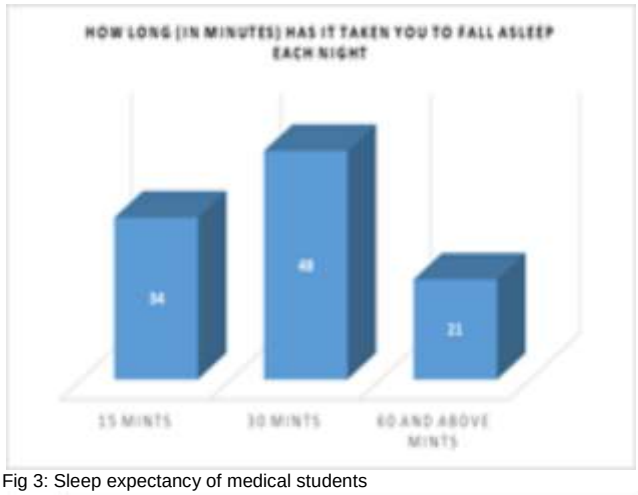


Fig 3: Sleep expectancy of medical students

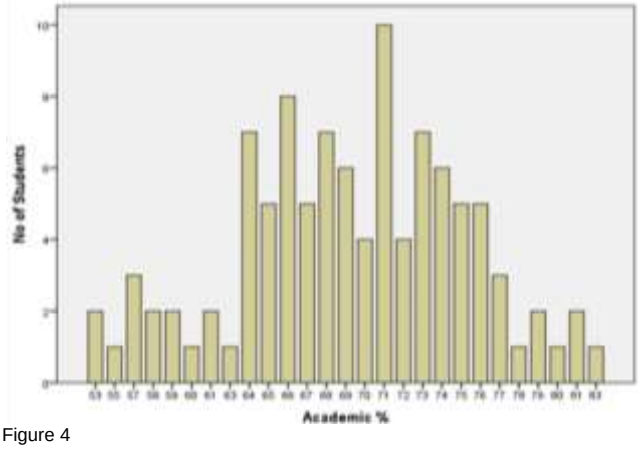


Figure 4

This is obvious that their results are not that bad as all are above the passing marks. However, the data for academic performance is for the annual examination, which was in previous month.

DISCUSSION

Poor sleep quality and daytime sleepiness reported to be associated with poor academic performance[4]. This study assessed the association between sleep quality and academic performance in medical students. From this study, we came to know that students representing 39.8% were in the bed from 10pm to midnight and 75.7% of students awaken from sleep before 7 am. This was continual with similar articles published for medical students in Europe and the Middle East. There also about 70% of pupils went to bed between 10pm – 12am[3].

The medical students probably sleep after twelve midnight and wake up earlier. Academic schedule bring in them such changes. From our study, we came to know that mostly night sleep of our students was 5.6 hours that is similar to the study done in Saudi Arabia[5]. They determined that decreased night sleep time is negatively associated with academic performance in medical students. The results showing going to bed and have deep sleep revealed that it took 46.6% of students half an hour to sleep and others 20.4% of students took almost an hour to fall asleep. Maximum no of MBBS students have longer period to fall asleep. During the exams longer time taken to go to bed and have deep sleep. The thirty two percent of students roused up at least once in a week throughout the night to use the washroom.

Our study data tells us that only 21.3% of medical students snore at night. If Snoring occurs, it may lead to poor sleep. According to our study, in past month about 54.3% of students said

that they had dreams at least once. Daytime drowsiness during lectures will upset concentration levels during lecture times, contributing to poor academic performance. However, in the academic performance, taken from the previous annual exam of these fourth year medical students [Fig. 4], showed above average results as compared to their total Pittsburgh Sleep Quality Index (PSQI) score. It was more than five in eighty-four (81.6%), students and as per the description given by PSQI, "A global sum of "5"or greater indicates a "poor" sleeper. Less than five score achieved by only nineteen (18.4%) students, indicative of bad sleepers. ≥5 PSQI score of medical students does not seem to influence their academic performances as indicative in our study. Forthcoming studies needed to validate the present findings.

CONCLUSION

We concluded that there is a high occurrence of excessive daytime sleepiness among medical students in our study. This troubled sleep however is not associated with academic performance.

Recommendations: Longitudinal surveys needed to decide whether prolonged sleep disturbances ultimately effect the academic performance of this cohort, if done.

Conflict of interest: Nil

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