Sleep pattern and dozing chance among university students

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Abstract

Background: Sleep is defined as a naturally occurring state of the body within a relatively inhibited sensory activity, reduced metabolic rate and decreased interaction with the surrounding. Impaired sleep affects students’ productivity, this area is not fully covered in the literature. Objectives: To assess sleep patterns and dozing chance among university students. Methods: Institutional based cross-sectional study, a sample of 145 male university students from ALMaarefa University aged between 19 and 27 years old, chosen randomly. A self-administered questionnaire developed specifically for this study after consulting literature and epidemiologist. It includes data about the Epworth Sleepiness scale and GPA. Data were analyzed using (SPSS, version 22.0) and (P values of ≤0.05) considered significant. The consent was obtained before data collection. Results: The majority of respondents (62, 1%) reported sleeping time of 5-8 hours per night. To fall asleep at night 13, 1% of participants indicated needing soporific. Overall, only 36, 6% of students showed good sleep behaviors. Among respondents (44, 1%) had moderate chances of dozing and 2, 8% had high chances of dozing, There was no significant statistical relationship between academic performance and bedtime (P value = 0.231). Conclusion: The majority of respondents had poor sleep quality and moderate to high dosing chance, also, most of the participants go to bed after midnight. In addition, one fifth of participants reported sleeping less than 8 hour per day.

Keywords: Sleep quality, Sleep disturbance, Adolescence, Stress; Mood, College students

Introduction

Poor sleep quality is associated with numerous mental health concerns and poorer overall physical health. Sleep disturbances are commonly reported by public safety personnel (PSP) and May contribute to the risk of developing mental disorders or exacerbate mental disorder symptoms.[1] Based on available data, it appears that sleep disorders are prevalent among Saudis, and the demand for sleep medicine service is expected to rise significantly in the near future. Awareness about sleep disorders and their serious consequences is low among health care workers, health care authorities, insurance companies and the general public. A major challenge for the future is penetrating the educational system at all levels to demonstrate the high prevalence and serious consequences of sleep disorders. To attain adequate numbers of staff and facilities, the education and training of health care professionals at the level of sleep medicine specialists and sleep technologists is another important challenge that faces the specialty.[2] Primary sleep disorders include those not attributable to another medical or psychiatric condition: insomnia disorder,
hyper somnolence disorder, narcolepsy; obstructive sleep apnea hypopnea syndrome, central sleep apnea syndrome. Sleep disorders are common and may result in significant morbidity. Examples of the major sleep disturbances in primary care practice include insomnia; sleep-disordered breathing, such as obstructive sleep apnea; central nervous system hypersonmia, including narcolepsy; circadian rhythm sleep disturbances; parasomnias, such as REM sleep behavior disorder; and sleep-related movement disorders, including restless legs syndrome. Diagnosis is based on meticulous inventory of the clinical history and careful physical examination. It is important to recognize these disorders and be comfortable treating them or to know when to refer to a sleep disorders center and sleep specialist. Excessive daytime sleepiness is a significant public health concern since it is associated with cognitive impairment, automobile accidents, injuries, medical errors, and lost productivity. This research aims to identify the sleeping patterns of medical students in Almaarefa University.

Methodology

Institutional based cross sectional study. Conducted among University students of Almaarefa University in Riyadh (KSA). Inclusion criteria were male students. 145 male students enrolled in the study and chosen randomly. Data collected using questionnaire which contains data about (Epworth Sleepiness Scale and GPA) it was a pretested, preceded and self-administered questionnaire developed for the purpose of this study after consulting literature and epidemiologist, it was subjected to a probe to test for reliability and validity. In data collection method the questionnaire was distributed in the classes. The data were analyzed using SPSS version 22 and P value of 0.05 was considered significant. Consent obtained before data collection.

Results

Demographics of the studied subjects

Table 1 shows the attributes of the study sample. Subjects were 145 Almaarefa male students. Most respondents 81 (55.9%) between 19 and 22 years old, while 58 (40%) were 22-24 years old and 6 (4.1%) were 25-27 years old. 25.4% of participants were in 7th level (23.4%), while 21.4%, 13.1%, 11%, 10.3%, 8.3%, 6.9% 1.4% and 0.7% of students were in 9th, 8th, 7th, 6th, 5th, 4th, 3rd, 2nd and 1st level respectively.

Epworth: Dozing chances

Table 2 shows the distribution of participants by dozing chances. 31% of respondents, showed no dozing chance and 22.1% showed slight dozing chance, while 44.1% of the study group had moderate chance of dozing off and 2.8% had high chances of falling asleep.

Table 3 shows the sleep patterns of the students overall sample. The daily sleep duration of the majority of students (62.1%) was between 5 and 8 hours, while 17.9% reported sleeping less than 5 hours daily and 20% more than 8 hours of sleep per night. Almost the half of participants (51.7%) mentioned sleeping after 12 pm, where 39.3% reported a daily sleep time between 8 pm and 12 pm and a minority with 9% reported going to bed before 10 pm. Among students, the majority (56.6%) do not sleep continuously. Also most of them (62.8%) said that it took them more than 20 minutes to fall asleep. A high proportion of students (60%) were unable to wake up quickly and easily in the morning compared to 40% of them who were active in the morning. Of respondents, close to half (49.7%) affirmed being bothered by external influences before and during their sleep period and also about the half (48.3%) reported finding difficulty going back to sleep when they wake at night. Also, 78.6% of students reported no frequent nightmares, 21.4% of them reported suffering from frequent ones. Furthermore, we also found that, to fall asleep, 13.1% of participants indicated needing soporific (pharmaceuticals, alcohol, or other drugs) compared to a proportion of 86.9% who did not needed them.

Table 4 shows that overall, only 36.6% of students showed good sleep behaviors, while the majority (63.4%) adopted inadequate sleep behaviors [Table 4].
Relation between dozing and academic performance

Table 6 shows that High and moderate chances of dozing are likely to be more frequent among students who sleep after 12 pm. Still, bed time was not found statistically related with dozing $P = 0.234$.

Discussion

This study illustrates dozing chances using the Epworth Sleeping Scale. Based on an Epworth score $\geq 10$, the present study showed that almost half of students were considered to have excessive daytime sleepiness (EDS). In study in Libya, (2012),[6] a smaller percent of students had a score $>10$, considered as quite possibly underestimated after examining the actigraph records, while a study conducted in Riyadh (2005)[7] showed that nearly the quarter of subjects were considered to have EDS. Students who had no chance to experience sleepiness presented very similar proportion to the results of Iranian study (2008).[8]

Sleep habits

Herein, most participants in this study reported sleeping between 5 to 8 hours/night, which is comparable to the mean sleep duration in Lebanese university students ($6.67 \pm 1.6$ hours) and the total sleep time ($6h$ and $40$ min) reported.[9]

In addition to reduced sleep-time, the majority of surveyed students have also reported late sleep-time at 12 pm. There were no significant association between sleep timing and daytime sleepiness. Counter to our results, Eliasson AH et al. have found that earlier sleep timing were significantly associated with higher performance while total sleep duration was not, USA (2010).[10] More than half of students had woken up during the night suffering from sleep disturbance. Likewise, a near proportion was found by Yousef A. Taher et al., Libya (2012).[6] To fall asleep, a large proportion of studied participants took more than 20 min of going to bed. Similarly, Shafika Assaad et al. revealed that about the two fifth of students took 30 minutes trying to sleep, Lebanon (2014).[9] the use of other substances could be underestimated due to consumption denial, Libya (2012).[6] Among students that have night waking, about the half reported difficulty going back to sleep. Results revealed also that a number of students had frequent nightmares. Most surveyed students in our study complained about difficulty in waking up in the morning.

The exact origin of poor sleepiness in students seems difficult to determine because of the presence of several possibly incremented factors such as use of stimulants, psycho-stimulants, surfing in the internet, wide napping practice…. Findings of this study indicate that around half of students were bothered by outside light, noise, other individuals, or animals before and during the sleep period. Also as an explanation for poor sleeping quality, studied young men mentioned the consumed medications, having bothersome snoring during sleep or suffering

Table 3: Distribution of sample by sleep patterns

| Frequency | Percentage |
|-----------|------------|
| <5 h      | 26         | 17.9 |
| Between 5 and 8 h | 90       | 62.1 |
| more than 8 hours | 29       | 20.0 |
| Total     | 145        | 100.0 |

| Table 4: Distribution of sample by quality of sleep

| Sleep hygiene  | Frequency | Percentage |
|----------------|-----------|------------|
| Poor sleep hygiene | 92        | 63.4 |
| Good sleep hygiene | 53        | 36.6 |
| Total           | 145       | 100.0 |

Table 5 shows the relation between dozing chance and GPA. High chance of dozing (75%) is likely to be observed in students with higher GPA (3-4). However no statistically significant relation was found since $P = 0.231$. 

Table 5: Distribution of sample by sleep patterns

| Frequency | Percentage |
|-----------|------------|
| No        | 82         | 56.6 |
| Total     | 145        | 100.0 |

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 relation between dozing and academic performance

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Limitation of this study is that students’ sleep problems may be underestimated due to social desirability bias that may have touched the reported responses. Furthermore, the survey was carried out on specific population from one City in the country and thus our results may not be consistent with general sleep patterns and dosing chance among students in universities in Saudi Arabia.

**Conclusion**

The majority of respondents had poor sleep quality and moderate to high dosing chance, also, most of the participants go to bed after midnight. In addition, one fifth of participants reported sleeping less than 8 hour per day.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.
Conflicts of interest

There are no conflicts of interest.

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