JOURNAL OF CULTURAL ANALYSIS AND SOCIAL CHANGE

Journal of Cultural Analysis and Social Change,
2026, 11(1), 2487-2494
ISSN: 2589-1316

# Sleep Habits and Patterns among Students of the College of Public Health and Health Informatics - Qassim University - Saudi Arabia

Mahmoud Fathi Jaber[1], Ahmed Elnadif Elmanssury[1], Safa Abdalla Elnour Dafaallah[1], Abdulrahman Almujadel[1*], Mahmoud Jumaa[2], Abdelsalam Mohamed Daoud Yahya[3]

[1] *Department of Public Health, College of Applied Medical Sciences, Qassim University, Buraydah 51452, P.O. Box 6666, Saudi Arabia*
[2] *College of Medicine, Sulaiman Al Rajhi University P.O. Box 777, Bukairyah, Al-Qassim 51941, Saudi Arabia*
[3] *Jazan University, College of Public Health and tropical Medicine, Epidemiology Department, Jazan, Saudi Arabia.*

*__Corresponding Author:__ almujaidel@qu.edu.sa

**Citation:** Jaber, M. F., Elmanssury, A. E., Dafaallah, S. A. E., Almujadel, A., Jumaa, M., & Yahya, A. M. D. (2026). Sleep Habits and Patterns among Students of the College of Public Health and Health Informatics - Qassim University - Saudi Arabia, *Journal of Cultural Analysis and Social Change*, 11(1), 2487-2494. https://doi.org/10.64753/jcasc.v11i1.4408

**Published:** February 02, 2026

## ABSTRACT

This study was designed to assess sleep habits among males' Public Health students of the College of Public Health and Health Informatics - Qassim University - Saudi Arabia. We conducted a cross-sectional study among 176 students in college of public health and health informatics-Qassim University –Saudi Arabia during the second semester of the academic year 2018 /2019. The required data were collected using a questionnaire of one part, sleep habits questionnaire which contains 10 questions were used to measure Sleep habits among students in college of public health and health informatics-Qassim University –KSA. Data were analyzed statistically by using the SPSS-25 program and chi-square test. Independent sample t-test and ANOVA were also run to find the mean differences. 176 students, with an average age of 23, were used in this study. The duration of a night's sleep among the students was 6 hours. 25.7% of the students went to sleep after midnight and 27.5% woke up before 6 a.m. 65.9% of the students took a daytime nap. A significant correlation was observed between students 'alertness and academic performance, which showed that most students who had great quality of sleep had excellent academic performance. On the basis of gender and education level significant differences were found between best grades of male and female students, and level 3 and level 4 students with level 5,6 and 7 students. Despite the numerous studies on this topic, students always work to ignore sleep disorders and the problems resulting from them, so advice must always be made and better planning made while supporting students who suffer from sleep habits problems by understanding the relationship between sleep habits and academic performance.

**Keywords:** sleep, habits, academic performance, Patterns, student.

## INTRODUCTION

Sleep is a physiological process that performs very important functions including growth, repair, energy recovery and memory consolidation. [1,2] Sleep makes a difference the brain to way better prepare great encounters and information and works to extend the understanding and retention of information. The average individual needs from seven to nine hours of sleep to get adequate sleep per night. The quantity and quality of sleep help to maintain the mental and physical health of the individual. During sleep, the brain consolidates and integrates memory; Adequate and good sleep eliminates difficulties in concentration, mood adjustment and the ability to learn. [1].

Sleep disturbance has a negative effect and can lead to memory impairment, behavioral and cognitive disturbance. [1] Mounting evidence suggests that sleep changes can aid the later development of depression.[4]. Physical, mental and environmental factors influence sleep habits, including age, gender, job, lifestyle, stress and noise.[3]

Sleep disturbances, not sleep duration, are a predictor of weight gain among young people. The problems of insufficient sleep and irregular waking appeared in younger adolescents, and these problems also appeared in a disturbing way in university students. [5]. As a result of changing the labor market and increasing competition for jobs, university students were exposed to great psychological pressures. Also, psychological pressures caused tension and anxiety among students and eventually led to sleep problems. One of the reasons that students may be exposed to diseases is sleep deprivation as the frequent changes in sleep habits Waking up may negatively affect students' sleep and general health, such as a decrease in sleep quality, an increase in the risk of cardiovascular disease, and a decrease in academic performance as well [6]. In fact, sleep habits are one of the first to change everyday habits for many junior college students [7].

Previous studies indicated that poor student sleep quality was related with increased stress, irritability, depression, and decreased life satisfaction in general, and an increase in daytime sleepiness was also reported among college students [8]. Sleep deprivation may cause daytime sleepiness and result in mood disorders and may even amount to drug use. Some studies have shown that people who suffer from daytime sleepiness affect their workdays more than people who sleep well. A large portion of people suffer from related disorders with sleep habits away from age, gender and ethnic group, but university students are the most vulnerable to sleep disorders because of their frequent waking with short sleep periods on weekdays and sleeping at late times, and thus the body does not get enough hours of sleep, and all this results in mood disorders, sleep behavior problems and waking [9].

Especially public health students, they are always busy in the study and in the activities of the hospital, as they have to always deal with the anxiety and tension resulting from the study and their constant contact with patients' diseases, their suffering and their death.[9] Public health students need a great deal of knowledge and training in order to qualify well, so the pressure on them is very great, as they face challenges to maintain a high level of academic achievement in order to obtain sufficient knowledge from their studies in order to qualify them well in addition to the challenges they face about their adaptation to the hospital environment Constantly changing in a limited period of time [10]. Studies indicate that most adults endure from sleep issues and that students sleep less because of their studies, as public health students go through long and seriously academic years before they are qualified in the labor market in addition to their psychological state that may be affected as a result of family or relationships. The psychological state is a known cause of insomnia and is always linked with bad sleep habits.[2]

In order for the student to achieve better academic performance, they must get enough sleep to avoid health problems and mental disorders.[11] Sleep deprivation can have serious health consequences. It may be associated with decreased immunity and unhealthy behavior and may lead to psychological and metabolic problems such as diabetes, high blood pressure, metabolic syndrome and obesity. Global epidemiological data on the problem of identifying poor sleep quality among medical students is an essential step in identifying the burden of the problem and managing it effectively, which could ultimately improve the quality of patient care provided by emerging clinicians. As sleep deprivation and its associated symptoms have become a widespread problem among undergraduate medical students and because this problem has not been properly judged for a long time[12] so this study aims to determine sleep habits among students of the College of Public Health and Health Informatics - Qassim University - Saudi Arabia.

RQ1: Are there any differences in mean scores of students GPA and best grades on the basis of gender and education level?

## METHODOLOGY

This cross-sectional study was conducted during the second semester of the academic year 2018-2019 in college of public health and health informatics-Qassim University –Saudi Arabia. The Sample size of the present study was 176 which were drawn from college of public health and health informatics-Qassim University –Saudi Arabia by keeping in mind the inclusion and exclusion criteria.

### Sample Size and Selection

All students registered in the college of public health and health informatics in Qassim University –Saudi Arabia included in the study. 176 students of level 3,4,5,6,7,8 was focused to be included.

 

**Study Tool: The Questionnaire**

We used a structured questionnaire for the study. The questionnaire consisted of two sections to be completed by the participants.
**First section*:*** This included demographic questions involving department, Gender, age, and educational level.
**Second section*:*** This included 10 questions that were used to determine sleep habits among students of the College of Public Health and Health Informatics - Qassim University.

**Data Collection**

Data was collected using self-administered questionnaire which was explained to the students to help them understand the questions well. The questionnaire was created in Arabic, which is easy to understand for students. The purpose of the study was explained to them and approval was obtained. Participants were asked to monitor their sleep habits and other parameters described in the questionnaire during their normal days and during their regular exams.

**Data Analysis**

The data collected was entered in to SPSS version 25, and descriptive statistics which were expressed by frequency and percentages. For the association between various factors and sleeping pattern, Chi-square tests and 95% Confidence Intervals (CI) were calculated. $P<0.05$ was considered statistically significant.

## FINDING

**Table 1: Demographic Characteristic and habits pattern among Students**

| Variables | Category | Frequency | Percentage |
|---|---|---|---|
| Department | Public Health | 43 | 25.7% |
| | Health informatics | 113 | 67.7% |
| | Health Management | 11 | 6.6% |
| Gender | Male | 93 | 55.7% |
| | Female | 74 | 44.3% |
| Age | Less than or equal 23 | 159 | 95.2% |
| | More than 23 | 8 | 4.8% |
| Level of class | Class Three | 52 | 31.1% |
| | Class four | 15 | 9.0% |
| | Class five | 44 | 26.3% |
| | Class six | 20 | 12.0% |
| | Class seven | 22 | 13.2% |
| | Class eight | 14 | 8.4% |
| bedtime | Before 8:00pm | 4 | 2.4% |
| | 8:01-10:00pm | 11 | 6.6% |
| | 10:01-12:00pm | 46 | 27.6% |
| | 12:01-2:00am | 77 | 46.1% |
| | After 2:00am | 29 | 17.4% |
| Wake-up time | Before 3:00am | 5 | 3.0% |
| | 3:01-5:00am | 18 | 10.8% |
| | 5:01-7:00am | 83 | 49.7% |
| | 7:01-9:00am | 45 | 27.0% |
| | 9:01-11:00am | 10 | 6.0% |
| | After 11:00am | 6 | 3.6% |
| Number of hours of sleep at night | ≤1 | 1 | 0.6% |
| | 2-4 | 30 | 18% |
| | 5-6 | 69 | 41.3% |
| | 7-8 | 55 | 33% |
| | 9-10 | 7 | 4.2% |
| | >10 | 5 | 3.0% |

The previous table indicate that 95.2% of the respondents have age Less than or equal 23. 31.1% of them in the third level of their education. 25.7% of them go to bed at 12:00-1:00am.

 

**Table 2: Sleep habits pattern among Students during the period of exam and Effect on Students Performance:**

| Variables | Category | Frequency | Percentage |
|---|---|---|---|
| Sleeping during exam days | No | 57 | 34.1% |
| | Yes | 110 | 65.9% |
| Sleep time before the exam | Before 8:00pm | 6 | 3.6% |
| | 8:00-10:00pm | 17 | 10.2% |
| | 10:01-12:00pm | 51 | 30.8% |
| | 12:01-2:00am | 47 | 28.2% |
| | After 2:00am | 45 | 26.9% |
| Wake up morning during exams | Before 4 am | 41 | 24.6% |
| | 4 – 5 am | 58 | 34.7% |
| | 5 – 6 am | 42 | 25.1% |
| | After 6 am | 26 | 15.6% |
| Ffeeling tired after waking up | Never/almost never | 35 | 21.0% |
| | Once/twice a week | 77 | 46.1% |
| | 3-5 days a week | 25 | 15.0% |
| | Almost every day | 30 | 18.0% |
| Feeling sleepy during the day | Never/almost never | 35 | 21.0% |
| | Once/twice a week | 84 | 50.3% |
| | 3-5 days a week | 26 | 15.6% |
| | Never/almost never | 35 | 21.0% |
| GPA | <2.5 | 10 | 6.0% |
| | 2.51-3.0 | 29 | 17.4% |
| | 3.01-3.5 | 62 | 37.1% |
| | >3.5 | 66 | 39.5% |

**Table3: Relationship between sleeping habits and overall performance in exams**

| Sleeping Habits | Categories | GPA | | | | Total | Chi-Sq | P-value |
|---|---|---|---|---|---|---|---|---|
| | | <2.5 | 2.51-3.0 | 3.01-3.5 | >3.5 | | | |
| **Number of hours of sleep at night** | ≤1 | 1 | 0 | 0 | 0 | 1 | **44.524** | **0.043** |
| | 2-4 | 3 | 1 | 12 | 14 | 30 | | |
| | 5-6 | 4 | 14 | 27 | 24 | 69 | | |
| | 7-8 | 2 | 9 | 18 | 26 | 55 | | |
| | 9-10 | 0 | 4 | 3 | 0 | 7 | | |
| | >10 | 0 | 1 | 2 | 2 | 5 | | |
| | **Total** | **10** | **29** | **62** | **66** | **167** | | |
| **Sleeping during exam days** | No | 10 | 9 | 24 | 14 | 57 | **24.900** | **< 0.01** |
| | Yes | 0 | 20 | 38 | 52 | 110 | | |
| | **Total** | **10** | **29** | **62** | **66** | **167** | | |
| **Sleep time before the exam** | Before 8:00pm | 2 | 2 | 1 | 2 | 7 | **36.501** | **0.019** |
| | 8:00-10:00pm | 1 | 4 | 6 | 6 | 17 | | |
| | 10:01-12:00pm | 3 | 9 | 26 | 13 | 51 | | |
| | 12:01-2:00am | 4 | 11 | 16 | 16 | 47 | | |
| | After 2:00am | 0 | 3 | 13 | 29 | 45 | | |
| | **Total** | **10** | **29** | **62** | **66** | **167** | | |

The previous table indicate that the p-value of the test (0.043) less than 0.05, so we can reject the null hypothesis and accept the alternative one which refer to there is found a significant relationship between sleeping hours and overall performance in exams with level of confidence 95%.

The previous table indicate that the p-value of the test less than 0.01, so we can reject the null hypothesis and accept the alternative one which refer to there is found a significant relationship between Sleeping during day time and students' performance in exam with level of confidence 95%.

The previous table indicate that the p-value of the test (0.019) less than 0.05, so we can reject the null hypothesis and accept the alternative one which refer to there is found a significant relationship between Less hours of sleeping during previous day of exam and exam performance with level of confidence 95%.

**Table4: Relationship between demographic characteristic and bedtime.**

| Demographic characteristic | Categories | Bedtime | | | | | Total | Chi-Sq | P-value |
|---|---|---|---|---|---|---|---|---|---|
| | | Before 8:00pm | 8:01-10:00pm | 10:01-12:00pm | 12:01-2:00am | After 2:00am | | | |
| **Age** | Less than / equal 23 | 4 | 11 | 45 | 75 | 24 | **159** | **13.921** | **0.053** |
| | More than 23 | 0 | 0 | 1 | 2 | 5 | **8** | | |
| | **Total** | **4** | **11** | **46** | **77** | **29** | **167** | | |
| **Gender** | Male | 2 | 2 | 26 | 45 | 18 | **93** | **15.214** | **0.033** |
| | Female | 2 | 9 | 20 | 32 | 11 | **74** | | |
| | **Total** | **4** | **11** | **46** | **77** | 29 | **167** | | |

The previous table indicate that the p-value of the test (0.053) greater than 0.05, so we can accept the null which refer to No significant relationship between age and sleep hours with level of confidence 95%.

The previous table indicate that the p-value of the test (0.033) less than 0.05, so we can reject the null hypothesis and accept the alternative one which refer to there is found a significant relationship between gender and sleep hours with level of confidence 95%.

**Table 5:Independent Sample T-test of GPA and best grade on basis of Gender**

| Variables | Gender | N | Mean | S. D | F | p-value |
|---|---|---|---|---|---|---|
| GPA | Male | 93 | 2.98 | 0.884 | 0.313 | 0.576 |
| | Female | 74 | 3.26 | 0.892 | | |
| Best Grade | Male | 93 | 1.32 | 0.694 | 44.846 | 0.000 |
| | Female | 74 | 2.19 | 1.811 | | |

**Table 6: Analysis of Variance test (ANOVA) on Basis of Education for GPA and Best Grade:**

| | | Sum of Squares | df | Mean Square | F | p-value |
|---|---|---|---|---|---|---|
| GPA | Between Groups | 13.302 | 5 | 2.660 | 3.570 | 0.004 |
| | Within Groups | 119.968 | 161 | .745 | | |
| | **Total** | **133.269** | **166** | | | |
| Best Grade | Between Groups | 46.634 | 5 | 9.327 | 5.603 | 0.000 |
| | Within Groups | 267.989 | 161 | 1.665 | | |
| | **Total** | **314.623** | **166** | | | |

Independent sample t-test was run on the GPA and best grade on basis of gender. It is revealed in table 7 that there were 93 male students and on the basis of gender mean score for male students GPA was M=2.98 and for female (74 students) was M= 3.26, apparently there is difference in the mean scores of male and female students' GPA but statistically it is not significant F= 0.313, p>0.05, on the contrary for male and female students on the basis of gender there is significant difference found M= 1.32, and for females M= 2.19, it is statistically significant F= 44.846, p<0.01 respectively. This means gender does play a significant role in obtaining best grades and in this study female mean score is high as compared to male students therefore it implies that female got more best grades than male students. Further analysis of ANOVA results in Table 8 revealed that on the basis of education level there is a significant difference in GPA and best grades. On the basis of education for GPA F= 3.570, p<0.05 and best grades F= 5.603, p<0.01. Tukey test was run to investigate the differences in specific level of educations (See Appendix I). it is evident form the Appendix I that on basis of education for GPA there is significant difference found between level 4, 5,6 and 7. For best grades differences found between level 3,4,5,6 and 7 respectively.

## DISCUSSION

Adequate sleep is vital to feeling alert and showing peak performance, and students who get enough sleep perform better on memory and movement tasks than students who are sleep deprived. Researchers report that poor sleep can lead to inattention, leading to poor academic performance. In our study, a significant correlation was observed between students' alertness and academic performance which appeared that the most students with great sleep quality had excellent academic performance. These results are similar to previous reports in that adequate sleep was positively correlated with the student's rate. [11] Moreover, in a study in Ghana, there was a relationship between sleep quality and the academic performance of the students, as more than half of the students delighted a good quality of sleep and thus their academic performance was excellent and it was not proven that the students who had a good quality of sleep reported their weakness in their academic performance. [12]. An American study showed that abnormal sleep habits affect university students, and thus affect their academic level on tests [13]. Another study showed that 28% of students suffer from poor memory and learning difficulties as a result of sleep deprivation and poor sleep quality [14]. Therefore, students who get enough sleep are not at risk of impaired academic performance as students who have disturbances in sleep habits may suffer [15].

Our study investigated the time student's sleep at night and when they wake up in the morning. Our study showed that 25.7% of students went to bed after 12 am and 27.5% of students woke up before 6 am. In a study in Ghana, 66% of students went to bed. Sleeping after 10 pm and 85% of students also woke up before 6 am. Likewise, in similar studies in Europe and the Middle East, about 70% of students went to sleep after 10 pm [16]. An African study showed that the average sleep time of students in the Department of Pediatrics of the University of Nigeria Hospital was 11 pm and more than half of the students woke up before six in the morning [17]. while 42% of the students went to sleep after midnight and 18% of them woke up before 6 am in a study Palestinian. By the same token, Egypt, France, the United Kingdom, Italy and Germany, the students' bedtime was approaching midnight as well [18].

In order to be able to work with focus, it is important to get enough sleep. Therefore, it is important to know how much sleep the body needs, but it seems that sleep researchers have not agreed on this amount yet.[10] Our study showed that the duration of sleep at night among 28.6% of undergraduates was 6 hours. While the average number of hours of sleep at night among students was 6.4 ± 1.1 hours in a Palestinian study[6], and it was 6.7 +/- 1.3 hours in a Korean study. [18]The results were also close to an African study who reported an average of 6.2 hours of sleep [19].

In our study, 65.9% of students were daytime sleepiness. Which was higher than the study conducted by Mausumi Basu et al in India which was 24.91%[12], and higher than the study by Priya et al. In Pawapuri which was 37% [20]. And also, higher than Ibrahim et al. In Saudi Arabia by 37.3% [21]. The increment in the percentage of those who take a nap may indirectly reflect an expanded physical require or desire for more sleep due to sleep deprivation.

Our study showed that there is an important relationship between sex and sleeping hours, so males slept more than females. Our results are in agreement with Wali and colleagues, who showed that 88% of Saudi males take a nap during the day. Daytime naps seem to be related to cultural background [22].

Therefore, sleep quality among university students is a topic that has been studied all over the world because of its effects on academic routine and personal life, especially public health students. They are a special group of young people who have life restrictions that can cause irregular sleep habits or an average shortening in sleep duration compared to need. Natural for an individual to sleep [11]. Moreover, it was found those students' bets grades vary with the gender and level of education. Female students got more best grades as compared to male students and level 4 and level 3 students got more differences in obtaining best grades as compared to level 5, 6 and 7.

## CONCLUSION

Sleep makes a difference the brain to way better prepare great encounters and information and works to extend the understanding and maintenance of data. Therefore, our study showed the sleep habits of public health students, because they endure from irregular sleep habits due to the continuous academic exams and swarmed timetables, which influenced their sleep hours and their waking time and thus led to sleep deprivation and destitute sleep quality.

### Limitations and Future Research Directions

This existing study offered several contributions but it is essential to highlight limitations. First limitation is sample size. This study collected data from one college so one should be careful while generalizing the findings to

 

other colleges of other universities. Second limitation is small sample size it is recommended to use big sample size to have better understanding of the subject matter. Third this study collected data from single source which may cause common method bias (CMB) therefore it is recommended to use mix methods and collect qualitative data as supplement to support quantitative findings. Fourth, this study only included student sleeping habits it is recommended to add student's dietary habits in future and life style.

**Acknowledgement**

The Researchers would like to thank the Deanship of Graduate Studies and Scientific Research at Qassim University for financial support (QU-APC-2026)

## REFERENCES

Zeb, N. G., Zareen, N., Asra, W. A., & Ahamed, K. A. Correlation between sleep habits and academic performance in medical students of Majmaah University, Kingdom of Saudi Arabia. Rawal Medical Journal, 2020. 45(1), 201-205.

Džaferović, A., & Ulen, K. Sleep habits among medical students and correlation between sleep quality and academic performance. European Journal of Public Health, .2018. 28(suppl_4), cky214-141.

Lawson, H. J., Wellens-Mensah, J. T., & Attah Nantogma, S. Evaluation of sleep patterns and self-reported academic performance among medical students at the University of Ghana School of Medicine and Dentistry. Sleep disorders, 2019.

Moo-Estrella, J., Pérez-Benítez, H., Solís-Rodríguez, F., & Arankowsky-Sandoval, G. Evaluation of depressive symptoms and sleep alterations in college students. Archives of medical research, 2005. 36(4), 393-398.

Vargas, P. A., Flores, M., & Robles, E. Sleep quality and body mass index in college students: the role of sleep disturbances. Journal of American College Health, 2014. 62(8), 534-541.

Sweileh, W. M., Ali, I. A., Sawalha, A. F., Abu-Taha, A. S., Sa'ed, H. Z., & Al-Jabi, S. W. Sleep habits and sleep problems among Palestinian students. Child and adolescent psychiatry and mental health, 2011. 5(1), 1-8.

Jensen, D. R. Understanding sleep disorders in a college student population. Journal of College Counseling, 2003. 6(1), 25-34.

Buboltz Jr, W. C., Brown, F., & Soper, B. Sleep habits and patterns of college students: a preliminary study. Journal of American college health, 2001. 50(3), 131-135.

Lima, P. F., Medeiros, A. L. D. D., Rolim, S. A. M., Júnior, S. A. D., Almondes, K. M., & Araújo, J. F. Changes in sleep habits of medical students according to class starting time: a longitudinal study. Sleep science, 2009. 2(2), 92-95.

Bahammam, A. S., Al-Khairy, O. K., & Al-Taweel, A. A. Sleep habits and patterns among medical students. Neurosciences Journal, 2005. 10(2), 159-162.

Sharma, A., Dixit, A. M., Krishnappa, K., Sharma, R., Shukla, S. K., & Jain, P. K. A comparative study of sleep habits among medical and non-medical students in Saifai, Etawah. Int J Community Med Public Health, 2018. 5, 3876-81.

Basu, M., Saha, S. K., Majumder, S., Chatterjee, S., & Misra, R. A Study on Sleeping Pattern among Undergraduate Medical Students of a Tertiary Care Teaching Hospital of Kolkata. International Journal of Medicine and Public Health, 2019. 9(4).

Gaultney, J. F. The prevalence of sleep disorders in college students: impact on academic performance. Journal of American College Health, 2010. 59(2), 91-97.

Curcio, G., & Ferrara, M. G. LD.. Sleep loss, learning capacity and academic performance. Sleep Med Rev, 2006. 10, 323-337.

Veldi, M., Aluoja, A., & Vasar, V. Sleep quality and more common sleep-related problems in medical students. Sleep medicine, 2005. 6(3), 269-275.

Schlarb, A. A., Kulessa, D., & Gulewitsch, M. D. Sleep characteristics, sleep problems, and associations of self-efficacy among German university students. Nature and science of sleep, 2012. 4, 1.

Chinawa, J. M., Chukwu, B. F., & Obu, H. A. Sleep practices among medical students in Pediatrics Department of University of Nigeria Teaching Hospital, Ituku/Ozalla, Enugu, Nigeria. Nigerian journal of clinical practice, 2014. 17(2), 232-236.

Ban, D. J., & Lee, T. J. Sleep duration, subjective sleep disturbances and associated factors among university students in Korea. Journal of Korean Medical Science, 2001. 16(4), 475.

Oluwole, O. S. A. Sleep habits in Nigerian undergraduates. Acta neurologica scandinavica, 2010. 121(1), 1-6.

 

Priya J, Kumari S, Singh J. The relationship between sleep quality and daytime sleepiness on the academic performance of medical students. Indian Journal of Basic and Applied Medical Research. 2017;6(3):59-6. 10.

Ibrahim NK, Badawi FA, Mansouri YM, Ainousa AM, Jambi SK, Fatani AN, et al. Sleep Quality among Medical Students at King Abdulaziz University: A Crosssectional Study. J Community Med Health Educ. 2017;7(5):561-6.

Wali, S. O., Krayem, A. B., Samman, Y. S., Mirdad, S., Alshimemeri, A. A., & Almobaireek, A. (1999). Sleep disorders in Saudi health care workers. Annals of Saudi medicine, 19(5), 406-409.

 