

# Sleep Quality among College Students in Kathmandu Valley, Nepal

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## ABSTRACT

**Introduction:** Many college students suffer from sleep disorders, including insomnia, and sleep deprivation, resulting in a poor sleep quality. Students are at risk for sleep disorders, and those at risk may also be at risk for academic failure. The main aim of the study is to assess the level of sleep quality among college students in Kathmandu, Nepal.

**Methods:** A cross-sectional study was conducted with 504 students of class 11 and 12 of any faculties among selected colleges of Kathmandu. Simple random sampling was used for selection of colleges. Ethical approval was taken before data collection. Participants with chronic medical illness and mental disorders were excluded from the study. A semi-structured questionnaire was used to collect the information related to socio-demography, and Pittsburgh sleep quality index was used to assess the sleep quality in college students. All data extracted from questionnaires were entered and analyzed using SPSS version 20.

**Results:** Out of 504 students, 40.9% were found to have good sleep quality, whereas, 59.1% were found to have poor sleep quality. 55.21% of male students and 65.78% of female students had poor sleep quality. 58.30% of science students and 59.85% of management students had poor sleep quality.

**Conclusions:** The quality of sleep among Nepalese college students was found to be poor. Many colleges are unaware of the risks or issues to the students.

**Keywords:** *sleep quality; college students; Nepal.*

## INTRODUCTION

Good sleep is essential for the overall development of body, however, many college students suffer from various sleep disorders, including insomnia and sleep deprivation, resulting in a poor sleep quality; people may experience poor concentration and bad work quality because of insomnia.<sup>1-3</sup> Many college students are at risk for sleep disorders, and those at risk may also be at risk for academic failure.<sup>4</sup>

Very few research studies have been conducted in Nepal regarding sleep quality. Many of the college students may have the chance of being physically and emotionally disturbed. Moreover, the quality of sleep in Nepalese college students may be poor as there is ineffectiveness of education system in addition to the further practical courses. The main aim of the study is to assess the level of quality of sleep among college students in Kathmandu, Nepal.

## METHODS

A cross-sectional study was conducted among 504 students (age ranging from 16 to 21 years, mean age = 17.12 years) of class 11 and 12 of any faculties among selected colleges of Kathmandu. Nine colleges were selected using simple random

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sampling. Data were collected from January 2019 to February 2019. Ethical approval was taken from Nepal Health Research Council. Approval for data collection was taken from respective colleges. Signed informed consent was taken from students before their participation. Parental consent was taken for the students who were under 18 years of age.

Study population were the students of grade 11 and 12 of any faculties. Students were selected conveniently.

Sample size calculation,

$n$  = sample size

$p$  = (50%) 0.5

$q$  = 1- $p$

$Z$  = 1.96 for Confidence Interval of 95%

$e$  = margin of error, 5%

$$n = \frac{z^2 \times p \times q}{e^2}$$

$$n = \frac{(1.96)^2 \times (0.5) \times (1-0.5)}{(0.05)^2}$$

$$= 384.16$$

$$= 385 \text{ (Approx.)}$$

Taking high non-response rate of 30%, the total sample size was 500. The total sample collected was 504. Both male and female college students of grade 11 and grade 12 of any faculties were included. Participants with chronic medical illness and mental disorders were excluded in the study.

The tool used for data collection in the study was semi structured questionnaire with Pittsburgh sleep quality index. Semi-structured questionnaire consisted of socio-demographic profile. The **Pittsburgh Sleep Quality Index (PSQI)** is a self-report questionnaire that assesses sleep quality over a 1-month time interval. The measure consists of 19 individual items, creating 7 components that produce one global score, and takes 5–10 minutes to complete. The global score of PSQI can range from 0 to 21. The score of 5 or more indicates poor sleep quality.

The questionnaire was translated to Nepali language. For reliability, data was pretested on 10% of the sample size which was the representative study population other than the sample. Other additional editing to questionnaire were done according to the comments and response from the pre-test. The questionnaires were self-administered by the students in the class.

Data were entered and analysed in SPSS version 20.0. Descriptive analysis was done and presented using frequency and percentage.

## RESULTS

Out of 504 students, 206 students (40.9%) were found to have good sleep quality, whereas 298 students (59.1%) were found to have poor sleep quality. Gender wise analysis showed that 55.21% of male students and 65.78% of female students had poor sleep quality. Furthermore, 58.30% of science students and 59.85 % of management students had poor sleep quality

**Table 1. Level of quality of sleep**

	Quality of Sleep	Frequency (n)	Percentage (%)
Total Students (n=504)	Good	206	40.9
	Poor	298	59.1
Male Students (n=317)	Good	142	44.89
	Poor	175	55.21
Female students (n=187)	Good	64	34.22
	Poor	123	65.78
Science Students (n=235)	Good	98	41.70
	Poor	137	58.30
Management Students (n=269)	Good	108	40.15
	Poor	161	59.85

Table 2 shows the socio demographic information of the respondents. Out of 504 samples, the population between the ranges from the age group 15-16 was found to be 21.6%, and 17-18 was found to be 73.2% respectively. The percentage of male population was found to be

62.9% and the percentage of female was found to be 37.1%. Among the total population, 31.2% were Brahmin, 33.3% were Chhetri, 16.5% were Newar, while 18.1% were Janajati. Also, majority of the population was of Hindu religion i.e. 85.9% while only 12.1% of the population was found to be Buddhist, remaining 1.2% were from Christian, and 0.8% were from Muslim religions. The total percentage of population in science and management discipline was found to be 46.6% and 53.4% respectively. 62.1% of the total population were from grade 11 while 37.9% of the total population were from grade 12. Among the total population, highest level of income was 44.6% of NRS 20,000 to 50,000 and lowest level of income was 4.8% below NRS 10,000.

**Table 2. Socio-demographic characteristics (n=504)**

Socio-demographic variables	Frequency (n)	Percentage (%)
<b>Age</b>		
15-16	109	21.6
17-18	369	73.2
19 and above	26	5.2
<b>Gender</b>		
Male	317	62.9
Female	187	37.1
<b>Ethnicity</b>		
Brahmin	157	31.2
Chhetri	168	33.3
Newar	83	16.5
Janajati	91	18.1
Dalit	5	1.0
<b>Religion</b>		
Hindu	433	85.9
Buddhist	61	12.1
Christian	6	1.2
Muslim	4	.8
<b>Discipline</b>		
Science	235	46.6

Socio-demographic variables	Frequency (n)	Percentage (%)
Management	269	53.4
<b>Level</b>		
Grade 11	313	62.1
Grade 12	191	37.9
<b>Monthly Income(NRS)</b>		
Below Rs 10,000	24	4.8
Rs 10,000 to Rs 20,000	83	16.5
Rs 20,000 to Rs 50,000	225	44.6
Rs 50,000 to Rs 1 lakh	129	25.6
Above Rs 1 lakh	43	8.5

## DISCUSSION

The primary purpose of this research was to assess the level of quality of sleep among high school students, Kathmandu. The study showed that 298 (59.1%) students were found to have bad quality of sleep. A previous Nepalese study also revealed that 31.5% of Nepalese medical students suffered from sleep deprivation due to late night internet surfing.<sup>5</sup> A global study conducted on medical students showed that in Brazil, 28.2% of medical students had insomnia; females had more difficulty in maintaining sleep than males, and males were more likely to report “falling asleep later”.<sup>6</sup> Our study also demonstrated the female students had worse sleep quality than male students. In Mexico, 24% of first year medical students (mean age 18 years) reported some sleep difficulties in the week prior to the survey, and the insomnia symptoms were associated with various measures of psychological health on the Symptoms.<sup>6</sup>

Similarly, Chinese medical students reported that more than 90% of the undergraduates had experienced excessive sleepiness in class, with more males than females affected. 70% of Hong Kong medical students reported sleep deprivation. Malaysian medical students revealed that daytime sleepiness occurred in 35.5% and poor sleep quality was reported by 16%. In a similar study, among 244 Iranian medical students, 40.6% students reported poor sleep quality; this was significantly associated

with lower grades, economic and marital status, and type of training.<sup>6</sup> With all these research study, clearly showed that sleep quality of college students is found to be poor and associated with many factors which is similar to our study that shows 59.1% students with bad quality sleep.

Previous studies demonstrated that the sleep quality is affected by variety of factors, ranging from the surroundings to the deep psychological conflicts.<sup>7</sup> In a recent study seeing the correlations between internet addiction, depressive symptoms and sleep quality, 35.4%, 35.4% and 21.2% of students scored above validated cut off scores for poor sleep quality, internet addiction and depression respectively which also supports our study that the most of the college students are not getting good quality of sleep which may hamper their academic performances and daily life schedules.<sup>8</sup>

## CONCLUSIONS

The quality of sleep among Nepalese college students were found to be poor. Many colleges are unaware of the risks or issues to the students. So, it would be more fruitful if the respected authorities and government prioritize on the psycho-social aspects of the students that may be hampering the sleep quality of the students.

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## REFERENCES

1. Shah N, Bang A, Bhagat A. Indian research on sleep disorders. *Indian J Psychiatry*. 2010 Jan;52:S255–9.
2. Saddichha S. Diagnosis and treatment of chronic insomnia. *Ann Indian Acad Neurol*. 2010 Apr-Jun;13(2):94–102.
3. Bastien CH, Vallières A, Morin CM. Precipitating factors of insomnia. *Behav Sleep Med*. 2004;2(1):50–62.
4. Gaultney JF. The prevalence of sleep disorders in college students: impact on academic performance. *J Am Coll Health*. 2010;59(2):91–7.
5. Pramanik T, Sherpa MT, Shrestha R. Internet addiction in a group of medical students: a cross sectional study. *Nepal Med Coll J*. 2012 Mar;14(1):46–8.
6. Azad MC, Fraser K, Rumana N, Abdullah AF, Shahana N, Hanly PJ et al. Sleep disturbances among medical students: a global perspective. *J Clin Sleep Med*. 2015;11(1):69–74.
7. Bista S, Bhargav P, Metri K, Bhargav H. Insomnia in Patients Suffering from Chronic Medical Illnesses: Prevalence and Impact of IAYT. *Open Journal of Endocrine and Metabolic Diseases*. 2017;07(10):191-201.
8. Bhandari PM, Neupane D, Rijal S, Thapa K, Mishra SR, Poudyal AK. Sleep quality, internet addiction and depressive symptoms among undergraduate students in Nepal. *BMC Psychiatry*. 2017 Mar 21;17(1):106.