

# Evaluate First-Year Nursing Students' Understanding of Sleep Hygiene and Quality

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## Abstract

Nursing students sometimes suffer from severe sleep problems as a result of academic pressure and environmental changes, despite the fact that getting enough sleep is essential for cognitive performance and general health. The purpose of this study is to assess sleep habits and knowledge of sleep hygiene and how it affects the quality of sleep. Purposive sampling was used to choose 60 first-year nursing students as a sample. A self-administered knowledge questionnaire, the Sleep Hygiene Index (SHI), and a demographic questionnaire were used to collect data. The data was analyzed using both descriptive and inferential statistics. 55% of the students were between the ages of 18 and 20, 70% lived in rental housing, and 93.33% lived far from their family, according to the demographic data. The findings showed that the individuals experienced substantial sleep disturbances: nightmare problem and sleep apnea affected 22.4% of them, hypersomnia affected 10.5%, and insomnia affected 27.4% of them. Inadequate sleep length and erratic sleep schedules were common examples of poor sleep hygiene habits. The study discovered that the absence of a reliable support network, study pressure, and changes in the surroundings were the main causes of poor sleep quality. The results show how urgently nursing students' sleep hygiene and quality need to be improved. Resolving these problems may improve their general wellbeing and academic achievement. To lessen the negative effects of sleep disruptions, more study should concentrate on creating focused ways for enhancing sleep hygiene practices within this population.

**Keywords:** Sleep hygiene, Sleep quality, Nursing students, Sleep disturbances.

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## 1. INTRODUCTION

Sleep is a fundamental physiological process essential for human health and well-being. It plays a crucial role in cognitive function, emotional regulation, and overall physical health. Adequate sleep is particularly important for students, who need to maintain high levels of cognitive performance and mental health to cope with the demands of their academic programs. The National Sleep Foundation recommends that adults should sleep for at least 7-9 hours per night to maintain optimal health and function. However, nursing students often face significant challenges that can disrupt their sleep patterns, including academic pressure, clinical responsibilities, and adjusting to new living environments.

First-year nursing students are especially vulnerable to sleep disturbances as they transition from

high school to college, manage new academic workloads, and adapt to being away from home for the first time. This period of adjustment can lead to poor sleep hygiene practices, such as irregular sleep schedules, excessive use of electronic devices before bedtime, and consuming caffeine or other stimulants late in the day. These behaviors can contribute to various sleep disorders, including insomnia, hypersomnia, parasomnia, and nightmares, all of which can significantly impact a student's academic performance and overall well-being.

Previous research has highlighted the high prevalence of sleep disturbances among nursing students, indicating that poor sleep quality is associated with lower academic performance, increased stress, and higher rates of mental health issues. Despite the critical importance of sleep for academic success and health, there is limited research specifically examining the sleep hygiene

knowledge and practices of first-year nursing students in India.

This study aims to assess the knowledge of sleep hygiene and the quality of sleep among first-year nursing students at Smt. Nagarathamma School and College of Nursing in Bangalore. By identifying the prevalence of sleep disturbances and the factors contributing to poor sleep hygiene, this research seeks to inform interventions that can improve sleep practices and support the academic and personal success of nursing students.

## 2. MATERIAL AND METHODS

The purpose of this descriptive study is to assess first-year nursing students at Bangalore's Smt. Nagarathamma School and College of Nursing's knowledge of sleep hygiene and quality. The study focuses on determining sleep habits, evaluating sleep hygiene knowledge, and comprehending how these elements impact students' sleep quality.

### Study Design

To accomplish the study's goals, a descriptive research approach was used. This approach is suitable for learning more about the target population's present level of sleep hygiene and quality.

### Study Setting

The study was carried out at Bangalore's renowned Smt. Nagarathamma School and College of Nursing, which specializes in nursing education. Because of its accessible target demographic and structured academic atmosphere, the college offers an appropriate venue for the study.

### Population and Sample

First-year nursing students enrolled in Smt. Nagarathamma School and College of Nursing's Bachelor of Science (B.Sc.) Nursing program made up the target group. Using a purposive sampling technique, 60 students made up the study's sample size. This method was selected to guarantee that students who satisfied the inclusion requirements were included in the sample and that it fairly reflected the population.

### Inclusion and Exclusion Criteria

#### Inclusion Criteria:

- Smt. Nagarathamma School and College of Nursing first-year nursing students.
- Students who are open to taking part in the research.
- Pupils can comprehend and react in English.

#### Exclusion Criteria:

- Students from other years of study.
- Students not available at the time of data collection.
- Students unwilling to participate in the study.

### Data Collection Tools

Data was gathered using three methods: a self-administered knowledge questionnaire on sleep hygiene and quality, the Sleep Hygiene Index (SHI), and a demographic questionnaire.

1. **Demographic Questionnaire:** Data on the students' age, gender, study duration, residence, distance from family, lodging arrangements, and mental state at bedtime were gathered in this part.
2. **Sleep hygiene practices are measured using the Sleep Hygiene Index (SHI):** A standardized instrument with 13 components. A scale of 0 to 4 is used to rate each item; higher scores denote worse sleep hygiene.
3. **Self-Administered Knowledge Questionnaire:** This survey assessed respondents' understanding of sleep hygiene and quality using 25 items. A scale of 1 to 5 was used to rate each item, with higher scores denoting greater understanding.

### Data Collection Procedure

Over the course of a week, data was gathered. The principal of Smt. Nagarathamma School and College of Nursing formally granted permission. Participants were told of the study's purpose, and their informed consent was acquired. Students were given the questionnaires and instructions on how to fill them out in class. In order to guarantee high response rates and accurate data, participants were given 45 minutes to complete the questionnaires, which were then collected right away.

### Data Analysis

Descriptive and inferential statistics were used to analyze the data that was gathered. The responses were compiled into a master data sheet. Demographic information and answers to the SHI and knowledge questionnaire were compiled using descriptive statistics, such as frequency distributions, percentages, means, and standard deviations. To find correlations between demographic factors and sleep hygiene habits, inferential statistics were employed. The Statistical Package for the Social Sciences (SPSS) program was used to do the analysis.

### Ethical Considerations

The study received ethical approval from Smt. Nagarathamma School and College of Nursing's institutional ethics commission. Participants received guarantees of anonymity and confidentiality. All participants gave their informed consent after being made aware that participation in the study was completely voluntary and that they might leave at any moment without facing any repercussions.

### Results Interpretation

According to the demographic data analysis, 93.33% of the students lived far from their family, 70%

of them resided in rental accommodation, and 55% of the students were between the ages of 18 and 20. While the knowledge questionnaire evaluated the students' comprehension of sleep hygiene and quality, the SHI scores offered insights into the students' sleep hygiene habits. The findings showed that the subjects had substantial sleep disturbances: nightmare problem and sleep apnea affected 22.4% of them, insomnia affected 27.4%, and hypersomnia affected 10.5%. Inadequate sleep duration and irregular sleep schedules were prevalent examples of poor sleep hygiene habits. According to the study, the absence of a trustworthy support system, study pressure, and changes in the surroundings are the main causes of poor sleep quality.

## CONCLUSION

The study emphasizes how urgently nursing students' sleep hygiene and quality need to be improved. Resolving these problems can improve their general wellbeing and academic achievement. In order to lessen the negative impacts of sleep disturbances, future research should concentrate on creating focused techniques to enhance sleep hygiene practices among this population.

## 3. RESULTS AND DISCUSSION

### RESULT

In order to evaluate sleep hygiene and quality, a sample of 60 first-year nursing students at Smt. Nagarathamma School and College of Nursing provided the data that was analyzed and interpreted in this chapter.

The data collected were analyzed by suitable descriptive with inferential statistics with objectives as follows:

- To assess the sleep pattern among nursing students of first year at Smt. Nagarathamma School and College of Nursing.
- To assess the knowledge on sleep hygiene among first year nursing students of at Smt. Nagarathamma School and College of Nursing.
- To assess the knowledge on sleep quality among first year nursing students at Smt. Nagarathamma School and College of Nursing.

The data were organized under the following sections:

### SECTION A:

It includes a description of the respondents' demographic characteristics. Age group, gender, study history, study duration, residence, separation from family, roommate, and mental state before bedtime are all included.

### SECTION B:

First-year nursing students at Smt. Nagarathamma School and College of Nursing were assessed for a variety of sleeping disorders, including insomnia, hypersomnia, nightmare disorder, sleep apnea, parasomnia, restless legs syndrome, and stress, as a result of poor sleep hygiene and poor sleep quality.

### Section A: Demographic Variables of Respondents

**Table 1: Classification of the respondents based on the demographic variables**

Sl. No	Demographic Variable	N=60	
		Frequency	Percentage
1.	<b>Age Group</b>		
	a. 18-20	33	55%
	b. 20-22	24	40%
	c. >22	03	05%
2.	<b>Gender</b>		
	a. Male	21	35%
	b. Female	39	65%
	c. others	0	0%
3.	<b>Length of study Time</b>		
	a. 2-4 hours	51	85%
	b. 4-6 hours	07	11.6%
	C. > 6 hours	02	3.33%
4.	<b>Place of Staying</b>		
	a. Pg/Hostel	17	28.3%
	b. Rent	42	70%
	c. Home	01	1.66%
5.	<b>Study background</b>		
	a. Science	15	22.66%
	b. Arts	38	63.33%
	c. Commerce	06	10%

<b>6.</b>	<b>Distance from the family</b>		
	a. Staying with family	01	1.66%
	b. short distance	03	5%
	c. long distance	56	93.33%
<b>7.</b>	<b>Staying partner</b>		
	a. Friends	48	80%
	b. Parents	01	1.66%
	c. Alone	11	18.33%
<b>8.</b>	<b>Mental status at the time of going bed</b>		
	a. stress/anxiety	18	30%
	b. nervous/upset	08	13.33%
	c. Stable	34	56.66%

According to the respondents' ages, 55% of nursing students enrolled in their first year at Smt. Nagarathamma School and College of Nursing, Bangalore, are between the ages of 18 and 20, 40% are between the ages of 20 and 22, and 5% are older than 22.

It is evident from the responses gathered that 35% of first-year nursing students are male, whereas 65% of nursing students are female. These figures also made it clearer to us that women often hold a larger share of nursing positions.

Seventy percent of nursing students live in rent, compared to 28.33% who live in a postgraduate residence or hostel and 1.66% who live at family, according to the responses gathered. The data gathered

from the 60 nursing students shows that the majority of them had an arts background (63.33%), followed by science (26.66%) and commerce (10%) for the remaining students. Based on the data collected from 60 nursing students, it can be observed that most of the students are having long distance from the family (93.33%), and about 5% students are having short distance from the family and about 1.66% of students are staying with family. The majority of students (80%) are staying with their friends, followed by 18.33% who are staying alone and 1.66% who are staying with their parents, according to data gathered from 60 nursing students. About 56.66% of nursing students are steady when they go to bed, 30% experience tension and anxiety before bed, and 13.33% are apprehensive or upset before bed, according to data gathered from 60 nursing students.

#### Total number of nursing students to assess the sleep hygiene based on SHI questionnaire:

**Table 2: Table demonstrating the number and the percentage of the first year nursing students with overall range of scores to assess the sleep hygiene among them base on SHI questionnaire**

Sleep hygiene measurement	Range of scores	Number of nursing students	Percentage (%)
Adequate	≤16	23	38.33
Moderate	17-33	36	60
Poor	≥34	1	1.66

#### Self-administered knowledge questionnaire:

Assessment of various categories of sleeping disorders on the first year nursing students' due to poor maintenance of sleep hygiene and poor sleep quality at

Smt. Nagarathamma School and College of Nursing, Bangalore, also termed as clinical variables consisting of insomnia, hypersomnia, night mare disorder and sleep apnea, parasomnia, rest less leg syndrome and stress.

**Table 2.1: Table representing the total number of nursing students suffering from different sleep disorders**

List of Sleeping problems	Mild effect	Moderate effect	Severe effect
Insomnia	0	47	13
Hypersomnia	37	23	0
Nightmare Disorders and sleep apnea	11	47	02
Parasomnia and RLS	29	30	01
Stress	04	39	17

37 students have low, 47 students have moderate, and 2 students have high levels of nightmarish disorder; 29 students have low, 30 students have moderate, and 1 student has high levels of parasomnia

and RLS; 4 students have low, 39 students have moderate, and 17 students have high levels of stress. The data gathered indicates that 47 students have moderate insomnia and 13 students have high insomnia.

**Total number of nursing students with different levels of sleeping disorders:**

Sleeping disorders	Range of scores	Number of Nursing students	Percentage of Nursing students (%)
Mild effect	≤58	29	48.33
Moderate effect	59-92	32	53.33
Severe effect	≥92	0	0

**DISCUSSION**

Based on the study "An Investigation to evaluate first-year nursing students' understanding of sleep hygiene and quality at Smt. Nagarathamma school and college of nursing in Bangalore," it is evident that sleep hygiene and quality are critical issues affecting nursing students. The study reveals that a significant number of students experience various sleep disorders, including insomnia, hypersomnia, and nightmare disorder, largely due to poor sleep hygiene and environmental changes.

The demographic data indicates that most students are aged between 18-22 years and predominantly stay in rented accommodations or hostels, away from their families. This detachment from familial support and the pressures of adjusting to a new environment can contribute to stress and anxiety, exacerbating sleep-related issues.

The study highlights the importance of good sleep hygiene practices, such as maintaining a consistent sleep schedule, creating a restful environment, and avoiding stimulants before bedtime. It also suggests that educational interventions to improve sleep hygiene awareness could be beneficial. Given the high prevalence of sleep disorders among nursing students, incorporating sleep hygiene education into the nursing curriculum could enhance their overall well-being and academic performance. Further research on targeted interventions to improve sleep quality in this population is recommended.

This discussion emphasizes the need for heightened awareness and proactive measures to address sleep hygiene and quality among nursing students to ensure their health and academic success.

**4. CONCLUSION**

Sleep hygiene is crucial for nursing students' general health, as the study "An Investigation to evaluate first-year nursing students' understanding of sleep hygiene and quality at Smt. Nagarathamma school and college of nursing in Bangalore" highlights. The results show that among the students, sleep disorders such as insomnia, hypersomnia, and nightmare disorder are quite common. Poor sleep hygiene habits and the stress of being away from home and adjusting to a new environment are major causes of these illnesses.

According to demographic data, most students are between the ages of 18 and 22, and a sizable percentage of them live in dorms or other rental housing.

Stress and anxiety levels rise as a result of this family separation and the ensuing adjustment difficulties, which subsequently impairs the quality of sleep.

The study highlights the need of upholding proper sleep hygiene habits, which include avoiding stimulants right before bed, keeping a regular sleep schedule, and establishing a sleep-friendly environment. It implies that students could gain a great deal from educational initiatives aimed at raising awareness of good sleep hygiene. Nursing students' health and well-being as well as their academic achievement may be improved by incorporating sleep hygiene education into the curriculum.

The study concludes by emphasizing the urgent need for more knowledge and preventative actions to enhance nursing students' sleep hygiene. Nursing students can have better sleep, lower stress levels, and better academic results overall if these problems are addressed through focused educational initiatives and supportive interventions. To guarantee this population's prosperity and well-being, more study into practical methods for encouraging proper sleep hygiene is necessary.

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**Declaration****Author Contribution**

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### Competing Interest

The authors of this study affirm that they have no conflicting interests. No conflicting interests are disclosed by the other authors.

### Ethical Clearance

The ethical aspect of the study has been institutionally reviewed<sup>7</sup>. Informed consent has been procured by all respondents in this study.

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