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### **Cover Page Footnote**

We are thankful to the management, who gave us an opportunity to use the resources existing in the university. We thank Professor P V Ramachandran, Chairman, Nursing Education, Professor Dr Prasanna baby, Principal, for allowing us to conduct this study

# Correlation between knowledge and practice on sleep hygiene and sleep quality among nursing students

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## Abstract

**Introduction:** Sleep is one of the basic needs of every individual. The need for sleep is not realized and is neglected by most of the people due to various reasons and lack of knowledge about it. Sleep is essential for human well-being. During sleep, the rejuvenation of tissues that underwent wear and tear takes place. Sleep also gives rest to the organs. The most essential purpose of sleep is to conserve energy. **Objectives:** 1. To assess the quality of sleep and knowledge on sleep hygiene among nursing students. 2. To correlate the knowledge with sleep quality and practice. **Methods:** Participants of 60 students were selected for descriptive quantitative study. The study was done for a period of three months. The knowledge and practices on sleep were assessed with a validated self-administered questionnaire. Students were interviewed on the experiences of sleep disturbances. Pamphlets were distributed among the students and post evaluation was done through interview in which the students expressed that they were benefited through pamphlets and education. **Results:** The correlation between knowledge and practice of sleep hygiene showed a positive trend ( $r=.0466$ ). There was also a positive correlation seen between the practice of sleep hygiene and the sleep quality ( $r=.2391$  at  $p < .005$ ). Correlation between knowledge and sleep quality was not statistically significant.

**Keywords:** Sleep, Knowledge, Practice, Nursing students

## Introduction

Sleep is essential for well-being. During sleep, the rejuvenation of tissues that underwent wear and tear takes place. Sleep also gives rest to the organs. The most essential purpose of sleep is to conserve energy. Sleep disturbance is the reason for many of the psychiatric problems (Abe, et al., 2012). As the first year BSc (Nursing) students enter the college for the first time, they are anxious. Staying in hostel and being away from parents cause a strange situation. The new environment and college assignments may contribute

to sleep disturbance among the students and reduces the number of hours of sleep.

Sleep hygiene education programme based on Food, Emotions, Routine, Relaxation, Environment and Timing (FERRET) was found to be effective in improving the sleep quality as measured among people with disturbed sleep (Tan, Healey, Gray, & Galland, 2012). Combination of exercise and progressive relaxation contribute to improve night rest, anxiety, and quality of life (Arcos-Carmona, Castro-Sánchez, Matarán-Peñarrocha, Gutiérrez-Rubio, Ramos-González, & Moreno-Lorenzo, 2011). While the researchers were interacting with the first year BSc (Nursing) students, they expressed about their poor sleep. With this background, the investigators attempted to assess the sleep quality of students.

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## Objectives of the study

1. To assess the quality of sleep and knowledge on sleep hygiene among nursing students

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- To correlate the knowledge with sleep quality and practice.

## Materials and Methods

The design adopted for the study was descriptive quantitative design. Samples were first year BSc Nursing Students and the Sample size was 60. Non-probability convenience sampling technique was used for selecting the sample. Data collection was done with prior permission from Principal College of Nursing. Informed consent was obtained from students. The knowledge and practice on sleep were assessed with a validated self-administered questionnaire. The reliability of the instrument was tested by inter-rater method. Students were interviewed on the experiences of sleep disturbances. The tools used were Knowledge questionnaire ( $r=.8$ ) Practice checklist, Pittsburgh Sleep Quality Index( $r=.9$ ), and semi structured Interview schedule.

## Conceptual Framework

Nola Pender's health promotion model is applied for this study. The model visualizes the multidimensional nature of individual as they interact within their society/ environment. The model focuses on three aspects. First, individual characteristics as age, sex, educational status of parents, their occupation, and residence were collected which seems to have an influence over individual's sleep.

Secondly, the focus is on behaviour-specific cognitions and affect. Here the individual's knowledge on sleep hygiene and practice and sleep quality are assessed through respective tool and the students were interviewed on the experiences of sleep disturbances. Pamphlet on sleep hygiene practices was given to students for their reference. Thirdly, the component of behaviour outcome of the student was assessed through feedback from the students. They expressed that they had a better sleep after practicing these interventions.

## Ethical Consideration

Ethical permission was obtained. Participants were well explained about the study and consent taken prior to conduct of the study and confidentiality was maintained throughout the study period

## Data Collection Procedure

Data collection was done for three months. Each student was given a knowledge questionnaire and they were asked to answer. As a second step the practice checklist was given and students were asked to fill it. The third step was sleep quality assessment using Pittsburgh Sleep Quality Index. Lastly, the students were given a pamphlet on sleep hygiene practices for their reference

## Results

**Table 1:**  
*Frequency and Percentage Distribution of Demographic Variables among the Nursing Students N= 60*

Demographic variables	Frequency	Percentage
<b>Age ( Years)</b>		
17 – 18	48	86.6
Above 18	12	13.4
<b>Sex</b>		
Male	10	16.6
Female	50	83.3
<b>Residence</b>		
Rural	04	06.6
Urban	56	93.3
<b>Father's Education</b>		
School	39	65.0
College	17	28.3
Illiterate	04	06.6
<b>Mother's Education</b>		
School	38	63.3
College	15	25.0
Illiterate	7	11.6
<b>Father's occupation</b>		
On Job	52	86.6
Not on Job	08	13.4
<b>Mother's occupation</b>		
On Job	20	33.4
Housewives	40	66.6

Data presented in Table 1 shows that 86.6% of students were in the age group of 17 – 18 years, 83.3% were females, 93.3% were from rural area.

**Table 2:**  
*Frequency and Percentage Distribution of Sleep Quality among Nursing Students N= 60*

Sleep Quality	Frequency(n=60)	Percentage
Poor	17	28.33
Moderate	23	38.33
Good	20	33.33

The findings in Table 2 show, 17(28.33%) students had poor quality of sleep and 23(38.33%) students had moderate sleep quality.

**Table 3:**  
Mean and Standard Deviation of Knowledge and Practice on Sleep Hygiene among Nursing Students. N= 60

Variable	Mean ± S.D
Knowledge	5.8 ± 1.5
Practice	3.1 ± 1.3

The data in Table 3 shows that nursing students had average knowledge with the mean score of 5.8(SD = 1.5), and the practice was inadequate with the mean score of 3.1(SD = 1.3) (Table 3).

**Table 4:**  
Correlation between Sleep Quality, Sleep Hygiene Knowledge, and Practice N= 60

Variables	Sleep Hygiene Knowledge	Practice of Sleep hygiene
Sleep Quality	r=.2391	r=.0466

p<.005

The data in Table 4 suggest, the correlation between knowledge and practice of sleep hygiene showed a positive trend (r = .0466). There was also a positive correlation seen between practice of sleep hygiene and sleep quality (r = .2391 at p < .005). There was no correlation seen between knowledge and sleep quality

### Discussion

Education plays a major role in behaviour change of the student. Nurses need to be adequately prepared to educate the patients about the importance of good quality sleep. Providing a calm and quite environment in the ward will promote sleep. Education on sleep hygiene practices and pamphlet can be given to all the students. Student nurses can be specially trained on the sleep education. In service education on sleep, hygiene practices can be of benefit to the patients with sleep problems. It is essential to motivate nurses to work in the sleep lab. Family members can also be involved in promoting the sleep of the patients.

The students can be educated on assessing the sleep quality. Incorporation of the sleep studies in the curriculum will promote understanding of sleep education better. The students can be motivated to organize mass education programme on sleep disturbances. In addition, specialty course for nursing students can be organized on sleep.

Nursing administrators can organize an in-service programme for nurses on sleep assessment and

promotion of sleep by keeping the environment quite. Sleep pattern assessment can be incorporated in the initial assessment sheet during admission in the ward. Nurses can be posted in polysomnography room like EEG room. Administrators can motivate the nurses to attend conferences, workshops, and symposiums on sleep hygiene and sleep related topics. Administrators can organize a short term or value added course on sleep. Sleep study centre can be started where patients and students are counselled on sleep disturbances.

Nurses can be involved in sleep research. Multidisciplinary teams can be involved and a collaborative study can be conducted on the effect of sleep hygiene practices on different conditions. The study can also be conducted for the risk groups. Based on the present study it is recommended that the future studies can be undertaken with the inclusion of psychological variables and physiological markers. A comparison can also be done between the two settings. The study is limited in the way the expression of sleep quality was subjective.

### Conclusion

This current study implies that the students although have knowledge on sleep yet they do not have good sleep. The students who practiced sleep hygiene had better sleep. Nurse educators have a role in the identification of sleep disturbances among nursing students and their daytime activities in the class. The students need to be prepared to form a healthy sleep habits. Hence, it is necessary to educate the students on sleep hygiene practices.

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