SMR

ORIGINAL ARTICLE
Sleep Med Res 2023;14(4):207-212
https://doi.org/10.17241/smr.2023.01872

pISSN 2093-9175
eISSN 2233-8853

Determining the Factors That Affect and Enhance Sleep Quality of Students in Nursing Departments: A Qualitative Study

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Received: September 10, 2023
Revised: October 6, 2023
Accepted: October 30, 2023

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Background and Objective This study aimed to determine the factors that affect and facilitate sleep quality of nursing department students.

Methods The study group consisted of 63 students from nursing program class 3 and 4 at the Faculty of Health Sciences, Cyprus Science University. Qualitative data were collected between February 20, 2023 and April 20, 2023, by using the in-depth interview method, a qualitative method. A sociodemographic data form and an interview form were used for the interview. The descriptive/thematic method was used to analyze qualitative data, and coding and analysis were performed using the MAXQDA qualitative data analysis program.

Results Based on our results, factors that affect and facilitate sleep quality of the nursing department students were grouped under three main themes: physiological, psychological, and environmental factors. Our results also showed that sleep problems negatively affect students.

Conclusions Therefore, it is essential to develop and implement measures to improve sleep quality in nursing department students. **Sleep Med Res 2023;14(4):207-212**

Keywords Sleep; Health departments; Nursing student; Affect and enhance factors.

INTRODUCTION

Whole-person wellness requires a balance of physical, social, intellectual, and spiritual health. Sleep is one of the fundamental aspects of human health [1,2]; according to research [3,4], sleep is a crucial determinant of an individual's health, quality of life, and well-being. Research has shown that poor sleep quality can be a symptom of numerous medical conditions, and there is a strong correlation between sleep and physical and mental health [5]. Currently, sleep-related complaints are prevalent; consequently, sleep quality is emphasized in clinical practice and sleep-related research. According to research [6], research on sleep disorders is expanding rapidly worldwide.

The prevalence of sleep disorders ranges from 5% to 71%, depending on culture and age group. A study conducted in Türkiye found that 21.8% of the population had deteriorating sleep quality and 34% had difficulties falling asleep and waking up early [7].

University students have been reported to have poor sleep quality [8]. According to reports, the amount and quality of sleep in college students have changed significantly over the past few decades. The average amount of sleep reported by university students decreased from 7.75 hours to 6.65 hours between 1969 and 2001, and sleep disturbances increased from 24% to 71% [9]. University students with poor sleep quality are more likely to develop

psychological health issues, according to research [10].

Similarly, a previous study found a correlation between sleep quality and overall health in university students. Generally, when we look at the world in general, it is stated that sleep-related studies conducted with university students are insufficient [11]. In another study [12], the sleep status of medical school students was evaluated and it was concluded that 54.4% of the students had sleep-related problems. Some educational programs, such as medicine, nursing, and pharmacy, are demanding and exhausting, and students can sacrifice their sleep time [13]. Students who do not get sufficient sleep are negatively affected physically, cognitively, and emotionally.

Additionally, it has been reported that insomnia in students negatively affects their academic performance [14]. It is essential that the medical professionals be in complete physical and mental well-being. Therefore, it is important to determine the current situation of sleep among the students and analyze the factors that influence sleep positively or negatively. The ability of health professions students to develop a healthy lifestyle will also reflect on the individual and society they serve and serve as role models.

Therefore this study evaluated the factors that affect and improve sleep quality of nursing department students.

METHODS

Between February 20, 2023 and March 18, 2023, data were collected from third and fourth-grade students enrolled in the Department of Nursing at Cyprus Science University Faculty of Health Sciences in the Turkish Republic of Northern Cyprus (TRNC). Students enrolled in the health departments of the university where the research was conducted contacted course advisors and participated in focus group interviews. A total of 63 students participated in 9 sessions, with 7 students in each session, until the data reached saturation (Fig. 1).

Qualitative interview questions are as follows: 1) How do you find your sleeping habits/sleeping patterns?; 2) What are the factors/conditions that affect your sleep?; 3) What are the factors that make it easier for you to sleep?; amd 4) What are the factors that make it difficult for you to sleep?

Data Collection

To collect data, the researcher used a sociodemographic data form (3 questions) and an interview form (4 questions) to determine the factors affecting and facilitating sleep quality. Before the study, the appropriateness and clarity of the questions were evaluated by obtaining feedback from three experts in the field.

Evaluation of Data

The MAXQDA qualitative data analysis program (MX20 version; VERBI Software, Berlin, Germany) was used to code and analyze each interview recording individually. Three expert nurse educators were also given access to raw data and asked to independently develop codes and themes. Finally, the researcher determined the similarities and differences between the themes and developed the final version [15,16].

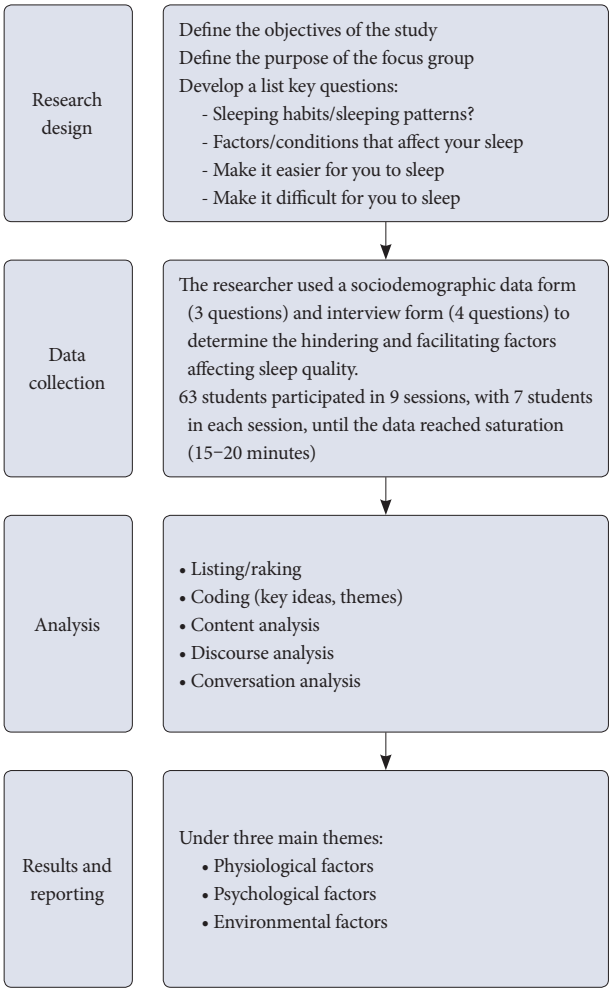

Fig. 1. Flow chart of the steps of the focus group discussion technique.

Ethical Approval

The study was approved by the Cyprus Science University Ethics Committee (decision no: 2023/02.009). The identity information of the students was not taken or shared in any way. Informed consent was obtained from the students after explaining the details of the study to the students.

RESULTS

The sociodemographic data of the students studying in the department of nursing are given in Table 1.

Of 63 students, 33.9% were 18−20 years old, 25.8% were 21−23 years old, 27.4% were 27 or older, and 12.9% were 24−26

years old. It was determined that 100% of the participants were in the nursing program, and the grades were 16.1% for the first, 35.5% for the second, 12.9% for the third, and 35.5% for the fourth grade.

The themes and sub-themes determined for the factors affecting and facilitating the sleep quality of the students studying in the nursing department are shown in Table 2.

Factors Affecting Sleep Quality

Factors that affect students' sleep quality were determined to be under three main themes: physiological, psychological, and environmental factors.

Table 1. Sociodemographic data for students in the department of nursing

Variable	Value (n = 63)
Age	
18–20	21 (33.9)
21–23	17 (25.8)
24–26	8 (12.9)
27 or older	17 (27.4)
Grade	
1st class	10 (16.1)
2nd class	22 (35.5)
3rd class	9 (12.9)
4th grade	22 (35.5)

Data are presented as n (%).

Physiological factors

It was determined that the physiological factors that affect the students' sleep quality included the physiological health of the students.

Physiological health of students: students stated that problems such as sickness, pain, and drug use negatively affected their transition to sleep.

"I can be grumpy when I'm sick." (S6)

"It has been difficult when it is uncomfortable, for example, in case of tonsillitis, headache, toothache, and when the use of medication is continuous."(S10)

"If I have pain, an ache, illness, or cough, it becomes difficult for me to sleep." (S20)

"I get very sick, especially in winter; I can't sleep at all." (S32)

"I get sick during exams due to stress; I can't sleep at all."(S38)

"I have trouble sleeping when I feel sluggish." (S61)

Psychological factors

It has been determined that stress and individual characteristics of students are among the psychological factors that affect students' sleep.

Stress: students stated that problems such as exam stress/distress, obsession, and anxiety negatively affect their transition to

Table 2. Factors that affect and facilitate sleep quality of students in the department of nursing

Theme	Sub-theme	Codes
Factors that affect sleep qualities		
Physiological factors	Physiological health of students	Sickness
		Pain
		Medication use
Psychological factors	Stress	Exam stress/distress
		Obsession
		Anxiety
	Individual characteristics of students	The student does not want to sleep
		Student's sleeping habits
Environmental factors	Physical environment	Noise
		Light
		Sound
	Physical medium	Electronic devices (phone, tablet, television)
Factors that facilitate sleep qualities		
Physiological factors	Physiological health of students	Student feeling good and healthy
Psychological factors	Student routines	Watching TV
		Surfing on the net
		Watching movies
Environmental factors	Physical environment	Peace
		Darkness
		Silence

sleep. They stated that there is exam stress/distress, obsession, and anxiety.

"I experience stress during the day, if there is, I am affected." (S2)

"I have trouble sleeping when there is stress and anxiety at exam time."(S3)

"In days that are stressful, restless, and fearful situations during the day, he cannot sleep." (S11)

"I have trouble sleeping when there is stress and anxiety during exam time."(S3)

"My thoughts, my stress, and my daily life problems keep me awake and I become obsessed." (S19)

"When there is peace in our classroom, I get stressed from thinking too much and can't sleep." (S56)

Individual characteristics of students: the students said that situations such as not wanting to sleep at bedtime and sleeping habits affect their sleep.

"When I don't want to sleep at bedtime, I do not have any other problems. While my family goes to bed late, I don't go to sleep either" (S8)

"Watching television until late at night affects my sleep habits negatively."(S6)

"I don't want to sleep if there is a good program on TV." (S9)

"I don't want to sleep if I'm down that day." (S19)

"When my friends come to my house, my sleeping patterns are disrupted as we sit until the morning." (S32)

"Especially, on weekends, I don't feel sleepy because I know it's a holiday, I sit until the following morning." (S54)

"If I use alcohol and cigarettes, I don't get sleepy." (S63)

Environmental factors

The students stated that among the environmental factors, the physical environment and the factors related to the physical environment affected their sleep.

Physical environment: students stated that physical environmental conditions such as noise, light, and sound negatively affected their sleep.

"I cannot sleep if there is a lot of noise in the neighborhood." (S1)

"I can't sleep because there's always a light in my room because my family doesn't sleep until late." (S8)

"When my neighbors' TV volume is loud and listen to music until late, I cannot sleep because of the noise." (S10)

"I can't sleep because I live in a very active country and near a university." (S23)

"I can't sleep either because my roommate can't sleep without a light." (S41)

"My friends in the next room are making a lot of noise" (S55)

Physical medium: students stated they had difficulty transitioning to sleep because of situations such as electronic devices (phone, tablet, television).

"For example, if there is a good movie on TV, I forcefully fall asleep." (S13)

"If the TV is on and the lights are on, I can't sleep at all, I don't like it." (S15)

"When I spend a lot of time on social media, I lose sleep and have a headache." (S29)

"When I have homework and projects, I spend time on the computer and tablet until late." (S52)

"When I watch television for too long, I lose sleep. " (S59)

"I can't sleep when I watch the earthquake news on TV." (S60)

Factors Facilitating Sleep Quality

The factors facilitating the students' sleep quality were determined under three main themes: physiological, psychological, and environmental factors.

Physiological factors

From the statements taken from the students, the physiological factors that facilitate their sleep are stated under physiological health.

Physiological health of students: they stated that feeling good and healthy is one factor that facilitates their sleep.

"My top priority is my comfort and health, I cannot sleep if I am disturbed." (S7)

"If I am in good health, I sleep well." (S11)

"If I am in a good mood and I am not sick, I will sleep soundly." (S34)

"If I don't have a headache, if I feel rested, and I can sleep easily." (S46)

"I wake up every day because I am like a bomb and I feel healthy, that is the reason I get a good night's sleep." (S49)

"If I feel good, I sleep easily and wake up easily." (S53)

Psychological factors

Among the psychological factors, students' routines were determined as factors that facilitated their sleep.

Student routines: students stated that their routines, such as watching TV, being on the Internet, and watching movies facilitated their transition to sleep.

"Watching TV facilitates my transition to sleep." (S1)

"When I feel comfortable, I hang out on the Internet and fall asleep quickly." (S6)

"I like to watch my favorite movie before going to sleep." (S8)

"Watching TV makes my sleep easier and I feel happy." (S21)

"My phone and internet are indispensable." (S40)

"Watching cartoons online on the phone is entertaining and I just fall asleep while." (S60)

Environmental factors

The students stated that, among the environmental factors, the physical environment is essential for facilitating their sleep.

Physical environment: students said that peace, darkness, and silence facilitate their sleep.

"I want a dark environment and quiet environment." (S3)

"I sleep more comfortably when I feel comfortable and

peaceful" (S6).

"Silence and darkness, that is, the quietness of the environment, especially the darkness, makes it easier for me to sleep." (S12)

"It is enough that the environment I sleep in is quiet and dark." (S20)

"Since my house is in a very secluded place, I can sleep comfortably in a quiet environment." (S33)

"When it's time to go to bed, I close the curtains in my room, I mute my phone, and I fall asleep." (S50)

DISCUSSION

It has been determined that one of the physiological factors that prevent sleep quality is the physiological health of the students. Students stated that health issues such as illness, pain, and drug use have a negative impact on their sleep. In a previous study [17], it was stated that the sleep quality of the students varied depending on their departments; the sleep quality of the students at the Vocational School of Technical Sciences (Vocational School) and Social Sciences Vocational School was poor, and pain conditions and illness made it difficult for them to go to sleep. Another study [12] found that among university students, it was more difficult for those who smoked to fall asleep than nonsmokers, and their immunity to smoking-related diseases was diminished. A study on determinants of sleep quality of nursing students [18] reported that drug-using students experienced insomnia. The results of this study are comparable to those of our study. According to the students' statements, stress and individual traits prevented sleep through psychological factors. In addition, exam stress/distress, obsession, anxiety, and individual characteristics of students led to situations such as not wanting to sleep at bedtime; consequently, causing poor sleeping habits and sleep problems. In another research on the evaluation of the relationship between anxiety, stress, and depression among students in the health department who resided in the dormitory [19], it was determined that studying did not affect sleep quality no matter how stressed the students were. In another study [20], it was concluded that risky health behaviors such as suicide attempts, smoking, and alcohol consumption negatively affect the sleep quality of individuals and their average sleep quality scores are low. According to research [21], those who consume alcohol have poorer sleep quality than others. In a previous study [22], the relationship between sleep quality, fatigue severity, and nursing students' academic performance was examined. Physical environment has been determined to be one of the environmental factors that impair students' sleep quality. In the physical environment, contact, noise, light, and sound characteristics are significant factors affecting sleep. In a study on sleep quality and its relationship with general health in preuniversity students in Iran, Karaj [23], it was reported that the students could not sleep because of a lot of noise from the neighborhood. In a study conducted on the sleep habits of students attending a state university [11], it was stated that roommates and students living at home had difficulty falling asleep due to the irregularity of their roommates' sleeping hours. They stated that situations such as the physical environment (phone, tablet, television) negatively affected their sleep. In the study on the relationship between phone quality and internet addiction in female university students [24], it was found that students in the health department had difficulty falling asleep because they used computers and phones until late. The physical environment factors that prevent nursing students from sleeping are consistent with the findings of a previous study on sleep and somatic complaints in university students [25].

According to statements taken from the students, the physiological health of the students, which is one of the physiological factors that facilitate their sleep, is under the theme of feeling good and healthy. According to research [10], among the factors influencing the academic performance of nursing students, sleep is essential, and students succeed in their academics if they are healthy and comfortable if they are in a good mood. In a previous study on sleep pattern changes in nursing students during the COVID-19 period [26], it was determined that the students slept well if they did not have health problems and did not suffer from frequent stress-related headaches. The results of our findings are comparable to those of a previous study [27]. The students stated that one of the psychological factors that facilitated their sleep was their routine. Students stated that watching television, the Internet, and movies help them sleep. In the study on the factors affecting sleep quality in nursing and nonnursing students [28], it was stated that activities such as watching television and good movies before bedtime facilitated their sleep. In a previous study on the quality of life and sleep of healthy college students [29], it was found that if they had a good day, spending time on the Internet during their sleep time helped them transition to sleep. It has been determined that one of the environmental factors that contribute to students' sleep quality is the physical environment. According to students, peace, darkness, and silence helped them sleep. In a study on sleep quality and health complaints in nursing students [30], it was concluded that the students slept more peacefully, especially in a quiet and dark environment, or alone. In a study on the relationship between Facebook addiction and poor sleep quality conducted with undergraduate students in Peru [31], it was found that the students slept well and fell asleep easily because their rooms were dim and dark. Based on the results of factors that facilitate students' sleep [32], it was concluded that sleep deprivation in nursing students had a negative effect on quality and safety.

Based on the results of this study, the factors that affect and facilitate sleep quality were grouped under three main themes: physiological, psychological, and environmental factors. To improve the sleep quality of university students, the following are suggested: raising awareness of the factors that prevent and fa-

cilitate sleep, organizing seminars and conferences on sleep hygiene for students, conducting research on the relationship between sleep quality, health problems, and academic achievement, conducting research with larger samples and high representativeness of the population.

Availability of Data and Material

The datasets generated or analyzed during the study are available from the corresponding author on reasonable request.

Author Contributions

Conceptualization: Çiğdem Müge Haylı. Data curation: Mehmet Zeki Avcı. Formal analysis: Çiğdem Müge Haylı. Funding acquisition: Çİğdem Müge Haylı. Investigation: Çiğdem Müge Haylı. Methodology: Mehmet Zeki Avcı. Project administration: Çiğdem Müge Haylı. Resources: Çiğdem Müge Haylı. Software: Çiğdem Müge Haylı. Supervision: Çiğdem Müge Haylı. Validation: Mehmet Zeki Avcı. Visualization: Mehmet Zeki Avcı. Writing—original draft: Çiğdem Müge Hayl. Writing—review & editing: Çiğdem Müge Haylı.

Conflicts of Interest

The authors have no potential conflicts of interest to disclose.

Funding Statement

None

Acknowledgements

We would like to thank the students of Cyprus Science University Faculty of Health Sciences.

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