



**DESCRIPTION OF SLEEP QUALITY AMONG FINAL YEAR NURSING STUDENTS IN DENPASAR CITY**

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**ABSTRACT**

Final year nursing students tend to have a busy academic schedule and academic demands to complete their final assignments, which can lead to fatigue and stress, potentially causing sleep quality disturbances. Sleep quality is defined as an individual's satisfaction with their sleep, wherein they do not exhibit symptoms of sleep deprivation or difficulty sleeping. This study aims to describe the sleep quality of final year nursing students in Denpasar City. This descriptive study used a quantitative approach with the Pittsburgh Sleep Quality Index (PSQI) as an instrument and a simple random sampling technique, with a sample of 220 respondents being final year nursing students in Denpasar City. Most final year nursing students in Denpasar City were 22 years old (49.5%), female (95%), and (59.1%) of respondents did not have a habit of drinking coffee or tea. A total of (78.6%) of respondents had poor sleep quality. About (65%) of respondents reported insufficient sleep in the past month, (62.7%) had difficulty falling asleep within 16-30 minutes, (78.9%) had a sleep duration of 6-7 hours per day, (87.3%) had a sleep efficiency >85%, (91.8%) had nighttime sleep disturbances with a score between 1-9, (99.5%) did not use sleeping pills in the past month, and (59.5%) often felt sleepy during the day. The poor sleep quality among final year nursing students can be attributed to academic demands to complete final assignments and the habit of staying up late. Therefore, students are expected to manage their sleep patterns better.

Keywords: final year students; nursing; sleep quality

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**INTRODUCTION**

One of the basic needs for human health and well-being is sleep. Sleep is a subconscious state in which other feelings or stimuli can awaken a person (Lisiswanti et al., 2019). Sleep patterns significantly affect health. Young individuals, including students, often experience sleep deprivation due to the many responsibilities they must handle as students, such as academic workload and excessive assignments. These factors can cause stress among students. An individual's sleep cycle and quality change when stressed due to increased cortisol levels in the bloodstream (Mesquita & Reimão, 2010). Students are given many academic tasks, especially final year students who must complete scientific papers or theses as a requirement for obtaining an associate degree or bachelor's degree, which can affect their sleep quality (Emi Mulyati et al., 2023). This is consistent with research by (Basri, 2021) on the Effect of Scientific Papers on the Sleep Quality of Nursing Academy Students Setih Setio, which stated that there is an influence of scientific papers on the sleep quality of final year students. A survey conducted by (Emi Mulyati et al., 2023) indicated that 15-35% of the adult and adolescent population reported frequent sleep quality disturbances, such as difficulty falling asleep or staying asleep, resulting in shorter sleep duration. Research findings by Dewi Cahyani, Ahmad Ridfah, and Nur Akmal (2023) showed that most students writing theses had a sleep latency of 31 to 60 minutes, with 152 respondents (51%).

Respondents had difficulty fulfilling sleep due to the pressure of completing final assignments, making it hard for their bodies to relax and start sleeping (Emi Mulyati et al., 2023). Research conducted by (Daryaswanti et al., 2021) on the characteristics of sleep quality among nursing students during the Covid-19 pandemic in Bali showed that most nursing students in Bali had poor sleep quality (97.4%). Final year students are required to complete a final assignment in the form of a scientific paper or thesis to meet the requirements for obtaining a degree. Common problems include a lack of individual writing skills and finding references for their research, or insufficient academic ability. These problems can lead to difficulty sleeping or sleep disturbances, consistent with research by (Martfandika, 2018) on the Sleep Quality of Nursing Students Writing Theses at the University of 'Aisyiyah Yogyakarta, which showed that (86.3%) of final semester students had poor sleep quality. The main impact of sleep deprivation is physiological, affecting the nervous system and body physiology (Emi Mulyati et al., 2023). Poor sleep quality also has consequences such as reduced daily activity, fatigue, weakness, unstable vital signs, and weakened immune systems. Additionally, poor sleep quality can cause negative psychological effects such as stress, depression, anxiety, poor concentration, and poor coping skills. Lack of sufficient sleep significantly impacts health (Rohmah & Yunita, 2020). To help address students' sleep quality, each individual can manage their time well, such as not delaying tasks or obligations during lectures. Accordingly, further research is needed to provide understanding about the importance of good sleep quality to nursing students. Based on the above background, the researchers were interested in understanding the sleep quality of final year nursing students in Denpasar City. The purpose of this study is to explore the sleep quality of final year nursing students in Denpasar City.

## **METHOD**

This descriptive study used univariate analysis. The population was 487 people, with a sampling technique of simple random sampling. The inclusion criteria were active final year nursing students enrolled in higher education in Denpasar City. The primary data was collected through a questionnaire distributed via Google Forms. The instrument used was the Pittsburgh Sleep Quality Index (PSQI), a questionnaire measuring sleep quality consisting of 19 questions. The total PSQI score ranges from 0 to 21, calculated from seven assessment aspects, including subjective sleep quality, sleep latency, sleep duration, sleep efficiency, nighttime sleep disturbances, use of sleeping pills, and daytime dysfunction. The data analysis method applied was univariate analysis using IBM SPSS Statistics version 29. After calculating each respondent's score, the scores were grouped into several levels. Sleep quality is classified as good if the PSQI score is  $\leq 5$  and poor if the PSQI score is  $> 5$ . The PSQI instrument's validity and reliability were tested by the University of Pittsburgh in 1988, with a Cronbach's Alpha value of 0.83, sensitivity of 89.6%, and specificity of 86.5%. This study passed the ethical review at the Ethics Committee of Health Research (KEPK) Stikes KESDAM IX/Udayana with Ethics Feasibility Certificate Number: 008/EC-KEPK-SK/III/2024 on March 6, 2024.

## **RESULT**

### ***Respondent Characteristics***

Table 1 shows that most respondents were 22 years old (49.5%) and female (95%). Additionally, (59.1%) did not have a habit of drinking coffee or tea.

Table 1.  
Frequency Distribution Based on Characteristics of Final Year Nursing Students in Denpasar City (n=220)

Characteristic	f	%
Age (years)		
20	9	4,1
21	63	28,6
22	109	49,5
23	39	17,7
Gender		
Male	11	5
Female	209	95
Drinking Habit		
None	130	59,1
Coffe	60	27,3
Tea	30	13,6
Alcohol	0	0

***Sleep Quality Description of Final Year Nursing Students in Denpasar City***

Table 2 shows that most respondents fell into the poor sleep quality category (78.6%).

Table 2.  
Frequency Distribution of Sleep Quality of Final Year Nursing Students in Denpasar City (n=220)

Sleep Quality	f	%
Good Sleep Quality	47	21,4
Poor Sleep Quality	173	78,6

***Sleep Quality of Final Year Nursing Students in Denpasar City Based on Respondent Characteristics***

Table 3 shows that poor sleep quality was experienced by respondents aged 22 years (36.8%) and female (75%). Furthermore, (42.7%) of respondents who did not have a habit of drinking coffee or tea still had poor sleep quality.

Table 3.  
Frequency Distribution of Sleep Quality of Final Year Nursing Students Based on Respondent Characteristics (n=220)

Age (years)	Sleep Quality			
	Good		Poor	
	f	%	f	%
20	1	2,1	8	4,6
21	18	38,3	45	26
22	28	59,6	81	46,9
23	0	0	39	22,5
Gender				
Male	3	6,4	8	4,6
Female	44	93,6	165	95,4
Drinking Habit				
None	36	76,6	94	54,3
Coffe	6	12,8	54	31,2
Tea	5	10,6	25	14,5
Alcohol	0	0	0	0

***Seven Components of Sleep Quality in Final Year Nursing Students in Denpasar***

Table 4 shows that 65% of respondents indicate subjective sleep quality in the poor category, and 62.7% of respondents have a sleep latency score of 3-4. A score of 3-4 is valued at 2, derived from the time it takes respondents to fall asleep, which is 16-30 minutes and occurs once a week. These results indicate that most respondents experience difficulty falling asleep once a week, taking about 16-30 minutes to do so. Additionally, 78.9% of respondents have a

sleep duration of 6-7 hours per day, and 87.3% have a sleep efficiency >85%. A total of 91.8% of respondents have a sleep disturbance score of 1-9. The data shows that the most common sleep disturbance experienced by respondents in the past month is waking up to go to the bathroom at night. Furthermore, 99.5% of respondents never consumed sleeping pills in the past month, and 59.5% of respondents experienced daytime dysfunction with a score of 3-4. This score of 3-4 is valued at 2, derived from respondents experiencing daytime dysfunction once a week and having low enthusiasm in addressing problems they encounter. These results indicate that most respondents felt sleepy while performing daily activities once a week in the past month.

Table 4.  
Seven Components of Sleep Quality in Final Year Nursing Students in Denpasar (n=220)

Component	f	%
<b>Subjective Sleep Quality</b>		
Very good	1	0,5
Good	66	30
Poor	143	65
Very poor	10	4,5
<b>Sleep Latency</b>		
0	37	16,8
1-2	39	17,7
3-4	138	62,7
5-6	6	2
<b>Sleep Duration</b>		
<5 hours	2	9
5-6 hours	27	12,3
6-7 hours	172	78,2
>7 hours	19	8,6
<b>Sleep Efficiency</b>		
>85%	192	87,3
75-84%	26	11,8
65-74%	2	0,9
<65 %	0	0
<b>Sleep Disturbances</b>		
0	4	1,8
1-9	202	91,8
10-18	13	5,9
19-27	1	0,5
<b>Use of Sleeping Medications</b>		
Never	219	99,5
Once a week	0	0
Twice a week	0	0
≥3 times a week	1	0,5
<b>Daytime Dysfunction</b>		
0	0	0
1-2	23	10,5
3-4	131	59,5
5-6	66	30

## DISCUSSION

Based on the research results, the average age of respondents is in the range of 20-23 years. This age falls into the category of young adults who are in their final semester of college. This study aligns with research conducted by Winda Lestari et al. (2024), which found that 72.7% of final year nursing students are aged 17-25. As people age, their tasks and responsibilities increase (Magribi et al., 2022). Additionally, 95% of respondents are female, consistent with research by Sukartini (2022), where 85.3% of respondents were female. This research was conducted on nursing students, a profession dominated by females due to their inherent traits of friendliness, patience, gentleness, sociability, meticulousness, and high empathy (Gunarsa,

2008 in Martfandika, 2018). Most respondents (59.1%) do not have a habit of drinking coffee or tea, consistent with the study by Novianti Tantri & Sundari (2019), which showed that most respondents do not consume caffeinated drinks (76.2%). This is because the respondents in this study, final year nursing students, are aware of the negative impacts of excessive caffeine consumption on health (Sodik, 2018).

### ***Sleep Quality of Final Year Nursing Students in Denpasar***

The research results show that most final year nursing students in Denpasar have poor sleep quality (78.6% of respondents). This finding is consistent with research by Daryaswanti et al. (2021), which showed that 97.4% of respondents had poor sleep quality. Poor sleep quality among respondents is influenced by many factors, including illness, physical environment conditions, physical activity, psychological stress, medications and chemicals, and diet and calories. In this study, final year nursing students have academic demands such as thesis writing, which can cause respondents to feel pressured and stressed. This is supported by research conducted by Emi Mulyati et al. (2023), which found that students experiencing academic stress have poor sleep quality (76%). The higher the academic stress, the worse the sleep quality. Additionally, final year nursing students tend to have a busy schedule, leading to fatigue that can affect sleep quality. This is consistent with research by Wicaksono (2019), which showed that 36% of students experiencing slight fatigue had poor sleep quality. The findings of this study indicate a relationship between student sleep quality and fatigue. Respondents' sleep quality decreases as fatigue levels increase. This fatigue factor is also a dominant factor related to sleep quality in students (Potter & Perry, 2005).

### ***Seven Components of Sleep Quality Among Final-Year Nursing Students in Denpasar City***

Based on the research results, the first component, subjective sleep quality in the past month, showed that the majority of respondents reported poor subjective sleep quality (65%). This could be due to the heavy demands of assignments, particularly the completion of final projects that must be finished within the deadlines set by the campus. In line with this, the researcher conducted interviews with several respondents while filling out the questionnaire. Respondents mentioned that from April to May 2024, coinciding with the data collection period, many final-year students at several campuses were busy preparing their final projects, which affected their sleep quality and led them to rate it as poor. Regarding the second component, sleep latency, 62.7% of respondents experienced difficulty falling asleep, taking between 16-30 minutes. This indicates that respondents took a considerable amount of time to fall asleep. The routines respondents engaged in before bedtime and other disturbances they experienced could affect the time it took for them to fall asleep. According to research conducted by Fitri (2020), the more time spent using smartphones at night, the greater the disruption to one's sleep pattern. The LED light exposure from smartphone screens can also interfere with the production of melatonin, a hormone crucial for inducing sleepiness (Tristianingsih & Handayani, 2021). The third component, sleep duration, showed that 78.9% of respondents had a sleep duration of 6-7 hours per day.

Although respondents' sleep duration was adequate, their sleep quality was poor. Observations from the collected data indicated that most respondents began sleeping around 00:30 and woke up at 07:30, as final-year students have more flexible schedules without morning classes. Research by Lee, C. H., & Sibley (2019) showed that sleep duration is positively related to an individual's psychological well-being. Good life satisfaction is associated with getting a sufficient 8 hours of sleep per day (Fakhri, 2024). For the fourth component, sleep efficiency, 87.3% of respondents had a sleep efficiency of over 85%. To determine whether respondents' sleep needs were met, sleep efficiency can be calculated by comparing the total amount of sleep time with the amount of time spent in bed, then multiplying by 100%. If the

percentage is greater than 85%, the person's sleep is considered efficient; otherwise, it is considered inefficient. In this study, respondents' sleep adequacy showed efficient results, as seen from their already sufficient sleep duration of 6-7 hours. In adulthood, most people have a sleep efficiency of around 85%. This good sleep efficiency is due to individuals adopting regular sleep patterns (Sukartini, 2022). Regarding sleep disturbances, the fifth component, 91.8% of respondents had a sleep disturbance score between 1-9, the lowest score in the sleep disturbance assessment. Sleep disturbances encompass various factors that disrupt a person's sleep at night. The most common sleep disturbance among respondents in the past month was waking up to go to the bathroom at night. Final-year students tend to have a habit of staying up late, which reduces sleep satisfaction and leads to poor sleep quality. This causes students to wake up frequently at night, and habits of drinking too much before bed can cause frequent urination at night (Ardiani & Subrata, 2021).

The sixth component, the use of sleeping medication, showed that 99.5% of respondents had not used sleeping pills in the past month. The use of sleeping pills can indicate the severity of sleep disturbances someone is experiencing. This is consistent with the majority of respondents, 78.2%, having a sleep duration of 6-7 hours per day, and 87.3% of respondents having efficient sleep adequacy, so they did not require sleeping pills. The use of sleeping pills can negatively impact a person's health and sleep quality, so it is not recommended to use sleeping pills. From the results of this study involving final-year nursing students, they tend to know the side effects of using sleeping pills on health and sleep pattern disturbances (Potter & Perry, 2006). The seventh component, daytime dysfunction, showed that 59.5% experienced daytime dysfunction with a score of 3-4. This indicates that most students experienced sleepiness in their daily activities once a week. According to the study's findings, most respondents slept late at night, between 11 PM and 1 AM, and woke up between 6 and 8 AM. Respondents' habit of starting to sleep late at night disrupted their circadian rhythm. Humans have a circadian rhythm, which changes from day to night. The circadian rhythm is also known as the body's natural 24-hour clock. Circadian rhythm disturbances can also cause excessive sleepiness and fatigue during the day. This will certainly reduce productivity and worsen physical health (Widiyono, 2023).

The need for sleep in early adulthood typically ranges from 7 to 9 hours, but it often only reaches around 6 hours a day due to activities and social life. This affects sleep duration. Research by Listiani (2005) shows that individuals who experience sleep disturbances at night tend to feel tired and drowsy during the day, which reduces concentration and lowers academic performance. Sleep disturbances are not only experienced by students in general but also by university students, particularly health students with busy class schedules, making them more susceptible to poor sleep quality. Research by Rivki et al. (n.d.) reveals that factors affecting the sleep quality of nursing students at Airlangga University who temporarily reside in the Mulyorejo area, Surabaya, include stress, fatigue, and illness. Additionally, research by Sulistiyani (2019) indicates a connection between Body Mass Index (BMI) and sleep quality. Sleep quality is strongly influenced by an individual's physical condition. Those with low or underweight BMI tend not to experience sleep apnea, making it easier for them to fall asleep and enjoy restful sleep. This has a positive impact on the body, such as feeling refreshed upon waking, not feeling sleepy during activities, and not easily fatigued throughout the day.

## **CONCLUSION**

Most final-year nursing students experienced poor sleep quality, characterized by frequent waking at night, feeling sleepy during the day, and reporting poor sleep in the past month. Students also had difficulty falling asleep, taking between 16-30 minutes. Poor sleep quality negatively affects students' physical and mental health. This impacts academic performance,

as students who lack sleep tend to have lower performance in completing assignments and exams.

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