

Factors Associated with Sleep Quality in Final Year Students

Christiano DRS Huma¹, Marylin S. Junias², Daniela LA Boeky³

¹⁻³Public Health Science, Public Health Faculty, Nusa Cendana University

Email: ¹Christianohuma08@gmail.com, ²marylin.junias@staf.undana.ac.id ³

daniela.boeky@staf.undana.ac.id

Abstract. This study was conducted to determine several factors related to sleep quality in students working on a thesis at FKM Undana. This research is quantitative research using a cross-sectional design. The population in this study were FKM Undana students who were working on a thesis totaling 283 students. Based on the results of Key's research that there is a significant relationship between physical, physical activity, stress, and sleep quality and no relationship between environmental factors and sleep quality. The sample of this research is the final-year students of FKM Undana. Suggestions to students who are working on their thesis are expected to be able to maintain health and manage stress to get good quality sleep.

Keywords: *Sleep quality, Students, thesis*

Abstrak. Penelitian ini dilakukan untuk mengetahui beberapa faktor yang berhubungan dengan kualitas tidur pada mahasiswa yang sedang mengerjakan skripsi di FKM Undana. Penelitian ini merupakan penelitian kuantitatif dengan menggunakan desain cross sectional. Populasi dalam penelitian ini adalah mahasiswa FKM Undana yang sedang mengerjakan skripsi yang berjumlah 283 mahasiswa. Berdasarkan hasil penelitian disimpulkan bahwa ada hubungan yang signifikan antara penyakit fisik, aktivitas fisik, stres, dan kualitas tidur serta tidak ada hubungan antara faktor lingkungan dengan kualitas tidur. Sampel penelitian ini adalah mahasiswa tingkat akhir FKM Undana. Saran kepada mahasiswa yang sedang mengerjakan skripsi diharapkan dapat menjaga kesehatan, mengelola stres untuk mendapatkan kualitas tidur yang baik.

Kata Kunci: *Kualitas tidur, mahasiswa, skripsi*

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Introduction

Sleep is one of the basic human needs. The need for sleep is felt after a tired day of activities, and the body will automatically signal to rest (Iqbal, 2017). The Sleep Foundation recommends that the ideal sleep duration is 7-9 hours. Adequate sleep duration brings positive benefits to health. During sleep, the body rests on the physiology, making the energy collect back when awake. Sleep alone can help reduce stress so that when you wake up, the body will be productive again (Potter & Perry, 2010).

Conversely, the quality of sleep that is not maintained will have a bad effect on the body. Excess or lack of sleep is equally dangerous for health. People who lack sleep have 2 or 3 times the risk of experiencing congestive heart failure, which is a weak heart condition in pumping blood throughout the body, causing an imbalance in the body and will damage other organs (Nilifda, Nadjmir, & Hardisman, 2016).

Research conducted by Ireyné OP Sulana (2020) states that there is a relationship between stress levels and sleep quality for final-year students of the Faculty of Public Health, Sam Ratulangi University. The results of the research on 108 students found that most final-year students of the Faculty of Nursing at the University of Indonesia working on their thesis had moderate stress levels (Aulia & Panjaitan, 2019). Research conducted on nursing students at the Airlangga University who lived temporarily in the Mulyorejo area stated that the factors related to sleep quality were stress, fatigue, and illness, with the dominant factor (Wicakson, Ah Yusuf, & Widyawati, 2019).

Students undergo a university study period for at least three to four years and will end their study period by compiling a thesis as a graduation requirement. Many students experience various difficulties in working on their thesis, causing stress. The perceived difficulties include the repeated revision process, difficulty getting references, the length of feedback from the supervisor when completing the thesis, limited research time, and busy and challenging supervisors to find (Wulandari, 2012). Mohamed Fawzy (2017)

says that stress can cause anxiety, depression, poor sleep quality, poor academic performance, alcohol use, substance abuse, reduced satisfaction and quality of life, loss of self-confidence, and the risk of mental disorders or suicidal ideation and attempts.

Method

The research design of this study was used to analyze the factors related to the sleep quality of students who were working on the thesis of the Faculty of Public Health, University of Nusa Cendana. This type of research is quantitative analytical research. This study used a cross-sectional design. This study used a questionnaire on factors related to sleep quality, IPAQ, DASS 42 and PSQI which were distributed via google form.

Sampling was done by proportional stratified random sampling. With inclusion criteria, so that the characteristics of the sample do not deviate from the population desired by the researcher, it is necessary to determine the inclusion and exclusion criteria before taking the sample. Researchers have determined the inclusion criteria include:

Results

This study involved 283 final-year students at FKM Undana. The distribution of student characteristics in this study can be seen in the table

1. Characteristics of Research Respondents

Table 1.

Characteristics of research respondents

No	Variable	Amount	%
1	Gender		
	Woman	176	62.2
	Man	107	37.8
2	Residence		
	boarding house	166	58.7
	House	117	41.3
3	Study program		
	Public Health	249	88
	Psychology	34	12
4	Entry year		
	2015	14	4.9
	2016	54	19.1
	2017	94	33.2
	2018	121	42.8
5	Final Project Stage		
	Proposal	156	55,1
	Research result	65	23
	Thesis	62	21,9

Based on Table 1, it can be seen that most respondents are female, as many as 176 (62.2%). As many as 107 (37.8%) respondents are male, as many as 166 (58.7%) respondents live in boarding houses, as many as 117 (41.3%) respondents live in houses, as many as 249 (86.5%) respondents came from the public health study program. As many as 34 (13.5%) respondents came from the psychology study program. 121 (42.8%) respondents entered college in 2018, as many as 94 (33.2%) respondents entered college in 2017, as many as 54 (19.1%) respondents entered college in 2016, and as many as 14

(4.9%) entered tertiary institutions in 2015, most students are working on proposals as many as 154 and at least 62 students are working on theses.

2. The relationship between physical illness and sleep quality in students who are doing a thesis at FKM Undana

Table 2.

The relationship between physical illness and sleep quality in students who are doing a thesis at FKM Undana

Physical Illness	Sleep Quality				Total		P value
	Bad		Well		n	%	
	N	%	n	%			
There aren't any	82	29%	89	31.4%	171	60.4%	0.015
there is	71	25.1%	41	14.5%	112	39.6%	
Total	134	54.1%	148	45.9%	283	100%	
Contingency coefficient					0.150		

Table 2 shows that most respondents did not have a physical illness, as many as 171 respondents. The chi-square test results obtained the value of -value = 0.015 (<0.05), indicating a significant relationship between physical illness and sleep quality in respondents.

3. Relationship between environment and sleep quality in final year students at FKM Undana

Table 3.

Relationship between environment and sleep quality in final year students at FKM Undana

Environment	Sleep Quality				Total		P value
	bad		good		n	%	
	n	%	n	%			
Uncomfortable	101	35.7%	94	33.2%	86	68.9%	0.312
comfortable	52	18.4%	36	12.7%	196	31.1%	
Total	134	54.1%	148	45.9%	282	100%	

Based on Table 3 shows that there are as many as 101 (35.7%) respondents who have an uncomfortable environment have poor sleep quality, 94 (33.2%) respondents who have an uncomfortable environment have good sleep quality, and as many as 52 (18.4%) respondents who have a comfortable environment have poor sleep quality, and 36 (12.7%) respondents who have a comfortable environment have good sleep quality. The chi-square test results obtained a p-value = 0.312 (> 0.05), which indicates no significant relationship between the environment and the sleep quality of the respondents.

4. The relationship between physical activity and sleep quality for final year students at FKM Undana

Table 4.

The relationship between physical activity and sleep quality for final year students at FKM Undana

Physical activity	Sleep Quality				Total		P value
	Bad		Well		n	%	
	n	%	n	%			
Low	24	8.5%	5	1.8%	29	10.2%	0.000
Moderate	88	31.1%	29	10.2%	117	41.3%	
High	41	14.5%	96	33.9%	137	48.4%	
Total	153	54.1%	130	45.9%	283	100%	
Contingency coefficient					0.426		

The results of the chi-square test obtained -value = 0.000 (<0.05) which indicates that there is a relationship between physical activity and sleep quality in respondents. Based on Table 4, most respondents have high physical activity, as much as 117, and the least is low physical activity, as much as 29.

5. The relationship between stress levels and sleep quality for final year students at FKM Undana

Table 5.

The relationship between stress levels and sleep quality for students who are doing a thesis at FKM Undana

Stress level	Sleep Quality				Total		P value
	Bad		Well		n	%	
	n	%	n	%			
critical	42	14.8%	22	7.8%	64	22.6%	0.033
moderate	48	17%	46	16.3%	94	33.2%	
light	40	14.1%	28	9.9%	68	24%	
normal	23	40.4%	34	12%	57	20.1%	
Total	153	47.5%	130	45.9%	283	100%	
Contingency coefficient					0.173		

Based on Table 5, most respondents have a moderate stress level of 94, and the least normal stress level is 57. The results of the chi-square test obtained χ^2 -value = 0.045 (<0.05) which indicates that there is a significant relationship between stress levels and sleep quality in respondents

Discussion

1. Relationship between physical illness and sleep quality

The results showed a relationship between physical illness and sleep quality in students working on a thesis at FKM Undana. From the chi-square test results, the χ^2 -value = 0.043 (<0.05).

This study's results align with the theory that any disease that causes physical pain and discomfort or mood problems such as anxiety or depression can cause sleep problems (Potter & Perry 2010), and physical pain and discomfort can cause sleep problems and sleep disturbances. The majority of physical illnesses respondents experienced felt dizzy and painful in certain body parts, making it difficult for respondents to fall asleep. When a person is sick, the sleep-wake cycle can be disrupted.

This is due to sleeping more than usual when someone is sick. Illness can also cause pain or physical distress, leading to sleep problems. A person with breathing problems can interfere with sleep such as shortness of breath, making it difficult for people to sleep. (Giovanny 2022).

This study's results align with the research conducted by Dhimas, Yusuf, and Widyawati (2013). The researcher researched the dominant factors related to sleep quality in Airlangga University nursing students and found a relationship between physical illness and sleep quality. Pain, dizziness, and excessive thought can interfere with sleep quality, making the respondent's sleep quality poor. There is a study that aligns with the Potter & Perry theory conducted by Dwindi Arfiyan Martfandika (2018). Researchers conducted a study on the sleep quality of nursing students in writing a thesis at the University of 'Aisyiyah Yogyakarta. This is the preparation of the thesis so that the respondent feels depressed besides that disease factors can affect the quality of sleep.

Based on the research results, it can be concluded that the physical illness experienced will affect sleep quality. Diseases experienced, such as difficulty breathing, dizziness, and pain in body parts, cause difficulty sleeping because they cause discomfort during sleep and can hinder students' thesis work.

2. Relationship Between Environment and Sleep Quality

The chi-square test results show no significant relationship between environment and sleep quality with $-value = 0.248 (<0.05)$.

Dhimas, Yusuf, and Widyawati (2019) for Faculty of Nursing Universitas Airlangga Surabaya students. The results of this study contradict the theory put forward by Potter & Perry (2010) that the presence of noise, high light levels, and uncomfortable room temperatures can affect sleep quality. Still, some studies show no relationship between environment and sleep quality. There is a study that aligns with the Potter & Perry theory conducted by Dwindi Arfiyan Martfandika (2018). Researchers conducted a study on the sleep quality of nursing students in writing a thesis at the University of

'Aisyiyah Yogyakarta. This is the preparation of the thesis so that respondents feel depressed besides environmental factors, fatigue and alcohol can also affect sleep quality.

The research data found that most respondents felt uncomfortable with their sleeping environment. Discomfort in the respondent's sleeping environment includes the presence of noise, light, the presence or absence of sleeping companions, and air temperature. From the research data, it is known that most respondents feel that the noise makes them unable to sleep. In addition to the noise, the respondents also felt the heat at night and the cold at night. From the data obtained, 175 respondents had felt hot at night, and 182 felt cold at night, which made the respondents feel uncomfortable when sleeping and woke up from sleep.

The results obtained only concluded some components of the environment and not all components of the environment, so it can be concluded that environmental factors do not have a significant relationship with sleep quality in FKM Undana students working on their thesis.

3. Relationship Between Stress and Sleep Quality

The chi-square test results obtained p -value = 0.043 (<0.05) which indicates a significant relationship between stress levels and sleep quality.

An individual who is experiencing anxiety or depression will disrupt the sleep pattern of the individual. Emotional stress can make a person tense and anxious and cause frustration, impacting the difficulty in starting sleep. Stress can also cause a person to try too hard to fall asleep, wake frequently during the sleep cycle, or sleep well (Potter & Perry, 2005). The results of this study align with the theory from Potter & Perry, which states that emotional stress can make a person tense and anxious and cause frustration which has an impact on difficulty starting sleep. Stress can also cause a person to try too hard to fall asleep, to wake frequently during the sleep cycle, or to sleep well. The study's results align with those of Aloysius (2021), who concluded that there is a significant relationship between stress levels and sleep quality. The results of research conducted by

Aloysius (2021) on FKM Undana students in the 2019/2020 academic year showed a significant relationship between academic stress and sleep quality. The higher the pressure in academic activities, especially the demands of completing the thesis, directly affects the behavior and sleep habits of students working on the thesis (Aloysius 2019).

Most respondents experience psychological pressure when a student has various academic demands that must be faced. Respondents who cannot adjust to pressure or stress will have poor sleep quality. Respondents in this study were students who were already in semesters 8,10,12,14, which is the final semester to complete the final project. Various pressures began to be felt by final year students, starting from the demands of parents and families to complete studies, challenging final assignments, poor time management, and pressure from yourself to finish studies immediately. This makes the respondent feel depressed and stressed, affecting the quality of sleep. Stress management is essential for respondents. Doing hobbies, exercising, and worshipping according to their respective religions can help manage stress among respondents.

Based on the study's results, the majority of students with low, moderate, and severe stress levels had poor sleep quality; it can be concluded that the more respondents with high-stress levels, the higher the risk of respondents experiencing poor sleep quality.

4. Relationship between Physical Activity and Sleep Quality

The chi-square test results stated a significant relationship between physical activity and sleep quality with p -value = 0.000 (<0.05).

The research data shows that most respondents work with moderate physical activity, and some do heavy physical activity. This shows that the daily activities carried out by respondents are moderate physical activities, including cooking, lifting light goods, sweeping, and saving the room. The respondents' strenuous activities included jogging, heavy lifting, moving heavy furniture, and futsal. The majority of respondents walk 10-60 minutes a week.

Based on the results of research conducted in accordance with the theory put forward by Potter & Perry, moderately tired usually get a restful sleep, mainly if fatigue results from work or enjoyable exercise. The results of this study are in accordance with research conducted by Iqbal (2017), which states that there is a significant relationship between physical activity and sleep quality. Iqbal explained that students who are active in physical activities have a four times higher chance of getting good quality sleep than students who are not active in activities.

The research data shows that respondents with high activity have good sleep quality. High physical activity can help respondents to fall asleep quickly because the NREM sleep stage is shortened. Based on the study's results, it can be concluded that the more often students engage in physical activity, the better the quality of student sleep.

Conclusion

Based on the research results on factors related to sleep quality in students working on a thesis at the Faculty of Public Health, Nusa Cendana University, it is concluded that there is a relationship between physical illness, stress levels, and physical activity with sleep quality. There is no relationship between the environment and sleep quality. Suggestions to students working on the thesis are expected to be able to maintain health, manage stress positively, such as sports, do hobbies, and get good quality sleep.

Suggestions

It is hoped that the faculty will be able to develop health promotion programs to improve sleep quality in students. It is hoped that students working on their thesis can maintain their health and manage stress positively, such as sports and hobbies, to get quality sleep. For further researchers, it is hoped that research on factors related to sleep quality is expected to add other variables that have not been studied.

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