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# The Relationship between Sleep Hygiene and Adolescent Sleep Quality in the Dangdeur Subang Area

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#### Abstract

**Introduction:** Adolescence is a critical period in physical and psychological development that requires optimal sleep quality. Poor sleep hygiene can negatively impact the quality of adolescent sleep, especially for those who live in boarding houses and are far from parental supervision. **Objective:** This study aims to determine the relationship between sleep hygiene and adolescent sleep quality in Dangdeur Subang Village. Methods: The research design used was quantitative with a cross-sectional approach. The sample consisted of boarding school teenagers who were selected through a simple random sampling technique. The instruments used were the Sleep hygiene Index (SHI) questionnaire and the Pittsburgh Sleep Quality Index (PSQI). Data analysis was carried out using the spearman rank correlation test. Results and Discussion: The results of the study showed that the majority of adolescents had poor sleep hygiene behavior and poor sleep quality. There was a significant association between sleep hygiene and sleep quality (p < 0.05), suggesting that adolescents with good sleep hygiene tended to have better sleep quality. Conclusion: This study emphasizes the importance of education and behavioral intervention of sleep hygiene in adolescents, especially those living in boarding school environments. It is hoped that the results of this study can be the basis for a more effective sleep health promotion program for adolescents.

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### Introduction

Teenagers are a group of people who have an age range of 10 to 18 years. At this time, adolescents have poor sleep quality, which can affect brain development and cognitive function in adolescents, leading to problems with impulse control, a high risk of engaging in high-risk behaviors such as drug use, alcohol, smoking, fighting, risky sexual behavior, carrying weapons, and focus problems. Teenagers tend to be easily influenced because teenagers are in a period of identity confusion that causes high curiosity, wanting to try something new and easily persuaded by peers. So that not a few teenagers feel the negative impact of the internet. The use of the internet makes them addicted to the internet. Teenagers feel anxious, anxious and feel uncomfortable if they do not access the internet. In addition, the effects that can be caused by lack of sleep duration due to sleep disorders are increasing the number of class absences, affecting school performance, increasing alcohol and cigarette use, increasing the risk of obesity and lowering immunity. (Suni, 2023) (Sari et al., 2020)(Hakim et al., 2021)(Kireinata et al., 2020)

About 1.3 billion people worldwide, or 16% of the total population, are teenagers, meaning they are between the ages of 10 and 19. The prevalence in Indonesia is 46 million adolescents and constitutes 17% of the total population (Unicef 2025). According to the National Socio-Economic Survey (Susenas) of the Central Statistics Agency (BPS), there are around 64.22 million adolescents in Indonesia by 2024, this number is comparable to 22.99% of the total population. (Santika, 2025)Data worldwide, 67% of 1,508 Southeast Asians suffer from insomnia, and 23.8% of them are adolescents. In Indonesia, many teenagers also experience sleep disorders. As many as 62.9% of adolescents between the ages of 12 and 15 have sleep disorders, and wake-to-sleep transition disorders. Data in West Java shows poor sleep quality includes less than five hours of sleep, difficulty sleeping, and frequent awakenings at night, as well as an inability to fall back asleep after waking up. A total of 68% of teens stay awake at night for a variety of reasons, and 20% of them stay awake until late at night at least once a week. (Stella, 2021)(Sari, 2020)(Hidayat, 2022)

All the processes of the adolescent body need sleep for their growth and development. When teens experience changes in sleep patterns, they will experience things like decreased sleep duration, sleep delays, or changes in the way they sleep each day, this will have an impact on a decrease in the quality and quantity of their sleep. (Tamar R. d., 2023) Sleep quality is when a person feels satisfied with their sleep, so they don't experience things like fatigue, irritability, restlessness, lethargy, apathy, blackness around the eyes, swelling of the eyelids, red conjunctiva, sore eyes, impaired attention, headaches, and frequent yawning or drowsiness. The quantitative and qualitative aspects of sleep can be seen from the length of sleep, the time it takes to fall asleep, the frequency of waking up. The subjective aspect of sleep quality can be observed through the depth and longitudinity of sleep and forms a more efficient quality of sleep. This is exacerbated when adolescents are away from both parents and live independently in boarding houses. From the research conducted by, the results were obtained that the average respondents were 19 years old, most of them were women, and the majority of them lived in boarding houses or rented houses. The results showed that the majority of first-year nursing students experienced poor sleep quality, as much as 47 percent. The results showed that as many as 93.4% of respondents in West Java Province had poor sleep quality. The data found showed that 70.6% of respondents in one of the villages in Bandung Regency had

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poor sleep quality. How to get good quality sleep, adequate sleep duration, full concentration during the day, and the ability to maintain a bedtime and wake up routine for several days in a row, it is important to do sleep hygiene (Nurmala, 2020) (Hutagalung, 2022)(Moeis, 2023) (Tiala, 2022).

Sleep hygiene otherwise known as sleep hygiene is a collection of behavioral and environmental advice that aims to improve sleep quality. (Rositianti, 2024)Sleep hygiene It is defined as a way of training to form quality sleep habits based on activities performed before bed, the state of the bed environment and the factors that affect sleep in a simple but effective and efficient way to improve sleep quality. (Rahmawati F., 2021)To maintain sleep health, adolescents must be educated to change their lifestyle, such as limiting nap times, avoiding dinner, limiting the use of phones or electronic devices during sleep, reducing the consumption of alcohol, caffeine, and smoking. (Espie, 2022)

This is evidenced by the results of previous studies that show that the majority of adolescents have personal hygiene before bed (sleep hygiene) bad as many as 88 (36.7%), and good only 28 (11.7%) have an effect on the quality of adolescent sleep. It is expected that adolescents can improve personal hygiene before going to bed (sleep hygiene) such as avoiding things that can keep you awake and not abusing the bed for activities other than sleeping. Further strengthened by research conducted by Kalasi (2025), (Saparwati, 2023)The results of the research on internet addiction and sleep hygiene with sleep quality shows that after the test spearmen rank obtained a Pvalue value of < 0.05, namely Internet Addiction 0.033 and sleep hygiene 0.005, while physical activity was obtained p-value > 0.05 which is 0.641. So it can be concluded that there is a relationship between internet addiction and sleep hygiene with sleep quality in adolescents at SMK Negeri 1 Gorontalo, but there was no relationship between physical activity and sleep quality in adolescents at SMK Negeri 1 Gorontalo.

The researcher conducted a preliminary study which was carried out on January 24, 2025 within the scope of boarding houses, through interviews with 10 boarding house teenagers in Dangdeur Subang Village, the researcher conducted a short question and answer session on 10 boarding school teenagers, the results of 5 teenagers said they were often sleepy during the day, 3 people said they could not sleep at night,1 person said they liked to study until late at night, and 1 more person said they always got reprimanded at school because they always slept until their parents were finally called to school, of these 10 teenagers also did not know about sleep hygiene and also the importance of meeting sleep quality.

Although various studies show a high prevalence between sleep hygiene and sleep quality among adolescents, there is still a gap in the understanding of the two conditions. Especially in Indonesia, there is still little data and research related to sleep hygiene, so further exploration is needed to understand the relationship between sleep hygiene and sleep quality in adolescents.

Given the age of adolescence, there are many negative things that are often done that have an impact on sleep hygiene and sleep quality, this study emphasizes the importance of in-depth studies on the relationship between sleep hygiene and sleep quality, so that further research can create effective interventions to support the improvement of sleep hygiene and sleep quality in adolescents, especially adolescents in boarding schools. Based on this data, it can be concluded that these boarding school teenagers need to be further researched. Therefore, research needs to be conducted to find out if there is a relationship between sleep hygiene and sleep quality. This is necessary to

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improve bad habits for sleep hygiene behaviorand also to fulfill sleep quality. Thus, the researcher is interested in conducting a study on "The Relationship between Sleep Hygiene and Adolescent Sleep Quality in Dangdeur Subang Village".

#### Method

The type of approach in this study is quantitative, which is a type of research using data in the form of numbers and statistical analysis. The research design used correlational to test the relationship between sleep hygiene and sleep quality in adolescents. In this study, the time approach uses cross-sectional through the survey method. This research was conducted in Dangdeur subang village with an initial time in February and ended in May 2025. The population that became the focus of this study was adolescents who were boarding house teenagers living in Dangdeur Subang Village, as many as 120 adolescents. The sample results obtained using G\*Power were 67 respondents. To accommodate the attrition rate of 10%, the final results of the sample were obtained by 77 respondents who used the "simple random sampling" technique.

# Results and Discussions 1. Results Univariate Analysis

**Table 1**Distribution of Respondent Data by Age

Variable	Category	Frequency	Percentage
	15	1	1.3%
	16	9	11.7%
A	17	5	6.5%
Age	18	8	10.4%
	19	24	31.2%
	20	30	39.0%
T	otal	77	100
Mean			18.75
	Standard dev	iation	1.39

Based on Table 1, from 77 respondents, almost half of them are at the age of 20, namely 30 (39.0%) respondents.

Table 2
Distribution of Respondent Data by Gender

Variable	Category	Frequency	Percentage
C 1	Man	22	28.6%
Gender	Woman	55	71.4%
T	otal	87	100

Based on table 2, from 77 respondents, almost all of the respondents were female as many as 55 (71%,4).

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Table 3

Distribution of Respondent Frequency Based on Sleep Hygiene in Adolescents in Dangdeur Village

in Bangaear vinage					
No	SHI	Frequency	Percentage		
1	Good	18	23.4%		
2	Moderate	14	18.2%		
3	Poor	45	58.4%		
	Total	77	100%		

Based on table 3, the results of the univariate analysis show that most adolescents as many as 45 (58.4%) respondents have poor sleep hygiene.

Table 4
Frequency Distribution Based on Adolescent Sleep Quality in Dangdeur Subang Village

Yes	PSQI	Frequency	Percentage	
1	Good	30	39.0%	
2	Poor	47	61.0%	
	Total	77	100%	

Based on table 4, it can be seen that of the 77 respondents of boarding houses in Dangdeur Subang Village. Most of them had poor sleep quality, namely as many as 47 (61.0%) respondents.

### **Bivariate Analysis**

 Table 5

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61		Sleep Quality					p-value	
Sleep hygiene	(	Good		Poor		Total		r
nygiene	f	%	f	%	f	%	_	
Good	16	88.9%	2	11.1%	18	23.4%	_	
Moderate	2	14.3%	12	85.7%	14	18.2%	0.001	0.416
Poor	12	26.7%	33	73.3%	45	58.4%		
Total	30	39.0%	47	61.0%	77	100%		

Based on Table 5, it can be seen that of the 77 respondents of boarding school teenagers in Dangdeur Subang Village, 33respondents (73.3%) had poor sleep hygiene. The resultsof the *Spearman Rank Correlation test* were obtained with *a p-value* of 0.001 (p < 0.05) and a correlation of r of 0.416, meaning that there is a strong and significant positive relationship between *sleep hygiene* and sleep quality. This means that the better *the sleep hygiene* of a teenager, the better the quality of his sleep.

### 2. Discussion

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The results of the study that have been carried out show that of the 77 respondents of boarding school teenagers in Dangdeur Subang Village,33 respondents (73.3%) had poor sleep hygiene. Meanwhile, sleep hygiene was good with good sleep quality for 16 respondents (88.9%). Moderate sleep hygiene with good sleep quality as many as 2

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respondents (14.3%). Meanwhile, sleep hygiene was good with poor sleep quality as many as 2 respondents (11.1%), poor sleep hygiene with good sleep quality as many as 12 respondents (26.7%), and moderate sleep hygiene with poor sleep quality as many as 12 respondents (85.7).

The data analysis of this study used the spearman's rhocorrelation test with a significant level of < 0.05 and the calculation was carried out using the SPSS software application version 27 for windows. Based on the results of the Spearman's Rho test, there was a strong positive relationship between sleep hygiene and adolescent sleep quality, with a significance value of 0.001 (p < 0.05) and a correlation coefficient (r) of 0.416. This means that the better a person's sleep hygiene, the better the quality of their sleep. This shows that there is a relationship between sleep hygiene and the quality of adolescent sleep in Dangdeur Subang Village, so that the strength of the relationship between the two variables is included in the strong category with a positive direction. According to Mastin et al. (2022), poor sleep hygiene behavioris negatively correlated with sleep quality scores: the worse a person's sleep habits, the higher they are to have sleep disorders. Sleep hygiene components such as sleep regularity, a comfortable sleep environment, and pre-sleep activities that support relaxation greatly affect the ease of falling asleep and maintaining sleep throughout the night. If this habit is ignored, sleep disorders such as insomnia, fragmented sleep, or excessive sleepiness during the day will arise.

In a recent study conducted by Flannery (2024), it was found that a chaotic home environment, social pressure, and lack of education about sleep hygiene are the main causes of low sleep quality among adolescents. Interventions in the form of sleep hygiene educationhave been proven to improve sleep duration and efficiency, as well as reduce fatigue during the day and improve overall mental health. According to the National Sleep Foundation (2024), sleep hygiene practices such as avoiding exposure to blue light from screens, not eating heavily before bed, and maintaining consistency in bedtime and wake time can improve sleep quality by up to 25–30% in the adolescent population. This shows that sleep hygiene is not just a secondary behavior, but a key determinant in achieving optimal sleep quality.

The results of this study are in line with research conducted by Fitria (2020), which states that sleep hygiene contributes significantly to improving sleep quality in adolescents. Another study conducted by Yusuf (2023) also found that poor sleep hygiene is directly proportional to an increased risk of sleep disorders and decreased sleep quality in adolescence. Sleep hygiene refers to a set of lists of things that can be done to facilitate the onset of sleep and maintain it. This list contains several components that increase the natural tendency to sleep and reduce sleep-disrupting things. Sleep hygiene consists of the sleeping environment, habits and behaviors that are often done before bed. Deprivation of sleep due to its badness. Sleep hygiene It can also cause mood disorders, the ability to concentrate and the ability to manage information. Based on this, students are one of the groups that are at risk, against practice sleep hygiene. (Butkov & Lee-Chiong, 2023).

According to Hidayat (2022), the quality of a person's sleep is said to be good if they do not show various signs of sleep deprivation and do not experience problems in their sleep. Sleep deprivation conditions are also found among teenagers which can later cause many effects, such as reduced concentration on learning and health problems. Poor sleep quality can result in decreased concentration and impair the ability to perform

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activities that involve memory, learning, logical consideration, and mathematical calculations. Sleep quality is one of the physiological factors that affect a person's ability to concentrate. According to Dewi et.al, (2020) adolescents who experience obstacles in the learning process are caused by drowsiness and fatigue due to lack of sleep, resulting in decreased concentration when studying. The causative factor that can affect sleep quality in adolescents islack of sleep hygiene. Sleep hygiene is one of the main determinants in sleep regulation. Good sleep hygiene practices, such as maintaining consistent sleep times, avoiding caffeine consumption at night, and limiting the use of gadgets before bed, have been proven to improve sleep quality. Therefore, it is important for adolescents to adopt healthy sleep patterns as part of a lifestyle that supports overall health.

Researchers identified from the researcher's point of view that the worsethe sleep hygiene of adolescents, the worse their sleep quality. This corroborates that daily behaviors related to sleep patterns, pre-bedtime routines, and sleep environment conditions greatly affect the quality of rest obtained. This point of view is supported by the research of Fakhrurrozi (2024), which concludes thatimproper sleep hygiene practiceshave a significant impact on poor sleep quality in adolescents. The researcher also observed thatmoderate or poor sleep hygiene still dominates the population of boarding school teenagers, and this can be overcome through educational interventions and habituation of healthy sleep patterns as part of adolescent health promotion.

However, there were 2 respondents withgood sleep hygiene but poor sleep quality, and 16 respondents withpoor sleep hygiene but good sleep quality. This condition shows that sleep quality is not only influenced by sleep hygienebehavior, but also by other factors such as psychological stress, emotional conditions, environmental noise, health problems, and excessive use of gadgets before bed. This is in accordance with the opinion of Buysse (1989), that sleep quality is a multidimensional phenomenon that is influenced by the duration, efficiency, sleep disorders, and mental state of the individual, not just the routine before bed. Research by Goddess (2021) also found that although some respondents had a habit of sleep hygiene What is not good, they can still sleep well because they have a conducive sleep environment, do not experience academic stress, and have active physical habits during the day. On the other hand, adolescents with sleep hygiene A good but having a sleep disorder can be caused by internal factors such as excessive anxiety, social pressure, or study load, which contributes to decreased sleep quality.(Rahmawati, 2021)

Based on these findings, the researchers obtained observation results that sleep hygienebehavior is indeed related to sleep quality, but the effect can be mediated by other external and internal factors that are not measured in this study. Therefore, improving sleep quality in adolescents needs to consider holistic approaches, including mental health education, stress management, and the creation of a comfortable sleep environment.

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### Conclusion

The demographic characteristics of adolescents in Dangdeur Village show that the majority of respondents are in the age range of 15–20 years and most of them are female. Sleep hygiene behavior adolescents in Dangdeur Village is mostly in the moderate (12.2%) to poor (58.4%) category. This reflects that there are still many adolescents who have not implemented optimal healthy sleep habits, such as maintaining sleep regularity, avoiding stimulant consumption, and creating a comfortable sleep environment. The quality of adolescent sleep at the study site was dominated by poor sleep quality (47%). Sleep disorders experienced include difficulty sleeping, waking up at night, poor sleep, and excessive sleepiness during the day, which has an impact on daily activities and learning achievement of adolescents.

There is a significant relationship between sleep hygiene and the quality of adolescent sleep in Dangdeur Village. The results of the Spearman Rank testshowed a value of p=0.000 and r=0.416, which means that the betterthe sleep hygiene behavior of adolescents, the better the quality of sleep. In contrast, poor sleep hygiene contributes to poor sleep quality. The degree of closeness of the relationship between sleep hygiene and sleep quality falls into the moderate category (r=0.416), which suggests that sleep hygiene has an important influence in determining adolescent sleep quality, although there are other factors that also contribute. Direction of the relationship between sleep hygiene And sleep quality is positive, meaning that the higher the levelof sleep hygiene of adolescents, the better the quality of sleep they get.

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