

## THE RELATIONSHIP BETWEEN STRESS LEVELS AND SLEEP QUALITY IN ADULTS IN RW 01 JATICEMPAKA VILLAGE, BEKASI CITY IN 2023

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## ABSTRACT

### Introduction

Adult age is someone who has completed his growth phase and is ready to accept his position in society or adapt to other adult ages. Several life factors that can make adulthood experience stress are due to targets to be achieved, from work to family. A person experiencing stress will experience symptoms such as headaches, irritability, anxiety or excessive anxiety, lack of enthusiasm and problems with sleep quality. Purpose to determine the relationship between stress levels and sleep quality in adults in RW 01 Jaticempaka Village, Bekasi City.

### Method(s)

Quantitative with a descriptive correlation research design, with a population of 201 adults, samples were taken using probability sampling of 134 respondents. The analysis used univariate and bivariate.

### Result(s)

Using the Chi-square test, the result is a  $\rho$  value of 0.004 ( $\rho < 0.05$ ), then  $H_0$  is rejected and  $H_1$  is accepted.

### Conclusion(s)

There is a relationship between stress levels and sleep quality in adults in RW 01 Jaticempaka Village, Bekasi City. Suggestion it is hoped that the people of RW 01 Jaticempaka Village, especially adults, can improve healthy behavior, including controlling and managing stress properly such as by exercising and doing other fun activities so that they can have good sleep quality.

## INTRODUCTION

Adulthood is the phase after growth is complete, where a person is ready to play a role in society and adapt to others, and is the longest period in human life, covering more than half of one's life span (Putri, 2019). Adulthood is characterized by developmental tasks to achieve maturity, but is often faced with obstacles such as lack of motivation, easy despair, low self-confidence, stress management and poor sleep quality, as well as excessive anxiety (Jannah *et al.*, 2021).

According to the World Health Organization (WHO), the age standards have officially been revised, the young age is from 25 years to 44 years (Dyussenbayev, 2017). Meanwhile, according to the Republic of Indonesia Ministry of Health, early adulthood is 26-35 years (Hakim, 2020). From the results of the 2020 census, it turns out that Indonesia's population is dominated by young people, namely 69.38 million people or 25.87 percent (BPS, 2021). Young adulthood describes the transition from adolescence to adulthood. The transition from adolescence to adulthood is marked by continuous changes (Jannah *et al.*, 2021).

One of the basic needs of adults to maintain body balance is rest and sleep. As a physiological need, sleep plays a role in restoring energy so that the body can function optimally again (Senggo & Palayukan, 2020). The National Sleep Foundation (NSF) recommends 7 – 9 hours as the ideal sleep time for adults (Ratnaningtyas & Fitriani, 2019).

According to the National Sleep Foundation (NSF), 36% of young adults aged 19–29 have difficulty waking up in the morning, and 22% are often late to class or work because of it. In addition, 40% complain of feeling sleepy at work at least two days a week (Hutagalung *et al.*, 2021). In Indonesia, the prevalence of sleep disorders reaches around 10%, which is equivalent to 28 million people out of a total population of 238 million. Although this figure is recorded in statistical data, there are still many cases that have not been detected (Wijayaningsih & Hasanah, 2022). In West Java Province, the Health Office reported around

6,701 cases of sleep disorders in 2019 (Agustini & Esterlita, 2021).

Indonesian people's sleep habits tend to be poor, with many people sleeping around 12 midnight, which can reduce physical fitness and increase the risk of diseases such as insomnia, heart disease, and stroke, especially if accompanied by staying up late (Ramadhan, 2022). Sleep quality is influenced by various factors, including physical condition, environment, exercise, fatigue, lifestyle, emotional stress, alcohol consumption, diet, smoking habits, motivation, and medication (Berman *et al.*, 2015). A person's sleep quality can be disturbed by stress. In adulthood, which is a productive phase, individuals often face physical and psychological stress as well as psychosocial pressure, which can have a negative impact on their sleep quality (Parawangsa, 2022).

When a person experiences stress, the hormones epinephrine, norepinephrine, and cortisol increase, which affect the central nervous system, causing the body to stay awake and increase alertness (Sri *et al.*, 2021). Stress can cause symptoms such as headaches, irritability, weight loss, restlessness, excessive anxiety, lack of enthusiasm, difficulty sleeping, and difficulty concentrating (Marks, 2021). In adulthood, individuals often face various stressors related to developmental tasks, such as choosing a life partner, fulfilling social roles, taking responsibility, achieving emotional independence, and building a household and raising children (Jannah *et al.*, 2021).

The prevalence of stress is quite high, with more than 350 million people worldwide experiencing it, making it the fourth most common disease according to WHO (Ambarwati *et al.*, 2019). A survey conducted by the Health and Safety Executive in the UK of 487,000 productive residents showed that women (54.62%) experienced stress more often than men (45.38%) (Asiah *et al.*, 2022). In addition, according to the Riskesdas of the Indonesian Ministry of Health (2018), the prevalence of emotional disorders in the population aged 15 years and over increased

from 6% in 2013 to 9.8% in 2018 (Ambarwati et al., 2019).

Based on the results of a preliminary study conducted by researchers on January 26, 2023 in RW 01, Jaticempaka Village, which was conducted by interviewing about sleep. The results of interviews from 10 adults, as many as 7 adults (70%) had less than 7-8 hours of sleep. Of the 7 adults, 4 adults (57%) said they often had headaches thinking about their work and could only sleep around midnight after 11 pm, complained of restlessness while sleeping and often woke up in the middle of the night, 2 other adults (29%) said they often slept late, had difficulty waking up in the morning and felt not fresh after waking up and were sleepy and found it difficult to concentrate during the day while working. And 1 adult (14%) said they had to stay up late at least 3 times a week because of the night shift work schedule.

Seeing the existing phenomena and problems and the results of previous studies, the researcher is interested in further researching the "Relationship between Stress Levels and Sleep Quality in Adults in RW 01, Jaticempaka Village in 2023".

## METHODS

This study is a quantitative study with a descriptive correlative design and a cross-sectional approach. The study population involved young people in RW 01, Jaticempaka Village, Pondokgede District, Bekasi City, West Java, totaling 201 people. The sample used was 134 adults selected using the probability sampling technique through proportional random sampling.

The instruments used for data collection were two questionnaires as primary data. The questionnaire used was the Perceived Stress Scale 10 (PSS-10) to measure stress levels, and the Pittsburgh Sleep Quality Index (PSQI) to measure sleep quality. Data analysis included univariate analysis to determine the frequency distribution of stress levels and sleep quality, as well as bivariate analysis to identify the relationship between the independent variable (stress level) and the dependent variable (sleep quality). The statistical test used was chi square.

## RESULTS

### 1. Overview of Stress Levels in Adulthood

Table 1. Frequency Distribution of Stress Levels in Adults in RW 01, Jaticempaka Village, Bekasi City in 2023

Stress Levels	Freq	Percentage
Mild	58	43,3%
Moderate	76	56,7%
<b>Total</b>	<b>134</b>	<b>100%</b>

Based on table 1, the frequency distribution of stress levels from 134 respondents, the results showed that adults who experienced mild stress levels were 58 respondents (43.3%) and moderate stress levels were 76 respondents (56.7%).

The level of stress in adults in RW 01, Jaticempaka Village, is measured based on indicators which can be seen in the following table:

Table 2. Frequency Distribution of Stress Levels Based on Indicators in Adulthood in RW 01, Jaticempaka Village, Bekasi City in 2023

Indicators	Stress Levels			
	Mild		Moderat e	
	F	%	F	%
<b>Feeling</b>	6	45,5	7	54
<b>Unpredictable</b>	1	%	3	,5%
<b>Feeling</b>	6	48,5	6	51
<b>Uncontrolled</b>	5	%	9	,5%
<b>Feeling</b>	4	35,1	8	64
<b>Depressed</b>	7	%	7	,9%

Based on table 2, it can be seen that the largest indicator of mild stress levels is in the indicator "Feeling Uncontrolled" as many as 65 respondents (48.5%). The largest indicator of moderate stress levels is in the indicator "Feeling Depressed" as many as 87 respondents (64.9%).

### 2. Overview of Sleep Quality in Adulthood

Table 3. Frequency Distribution of Sleep Quality in Adults in RW 01, Jaticempaka Village, Bekasi City in 2023

Sleep Quality	Frequenc y	Percentage
Good	13	9,7%
Bad	121	90,3%
<b>Total</b>	<b>134</b>	<b>100%</b>

Based on table 3, the frequency distribution of sleep quality from 134 respondents can be seen. The results showed that adults who had good sleep quality were 13 respondents (9.7%) and adults who had poor sleep quality were 121 respondents (90.3%).

Sleep quality in adults in RW 01, Jaticempaka Village is measured based on indicators that can be seen in the following table:

Table 4. Frequency Distribution of Sleep Quality Based on Indicators in Adults in RW 01, Jaticempaka Village, Bekasi City in 2023

Indicators	Sleep Quality	
	Good	Bad
	%	%
Subjective Sleep Quality	93,3%	6,7%
Sleep Latency	82,8%	17,2%
Sleep Duration	49,3%	50,7%
Sleep Efficiency	4,6%	5,4%
Sleep Disorders	8,2%	91,8%
Medication Use	94%	6%
Daytime Sleep Dysfunction	42,5%	57,5%

Based on table 4, it can be seen that the largest indicator of good sleep quality is in the indicator "Medication Use" as many as 126 respondents (94%). The largest indicator of poor sleep quality is in the indicator "Sleep Disorders" as many as 123 respondents (91.8%).

### 3. Analysis of the Relationship between Stress Levels and Sleep Quality in Adulthood

Table 5. Cross-Distribution Tabulation Between Stress Levels and Sleep Quality in Adults in RW 01, Jaticempaka Village, Bekasi City in 2023

Sleep Quality	Total
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Stress Level	Count	Good	Bad
	Expected Count		
	% Total		
Mild	11	47	58
	5,6	52,4	58,0
Moderate	8,2%	35,1%	43,3%
	2	74	76
Total	7,4	68,6	76,0
	1,5%	55,2%	56,7
	13	121	134
Total	13,0	121,0	134,0
	9,7%	90,3%	100%

P value 0,004

Contingency Coefficient 0,374

Based on table 5 cross-tabulation between stress levels and sleep quality in adulthood in RW 01, Jaticempaka Village, Bekasi City, the following results were obtained:

a. Respondents who have mild stress levels with good sleep quality are 11 respondents (8.2%). And those who have mild stress levels with poor sleep quality are 47 respondents (35.1%).

b. Respondents who have moderate stress levels with good sleep quality are 2 respondents (1.5%). And those who have moderate stress levels with poor sleep quality are 74 respondents (55.2%).

Based on table 5, the results of the bivariate analysis using the Chi-square test with the Continuity Correction approach method, because the table shows that there are no cells that have an E value <5 and the minimum expected value is 5.6. The Chi-square test with the Continuity Correction approach method obtained a P value of 0.004 ( $P < 0.05$ ), so there is a relationship between stress levels and sleep quality in adulthood in RW 01, Jaticempaka Village, Bekasi City in 2023. A contingency coefficient value of 0.374 was obtained, indicating that there is a low relationship between stress levels and sleep quality in adulthood in RW 01, Jaticempaka Village.

## DISCUSSIONS

### 1. Stress Level

In this study, the results showed that most adults in RW 01, Jaticempaka Village, experienced moderate stress levels, as many as 76 respondents (56.7%). This result is in line

with research conducted by Sulana, (2020), out of 154 respondents, 95 respondents (74.2%) experienced moderate stress. Meanwhile, the results of research conducted by Muttaqin & Sulistiawati (2021), stated that out of 353 respondents who experienced moderate stress, 265 respondents (75.1%).

According to Parawangsa (2022), adulthood is a productive period that is closely related to stress, both physical and psychological, and is vulnerable to various psychosocial stress factors. Stress itself can be understood as the body's response to non-specific demands that cause tension and disrupt the stability of daily life (Potter & Perry, 2016).

The causes of stress in adulthood vary from one individual to another. The causes of stress can be divided into internal and external factors (Potter & Perry, 2016). Internal factors come from within the individual, such as behavior, physical condition, conflict, and emotions, while external factors come from the external environment, such as family, work, and society.

In adulthood, psychological and social stress are very dominant. Psychological stress is closely related to the process of maturation, considering that adulthood is the longest phase in human life (Putri, 2019). According to Wijaya & Muslim (2021), adulthood is full of demands and pressures from various aspects, including career, interpersonal relationships, family, finances, and major changes in life such as marriage, job loss, or caring for parents. This pressure can cause psychological stress if the existing demands cannot be met, which has an impact on the difficulty of solving personal problems. High stress in adulthood can have a negative impact on physical and mental well-being, increasing the risk of sleep disorders, anxiety, depression, decreased immune system, physical health problems, and decreased overall quality of life (Ambarwati et al., 2019).

According to researchers, the high number of adults experiencing moderate stress in this study is related to interpersonal and social relationships. This can be seen from the results showing that the "Feeling Depressed" indicator has the highest value at a moderate stress level. Feelings of depression reflect symptoms often

experienced by adults, where they feel anxious, depressed, irritable because of problems that are difficult to control, and feel unable to overcome their problems compared to others.

## 2. Sleep Quality

In this study, the results showed that most adults in RW 01, Jaticempaka Village, had poor sleep quality, as many as 121 (90.3%). The results of this study are in line with the results of the study by Muttaqin & Sulistiawati (2021), which stated that out of 353 respondents, 268 respondents (75.9%) had poor sleep quality.

Sleep is a very important basic need for humans, and sleep quality affects a person's condition (Rahma, 2022). Sleep quality can be measured based on ease of falling asleep, duration of sleep, and complaints during sleep or after waking up (Novita, 2019). According to Berman (2015), good sleep for adults requires 7-9 hours per night, but factors such as health, environment, lifestyle, stress, alcohol, diet, and smoking can affect sleep duration. Adults are also susceptible to sleep disorders such as insomnia or sleep apnea.

This study assumes that poor sleep quality in adulthood is caused by psychological and physical factors. This is reflected in the highest indicator of poor sleep quality in "Sleep Disorders," where many adults in RW 01, Jaticempaka Village experience sleep disorders, such as waking up at night, difficulty sleeping, coughing, nightmares, or chills.

## 3. Relationship between Stress Levels and Sleep Quality in Adulthood in RW 01, Jaticempaka Village, Bekasi City in 2023

Based on table 5.5, the results of the Chi-square test using the Continuity Correction approach method were obtained, a  $\rho$  value of 0.004 was obtained ( $\rho < 0.05$ ), so  $H_0$  was rejected, which means there is a relationship between stress levels and sleep quality in adulthood in RW 01, Jaticempaka Village, Bekasi City, with a relationship of 0.374 in the low category.

The results of research by Ratnaningtyas (2019) and Clariska (2020) showed that there was a significant relationship between stress and sleep quality, with a  $\rho$  value  $< 0.05$ . High stress can reduce sleep quality in adulthood (Zurrahmi

et al., 2021), which can cause difficulty sleeping, restless sleep, or frequent waking up (Kartika et al., 2021). Stress increases the hormones epinephrine, norepinephrine, and cortisol, which affect the central nervous system and sleep cycle, causing wakefulness or nightmares (Sri et al., 2021). Good sleep quality requires 7-8 hours of sleep without frequent waking up (Ministry of Health of the Republic of Indonesia, 2021).

Stress from work or financial problems can disrupt sleep (Nur et al., 2020; Wisnu, 2023). Researchers assume that the relationship between stress and sleep quality in adulthood is caused by the many demands of work, family, and life changes that can trigger stress and anxiety.

## CONCLUSIONS

There are results of adults who experience mild stress levels of 58 respondents (43.3%) while moderate stress levels are 76 respondents (56.7%). There are results of adults who have good sleep quality of 13 respondents (9.7%), while adults who have poor sleep quality are 121 respondents (90.3%). There is a relationship between stress levels and sleep quality in adults in RW 01, Jaticempaka Village, Bekasi City with a  $\rho$  value of 0.004 ( $\rho < 0.05$ ), which means  $H_0$  is rejected.

### Suggestions

#### 1. For the Community of RW 01

The community of RW 01, Jaticempaka Village, especially adults, can improve healthy behavior, including controlling and managing stress well so that they can have good sleep quality. Controlling and managing stress can include regular exercise or other fun activities. Good sleep quality for adults can be supported by establishing a regular sleep routine, having a consistent sleep schedule, creating a comfortable sleep environment.

#### 2. For Educational Institutions, Faculty of Health Sciences, As-Syafi'iyah Islamic University

It is expected to be used as a source of reading in the FIKes library of As-Syafi'iyah Islamic University and as a basic reference for research

on the relationship between stress levels and sleep quality.

### 3. For Further Researchers

Can be information in conducting further research, especially those related to stress and sleep quality. Further researchers can further develop the research instrument and find other factors related to sleep quality besides stress factors.

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