

**Original Research****The Relationship Between Psychological Conditions And Sleep Quality In The Covid-19 Rooms****Widiastuti<sup>1</sup>, Novita Nirmalasari<sup>2\*</sup>**

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**ABSTRACT**

**Background:** *The COVID-19 pandemic has the potential to cause severe psychological harm. Psychological conditions such as anxiety, depression, stress, and disturbances are common among health care workers. The factors causing stress in health workers include workload, fear of being infected with COVID-19, the negative stigma of virus carriers, and being away from family. The research purposed to know the relationship between psychological condition and sleep quality.*

**Methods:** *The research population consists of all nurses who have worked in the covid room. This research used descriptive correlation with a cross-sectional approach. The samples were collected using a simple random sampling technique with 30 respondents as inclusion and exclusion criteria. The questionnaires Depression Anxiety Stress Scale-21 (DASS-21) and Pittsburgh Sleep Quality Index (PSQI) were completed by the respondent. Data analysis was used Chi-Square.*

**Results:** *Most of the respondents were females (66,67%) over the age of 30 (70%). Most of them had a nursing education diploma (60%). They were dominant and had normal levels of depression (96,67%), anxiety (86,67%), and stress (93,33%). Most of them had poor sleep quality (63,33%). According to the findings, the p-values for depression, anxiety, and stress in sleep quality were 0.43, 0.73, and 0.26. It represents that no relationship exists between one variable and another. Meanwhile, some respondents have mild depression, moderate anxiety, and mild stress with poor sleep quality.*

**Conclusion:** *Poor psychological conditions are still found in nurses, which can interfere with the quality of nursing services. Additional nursing interventions are required to improve nurses' psychological well-being.*

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## INTRODUCTION

The world is currently the pandemic of a new coronavirus disease (COVID-19). This pandemic may lead to destructive psychological injuries to many. Research shows that during the COVID-19 pandemic, health care workers experience sudden and ongoing psychological distress such as fear, anxiety, depression, or insecurity (Ren et al., 2020; Tingyun Jianga, 2020). Individuals tend to experience anxiety, fear of being infected and experience severe symptoms, and feel helpless. Previous research has shown that infectious diseases, such as severe Acute Respiratory Syndrome (SARS), similar to the COVID-19 pandemic, cause a psychological burden on healthcare workers (Kang et al., 2020; Xiang et al., 2020).

Other studies have shown that there are anxiety disorders, symptoms of depression and poor sleep quality in healthcare workers because of COVID-19 (Huang & Zhao, 2020). Literature studies on ten articles reported that factors causing stress in health workers include workload, fear of being infected with COVID-19, the negative stigma of virus carriers, and being away from family (Handayani, Kuntari, Darmayanti, Widiyanto, & Atmojo, 2020). The pilot study with analytical descriptive on 72 COVID-19 volunteers obtained that, namely 68 people (95.83%) experienced mild anxiety, as many as 69 people (95.83%) experienced mild depression. As many as 69 people (95.83%) experienced mild stress (Agustin, Nurlaila, Yuda, & Yulia, 2020).

Previous cross-sectional studies showed that 69% of healthcare workers experienced depression, 58.9% experienced anxiety, 55.9% experienced stress, and 37.3% experienced sleep deprivation (<6 hours/day) (Arafa, Mohammed, Mahmoud, Elshazley, & Ewis, 2021). Research healthcare workers also show the prevalence of depression, anxiety, insomnia by 57.6%, 45.4% and 32.0% (Y. Zhou et al., 2020). Research on healthcare workers in Wuhan also reported that 50.4% experienced symptoms of depression, 44.6% experienced anxiety, 34.0% experienced insomnia and, 71.5 experienced stress. Healthcare workers who were directly involved experienced higher depressive symptoms with  $p$ -value=0.01, anxiety  $p$ -value<0.001 and insomnia  $p$ -value <0.001 (Lai et al., 2020).

Previous studies have shown that in depression, anxiety, stress, and sleep disturbance, healthcare workers. If this happens, it will interfere with work productivity and reduce the immunity of health workers, especially nurses. PKU Muhammadiyah Yogyakarta Hospital is a referral hospital for COVID-19 treatment. A total of 161 patients were confirmed positive, 67 patients under surveillance, 7 asymptomatic patients in 2020. Healthcare workers had anxiety when they were treating the patient with COVID-19.

Health, safety, interpersonal relations, and related knowledge are very influential in the situation. The preliminary study was conducted in the COVID-19 treatment room. Some nurses were under pressure because the COVID-19 pandemic had not ended. This will disrupt the sleep quality of health workers, especially nurses. If this happens, it will interfere with work productivity and reduce the immunity of health workers, especially nurses.

This study aimed to know the relationship between psychological condition and sleep quality in nurses in the COVID-19 rooms. This research can help nurse leaders know the needs of nurses and provide psychological support to improve nursing services.

## MATERIALS AND METHOD

This research is a descriptive correlation design with cross sectional approach. It is a purpose to know the relationship between psychological conditions and sleep quality. This research took place in a COVID-19 room of a hospital designated to treat patients with COVID-19 in RS PKU Muhammadiyah Yogyakarta. Data were collected in May 2021. The research population consists of all nurses who have worked in the covid room.

The total number of respondents is 30 respondents with a simple random sampling technique. The inclusion criteria were that nurses have at least one year of nursing experience and took care of patients with COVID-19 in the COVID-19 room for at least a month. Exclusion criteria included that nurses have psychological problems before the study. This research has dependent and independent variable. Sleep quality is the dependent variable, and the sleep quality and psychological condition is the independent variable.

Respondents filled out the Depression Anxiety Stress Scale-21 (DASS-21) questionnaire and the Pittsburgh Sleep Quality Index (PSQI) questionnaire. The DASS-21 questionnaire measures symptoms of depression, anxiety, and stress experienced by individuals. The questionnaire consists of 21 questions (7 questions for depression, 7 questions for anxiety, and 7 questions for stress). Reliability test results obtained Cronbach's Alpha coefficient of 0.912. At the same time, the validity test with Sperman produces a correlation coefficient of -0.389 ( $p < 0.05$ ) (Kinanthi & Listiyandini, 2020). The PSQI questionnaire was used to assess the subjects' sleep quality over the past two weeks.

The PSQI scale contains seven components (subjective sleep quality, sleep duration, sleep latency, the efficiency of sleep habits, use of sleep medication, sleep disturbances, and daytime dysfunction). Reliability test results obtained Cronbach's Alpha coefficient of 0.810. While the validity test with Sperman produces a correlation coefficient of 0.42 ( $p < 0.05$ ) (Jumiarni, 2018). The questionnaire was recapitulated and processed. Univariate analysis carried out in this study was descriptive analysis with frequency and percentage. Bivariate analysis test using Chi-Square.

The researcher takes a sample from the population regardless of the level that exists in the population. Prior to the study, all respondents expressing agreement to participate in the study were informed of the research's objectives, benefits, and procedures. They were also requested to sign informed consent. In terms of the privacy and confidentiality of respondents, providing training fairly, benefits, and avoiding dangerous actions were ensured during the study. Ethical approval for the study was granted by the ethical committee of PKU Muhammadiyah Yogyakarta Hospital with number 0031/KT.7.4/IV/2021.

## RESULTS

**Table 1.** Demographic Characteristics of Respondents (n=30)

Characteristics	Frequency (f)	Percentage (%)
Age		
< 30 years old	9	30,00%
> 30 years old	21	70,00%
Gender		
Male	10	33,33%
Female	20	66,67%

Characteristics	Frequency (f)	Percentage (%)
Education		
Diploma of Nursing	18	60,00%
Ners	12	40,00%

The respondents' characteristics are shown in Table 1. There were 30 respondents in the final analysis. Most of respondents were female (66,67%) and aged more than 30 years old (70%). Most of them have a diploma of nursing education (60%).

**Table 2.** The Psychological Conditions of Respondents (n=30)

Psychological Conditions	Frequency (f)	Percentage (%)
Depression		
Normal	29	96,67%
Mild	1	3,33%
Anxiety		
Normal	26	86,67%
Mild	3	10%
Moderate	1	3,33%
Stress		
Normal	28	93,33%
Mild	2	6,67%

Table 2 shows the psychological state of respondents. According to the findings of the analysis, the respondents have normal levels of depression (96,67%), anxiety (86,67%), and stress (93,33%). However, some of the respondents have a mild level of depression (3,33%), a mild to moderate level of anxiety (10%), and a mild level of stress (6,67%).

**Table 3.** The Sleep Quality of Respondents (n=30)

Sleep Quality	Frequency (f)	Percentage (%)
Good	11	36,67 %
Poor	19	63,33 %

The distribution of respondents' sleep quality is shown in table 3. The results showed that most of the respondents are in a condition of poor sleep quality (63,33%).

**Table 4.** Cross Tabulation of Psychological Conditions with Sleep Quality (n=30)

Psychological Conditions	Sleep Quality			Total n (%)	p-value	
	Good n (%)	Mild n (%)	Moderate n (%)			
Depression	Normal	9 (31,0)	12 (41.4)	8 (27.6)	29 (100)	0.29
	Mild	0 (0.0)	0 (0.0)	1 (100)		
Anxiety	Normal	8 (30.8)	12 (46.2)	6 (23.1)	26 (100)	0.23
	Mild	1 (33.3)	0 (0.0)	2 (66.7)		
	Moderate	0 (30.0)	0 (0.0)	1 (100)		
Stress	Normal	9 (32.1)	12 (42.9)	7 (25.0)	28 (100)	0.08
	Mild	0 (0.0)	0 (0.0)	2 (100)		

\*chi square, p-value<0,005

Based table 4, it shows that there is no correlation between the variable depression, anxiety and stress with sleep quality (p-value>0.005)

## **DISCUSSION**

A total of 30 people participated in the study. The results showed that most of the respondents were more than 30 years old and female gender. Most of the respondents also have a diploma in nursing education. Previous research has shown that COVID-19 has a psychological impact on health workers. According to the report's results, up to 85.0% of respondents were female, with age groups ranging from 30-49 years old (56.4%) (Zhu et al., 2020). Other studies with cross-sectional design studies showed that increased prevalence of anxiety, depression, and stress symptoms were associated with female sex and younger age.

Most of the respondents were female (64.9%) and average age 32 years old (Odrizola-González, Planchuelo-Gómez, Iruñia, & de Luis-García, 2020). Females are more susceptible to stress than young adults. Younger people get more easily get information, so it is easier to trigger stress (Qiu et al., 2020). This finding is consistent with previous epidemiological studies that found that women were at a higher risk of depression and more likely to be anxious (S. J. Zhou et al., 2020).

According to other studies, the majority of respondents have normal anxiety and a good education. Education influences attitudes and behavior in dealing with changes and high stressors such as the COVID-19 pandemic. This is related to faster adaptation. Nurses with a high level of knowledge can better anticipate and understand preventive, curative, and rehabilitative methods against COVID-19. These characteristics can determine a person's attitude, especially during the COVID-19 pandemic (Purnamasari, Andriani, & Marsiwi, 2021).

This study indicates that the majority of respondents have normal depression, stress, and anxiety. The findings revealed that most respondents were experiencing normal levels of depression, anxiety, and stress. According to one study, the majority of respondents experienced normal anxiety. This condition is due to nurses' ability to deal with situations more quickly (Purnamasari et al., 2021). Furthermore, research implies that the effects of knowledge and COVID-19 prevention and control measures may have protective psychological effects in the early stages of the epidemic. It can be seen that increasing public awareness of COVID-19 knowledge and taking precautionary measures to prevent the spread of COVID-19 can reduce public anxiety and depression (S. J. Zhou et al., 2020).

The results also show that some respondents are experiencing mild to moderate anxiety and mild stress. A respondent also suffers from mild depression, mild anxiety, and mild stress. This condition must also be considered because it can impair the team's ability to provide nursing care. The previous study shows that mild and moderate depressive and anxiety symptoms were most common (S. J. Zhou et al., 2020). These findings are consistent with previous research indicating that nurses experience mild anxiety due to various factors.

These factors are associated with risk factors such as age, the availability of personal protective equipment, honesty, and knowledge of health workers (Fadli, Safruddin, Ahmad, Sumbara, & Baharuddin, 2020). According to a study, an isolated environment, concerns about the lack and use of personal protective equipment, physical and emotional exhaustion, workload, fear of infection, and bad work experience with COVID-19 are all sources of stress (Leng et al., 2021). Another study

states that health workers as the front line involved in handling the COVID-19 pandemic are associated with the risk of depression. Most of the respondents reported symptoms of depression, anxiety, insomnia, and distress.

This study also proves that places that have a higher risk of having symptoms of depression are higher in health workers (Lai et al., 2020). According to a literature review, high anxiety is caused by nurses' lack of self-efficacy and awareness of COVID-19 prevention measures. When nurses have mild anxiety, it is different because nurses can receive information from various sources and control emotions that within themselves. When dealing with COVID-19 patients, adaptive coping will improve physical and mental health (Dinah & Rahman, 2020). According to another review of the literature, various factors influence the psychology of nurses during the COVID-19 pandemic.

Age, gender, marital status, having children, having elderly parents, and working in high-risk environments are all risk factors. Situational factors that can impact mental health include exposure risk, social support, personal protective equipment, stigma, and workload. The psychological health of nurses is the most important thing at this time, so it is critical to focus on reducing situational factors (Nurfadillah, Arafat, & Yusuf, 2021). The grief and uncertainty caused by the lack of such a cure for the COVID-19 pandemic significantly impact individuals. This condition can accelerate the emergence of psychopathology, such as depression and anxiety disorders, particularly in vulnerable populations.

Fear of an increased risk of virus exposure, concerns about infecting their loved ones, or having to isolate themselves from them can be significant psychological stressors. Isolation has a large effect on people's lives. It also causes various psychological issues such as panic disorder, anxiety, and depression (Handayani et al., 2020; Tsamakis et al., 2020). The findings revealed that most of the respondents had poor sleep quality. The COVID-19 pandemic condition hurts both physical and psychological health. It can have an impact on a person's sleep quality. Fear and anxiety will be infected with the virus, causing it to affect them. In everyday life, changes in behavior occur that disrupt the previous routine (Haryanti, 2020).

Other research shows that sleep quality decreases with mild and poor sleep quality by 8% and 92%. The characteristics of the respondents have a significant impact on a person's ability to deal with the pandemic. Age factors influence reduced sleep time and fatigue. This condition can lead to poor sleep quality (Purnamasari et al., 2021). Various mental disorders, such as anxiety and depression, are associated with disrupting a person's sleep quality and impacting physical and psychological health. It can lead to a person being less productive in their daily lives (Jumiarni, 2018). Another study states that health workers as the front line involved in handling the COVID-19 pandemic are associated with the risk of depression. This will affect the quality of sleep, as evidenced by insomnia (Lai et al., 2020).

This study shows no correlation between the variable depression, anxiety, and stress, with sleep quality. The results of most respondents' depression, anxiety, and stress are normal but have poor sleep quality. Other studies show that the government had carried out the vaccination process to allow fast and good coping and adaptation processes during the COVID-19 pandemic (Purnamasari et al., 2021). Family support is very influential on the psychological conditions faced by healthcare workers.

There is evidence of a bidirectional relationship between insomnia and loneliness, which helps explain the beneficial effects of family support. The role of perceived

family support in moderating stress levels appears to be necessary, possibly by reducing the perception of the threat of stressful events and the physiological response (Tselebis et al., 2020).

## CONCLUSION

The psychological conditions of a nurse are essential for ensuring sustainability services during our struggle with COVID-19. Our findings show that female, young, and less experienced people are in the risk group. Depression, anxiety, stress, and sleep quality are still found in nurses. It improves the quality of providing nursing services. Nurse leaders play an essential role in providing adequate protective equipment, flexible work shifts, and a caring and healing work environment.

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