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DETERMINANTS OF ANXIETY, STRESS, AND DEPRESSION OF NURSES DURING THE COVID-19 PANDEMIC OF OMICRON VARIANT

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A B S T R A C T

The Omicron variant is a new variant of the Coronavirus which is thought to be able to spread and infect humans faster than the previous variant. The rapid transmission of the disease and the high mortality cause great panic and anxiety nr the general public and the health sector. One of the health workers who are very vulnerable to receiving the impact of the emergence of COVID-19 is nurses. In addition to being directly infected, psychological disorders such as anxiety, stress, and depression are very easily experienced by nurses due to various causes. This study aimed to know the determinants of anxiety, stress, and depression during the COVID-19 pandemic of the Omicron variant. The research method is a quantitative study with a cross-sectional approach. This research was conducted in the adult inpatient room at the RSUD Kota Bandung in February 2022. The respondents were 64 nurses with a total sampling technique. The research instrument used a Depression Anxiety Stress Scale-42 (DASS-42) questionnaire, which was collected via a google form. The data were analyzed using Pearson chi-square test. The results showed that a small proportion of nurses experience mild to moderate anxiety, stress, and depression. The bivariate test showed no significant relationship between age, gender, education, and length of work with anxiety, stress, and depression ($p>0.05$) in nurses in the adult inpatient room at the RSUD Kota Bandung. Although small, there are still nurses who experience stress, anxiety, and depression, so the hospital should provide training on how to deal with anxiety, stress, and depression for nurses to have adaptive coping mechanisms when anxiety, stress, or depression occurs.

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1. INTRODUCTION

In December 2019, the world faced a new infectious disease, Coronavirus disease-2019 (COVID-19), which originated in Wuhan, China, and spread globally in a very fast time. So in January 2020, the World Health Organization announced that COVID-19 had become a pandemic and a public emergency of international concern. A total of 219 countries have confirmed COVID-19, with the number of infected victims until November 2021 as many as 276 million cases and 5.3 million people died (WHO, 2021). Meanwhile in Indonesia, the first case of COVID-19 appeared in February 2020, and until November 2021 the number of victims infected with COVID-19 has reached 4.26 million people and 144,047 people have died. The number of COVID-19 cases in Bandung until November 2021 was 43,468 people with 1,423 deaths (Kemenkes, 2021).

Two years have passed since WHO declared COVID-19 as a pandemic, from August to October 2021, positive cases of COVID-19 began to decline both in the world and in Indonesia, where it seems that the pandemic will end soon. But in early November 2021, a new variant of COVID-19 appeared. The Omicron variant is a new variant of the Corona virus and is estimated to be able to spread and infect humans faster than the previous variant (WHO, 2021).

Based on data at the Bandung City Hospital as of November 2021, it has treated 397 confirmed positive COVID-19 patients with a death rate of 143 patients and there are 27 positive patients being treated in non-COVID-19 rooms. Of the total 271 nurses who were positive for COVID-19, there was 1 person who died, and as many as 59 nurses came from the adult inpatient room (RSUD Kota Bandung, 2021).

The rapid transmission of the disease and the high mortality rate of the omicron variant causes great panic and anxiety not only for the general public but also in the health sector. From a preliminary study investigating direct psychological responses during the COVID-19 epidemic in China, 53.8% of participants rated the psychological impact of stress and anxiety as moderate or severe (Kang et al, 2020). The highly contagious variant of omicron greatly impacts all living systems such as economic and social disturbances, health systems, education, and psychological. Anxiety, stress, and depression, which are not only experienced by the general public but also experienced by health workers who face to face with COVID-19 sufferers. One of the health workers who are very vulnerable to the impact of the emergence of the Omicron variant is the nurse. In addition to being transmitted directly, psychological disorders, namely anxiety, stress, and depression, are very easily experienced by nurses due to various causes (Elbay et al, 2020).

According to Hawari (2011), anxiety is a natural feeling disorder characterized by feelings of fear or worry that are deep and ongoing, personality is intact, behavior can be disturbed but is still within normal limits. Stress is a physical, mental, and chemical reaction of the body to situations that are scary, surprising, confusing, dangerous, and disturbing to someone (Yusuf, 2017). Depression is

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an emotional disorder characterized by feelings of depression, guilt, sadness, loss of interest, and withdrawal from others that can affect a person's interpersonal relationships.

The unpreparedness of hospitals and nurses in providing services to COVID-19 patients, lack of personal protective equipment, and hospital management policies are the causes of anxiety, stress, and depression in nurses (Said & El-Shafei, 2021). In addition, it is also caused by patient non-compliance with health protocols, dishonesty of patients and families in conveying information about disease history, and work fatigue. COVID-19 is a major source of anxiety, stress and depression for nurses working in hospitals (Fadli et al, 2020). There have been many incidents of stigmatization and discrimination against people with COVID-19 or groups who are vulnerable to COVID-19 infection, namely nurses, social rejection of nurses, the expulsion of nurses, rejection of nurses' corpses, and isolation of nurses. As recipients of this stigma, nurses can experience an increase in psychological symptoms (Abudi et al, 2020).

Research conducted by Shen (2020) states that psychological disorders experienced by health workers during the pandemic impact reluctance to work, reflect, and even resign. In addition, symptoms of high stress, anxiety, and depression can have long-term implications.

In a preliminary study on ten nurses at the RSUD Kota Bandung in August 2021, 7 out of 10 stated that during this pandemic, they felt anxious and afraid to socialize, especially in providing nursing services. Another 6 out of 10 nurses stated that they became irritable and impatient in various daily life situations. 4 out of 10 nurses stated that it was difficult to rest at night, and 4 out of 10 other nurses stated that it was difficult to take the initiative in their work as nurses.

Information from the education and research team of the RSUD Kota Bandung in 2021, there has never been a study on the description of anxiety, stress and depression faced by nurses during the COVID-19 pandemic. In fact, by examining the description above, the consequences caused by anxiety, stress and depression greatly affect the quality of a nurse, both in personal life and in fulfilling the quality of nursing care in the workplace (Ariasti & Handayani, 2019). This study aims to determine the level of anxiety, stress, and depression during the COVID-19 pandemic and the factors that influence it.

2. METHOD

Research Design

This study uses a cross-sectional study that aims to create an objective picture or description of a situation by using an observation approach or data collection at once (point time approach) and no follow-up or intervention. (Sugiyono, 2019). This research was conducted in the adult inpatient ward of RSUD Kota Bandung on 20-28 February 2022.

Population and Sample

This study's population and sample were all 64 nurses in the adult inpatient room at the RSUD Kota Bandung. The sampling technique in this study used total sampling.

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Instrument

The research instrument used the Depression Anxiety Stress Scale 42 (DASS 42) from Lovibond & Lovibond (1995) with 42 questions. This questionnaire measures the level of anxiety, stress, and depression with data collection techniques via a google form. The questionnaire used in this study is closed. The closed questionnaire is a list of questions that have provided answers. The validity value of this questionnaire ranges from 0.294 to 0.613, with a correlation coefficient > 0.25 (Muttaqin, 2021). The Indonesian version of DASS 42 has a reliability value of 0.872 for depression assessment, 0.816 for anxiety, and 0.917 for stress based on Cronbach alpha (Muttaqin, 2021).

Research Procedure

The study was conducted in the adult inpatient room at the Bandung City Hospital as a treatment room for COVID-19 patients. Furthermore, the nurse on duty in the room explained this research. Nurses who are willing to be respondents are asked to sign a letter of consent to be a participant in the informed consent form. After that, respondents were asked to answer as many as 42 questions from the questionnaire via a google form. Respondents are allowed to ask questions related to the questionnaire given.

Data Analysis

Data were analyzed using bivariate and Pearson chi-square tests. Data were analyzed using SPSS version 25. A bivariate test was performed on the variables, namely age, gender, education, and length of work with anxiety, stress, and depression in the normal, mild, and moderate categories.

Ethical Clearance

This research uses the principles in the Declaration of Helsinki. This study begins by providing an explanation and then asking for the respondent's consent by signing the informed consent form. This research has been approved with the ethical number 0358/UN40/PT.01.02/ 2022.

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3. RESULTS

The majority of nurses are 71.9% aged between 26-35 years, and most are female, with a percentage of 70.3%. More than half (59.4%) of nurses have a Diploma in Nursing education level, and most work for more than five years, as much as 70.3% (Table 1).

Table 1. Respondent Characteristics (n=64)

No	Characteristics	n	%
1	Age		
	17-25 years	4	6.3
	26-35 years	46	71.9
	36-45 years	13	20.3
	46-55 years	1	1.6
2	Sex		
	Men	19	29.7
	Women	45	70.3
3	Education		
	Diploma	38	59.4
	Bachelor	7	10.9
	Nurse profession	19	29.7
4	Length of work		
	<5 years	19	29.7
	>5 years	45	70.3

Based on age, normal anxiety was 100% at the age of 46-55 years, mild anxiety was 15.9% at the age of 26-35 years, and moderate anxiety (18.2%) at the age of 26-35 years. From gender, normal anxiety was mostly in women (80%), mild anxiety (26.3%) in men, and moderate anxiety (15.8%) in men. From education, normal anxiety is 100% in bachelor's education, mild and moderate anxiety (16.2%) in diploma education. Based on the length of work, normal anxiety (88.9%) in nurses with a duration of work less than five years, mild anxiety (15.2%) with a length of work more than five years, and moderate anxiety (17.4%) with a length of work more than five years. The bivariate test showed that there was no significant relationship between age, gender, education, and length of work with anxiety ($p>0.05$) in nurses in the adult inpatient room at the RSUD Kota Bandung (Table 2).

Table 2. Association of Characteristics with Anxiety

No	Characteristics	Normal	Mild	Moderate	p
1	Age, n (%)				
	17-25 years	5 (83.3)	0 (0.0)	1 (16.7)	0.519
	26-35 years	29 (65.9)	7 (15.9)	8 (18.2)	
	36-45 years	12 (92.3)	1 (7.7)	0 (0.0)	
	46-55 years	1 (100.0)	0 (0.0)	0 (0.0)	
2	Sex, n (%)				
	Men	11 (57.9)	5 (26.3)	3 (15.8)	0.079
	Women	36 (80.0)	3 (6.7)	6 (13.3)	
3	Education, n (%)				
	Diploma	25 (67.6)	6 (16.2)	6 (16.2)	0.550
	Bachelor	6 (100.0)	0 (0.0)	0 (0.0)	
	Nurse profession	16 (76.2)	2 (9.5)	3 (14.3)	
4	Length of work, n (%)				
	<5 years	16 (88.9)	1 (5.6)	1 (5.6)	0.216
	>5 years	31 (67.4)	7 (15.2)	8 (17.4)	

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Table 3. Association of Characteristics with Stress

No	Characteristics	Normal	Mild	Moderate	p
1	Age, n (%)				
	17-25 years	5 (83.3)	1 (16.7)	0 (0.0)	0.820
	26-35 years	33 (75.0)	7 (15.9)	4 (9.1)	
	36-45 years	12 (92.3)	1 (7.7)	0 (0.0)	
	46-55 years	1 (100.0)	0 (0.0)	0 (0.0)	
2	Sex, n (%)				
	Men	16 (84.2)	2 (10.5)	1 (5.3)	0.839
	Women	35 (77.8)	7 (15.6)	3 (7.7)	
3	Education, n (%)				
	Diploma	27 (73.0)	7 (18.9)	3 (8.1)	0.538
	Bachelor	5 (83.3)	1 (16.7)	0 (0.0)	
	Nurse profession	19 (90.5)	1 (4.8)	1 (4.8)	
4	Length of work, n (%)				
	<5 year	16 (88.9)	2 (11.1)	0 (0.0)	0.370
	>5 year	35 (76.1)	7 (15.2)	4 (8.7)	

Table 4. Association of Characteristics with Depression

No	Characteristics	Normal	Mild	Moderate	p
1	Age, n (%)				
	17-25 years	5 (83.3)	1 (16.7)	0 (0.0)	0.820
	26-35 years	33 (75.0)	7 (15.9)	4 (9.1)	
	36-45 years	12 (92.3)	1 (7.7)	0 (0.0)	
	46-55 years	1 (100.0)	0 (0.0)	0 (0.0)	
2	Sex, n (%)				
	Men	15 (78.9)	2 (10.5)	2 (10.5)	0.597
	Women	36 (80.0)	7 (15.6)	2 (4.4)	
3	Education, n (%)				
	Diploma	28 (75.7)	7 (18.9)	2 (5.4)	0.575
	Bachelor	5 (83.3)	1 (16.7)	0 (0.0)	
	Nurse profession	18 (85.7)	1 (4.8)	2 (9.5)	
4	Length of work, n (%)				
	<5 year	17 (94.4)	1 (5.6)	0 (0.0)	0.170
	>5 year	34 (73.9)	8 (17.4)	4 (8.7)	

Based on age, normal stress was 100% at the age of 46-55 years, mild stress was 15.9% at the age of 26-35 years, and moderate stress (9.1%) at the age of 26-35 years. From gender, normal stress was mostly in men (84.2%), mild stress (15.6%) in women, and moderate stress (7.7%) in women. From education, normal stress is 90.5% in nurse profession education, mild stress (18.9%) in diploma education, and moderate stress (8.1%) in diploma education. Based on the length of work, normal stress (88.9%) in nurses with a duration of work less than five years, mild anxiety (15.2%) with a length of work more than five years, and moderate anxiety (8.7%) with a length of work more than five years. The bivariate test showed that there was no significant relationship between age, gender, education, and length of work with stress($p>0.05$) in nurses in the adult inpatient room at the RSUD Kota Bandung (Table 3).

Based on age, normal depression was 100% at the age of 46-55 years, mild depression was 15.9% at the age of 26-35 years, and moderate depression (9.1%) at the age of 26-35 years. From

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gender, normal depression was mostly in women (80%), mild depression (15.6%) in women, and moderate depression (10.5%) in men. From education, normal depression is 85.7% in nurse profession education, mild depression (18.9%) in diploma education, and moderate depression (9.5%) in nurse profession education. Based on the length of work, normal depression (94.4%) in nurses with a duration of work less than five years, mild depression (17.4%) with a length of work more than five years, and moderate depression (8.7%) with a length of work more than five years. The bivariate test showed that there was no significant relationship between age, gender, education, and length of work with depression ($p>0.05$) in nurses in the adult inpatient room at the RSUD Kota Bandung (Table 4).

4. DISCUSSION

Determinant of Anxiety of Nurses during the COVID-19 Pandemic of Omicron Variant

The results showed that there was no significant relationship between age, gender, education, and length of work with anxiety in nurses in the adult inpatient room at the RSUD Kota Bandung. According to Greenberg et al. (2020) generalized anxiety disorder can happen to anyone but most often occurs in adults over 30. When experiencing this condition, sufferers generally cannot explain why they feel anxious or worry excessively. Still, in this study, there was no relationship between age and the occurrence of anxiety. Individual maturity will affect a person's ability to overcome mechanisms so that older individuals are difficult to experience anxiety because individuals have a greater ability to adapt to anxiety than immature ages. Research has proven that adults have a lower anxiety prevalence than adolescents. This proves that adults have sufficient coping skills to overcome anxiety. However, the gender factor can significantly affect the anxiety level; the female gender is more at risk of experiencing anxiety than the male gender.

The knowledge obtained by nurses is not only from formal education but also from experience. In theory, a person's attitude towards depression, stress, or anxiety is influenced by his education level and experience. This is in line with research that shows more than half of the nurses handling COVID-19 have a Diploma in Nursing education, 57.1% with a working period of more than five years (Pasaribu & Ricky, 2021).

The results of this study are in accordance with the concept that the level of individual education affects thinking skills. The higher the level of education, the easier it is for individuals to think rationally and capture new information, so the higher a person's education, the higher his knowledge (Hawari, 2011).

Most nurses experienced normal anxiety and a few experienced mild and moderate anxiety. The results of this study are in line with the research of Shen et al. (2020), 90% of health workers in China do not experience anxiety, 7.7% have mild anxiety, 1.9% have moderate anxiety, and 0.4% have severe anxiety. In Singapore and India, 8.7% of respondents experienced moderate anxiety and 2.2% experienced severe anxiety (Chew et al., 2020). Meanwhile in Indonesia, according to Vikawati (2021), there is no anxiety in 151 people out of 155 health worker respondents in dealing with COVID-19.

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In another study it was stated that 29% of respondents in the study only experienced mild to moderate anxiety. The findings of this study suggest that in addition to getting data on nurses who do not experience anxiety, data on respondents who experience mild and moderate anxiety are also 11% and 8%, respectively. The use of different research methods and tools may be the reason for the slight differences (Vikawati, 2021).

Mild anxiety generally becomes a part of every individual's daily life which is a response to increased alertness and attention to something that can be manifested into a little anxiety, mild muscle tension, and a little bit of impatience. However, if mild anxiety is not managed correctly, it will lead to a moderate increase in anxiety, which can lead to unfortunate symptoms such as irritability, increased vital signs, sweating, frequent pacing, and headaches. These various signs and symptoms, if left unchecked, will make it difficult for a person to think about anything other than what he is worried about. A person becomes difficult to solve the problem, which in turn can cause severe anxiety. Individuals who experience severe anxiety will begin to feel afraid, confused, very anxious, have poor eye contact, withdrawn, sweat a lot, talk fast, and tremble. This, if left for too long, will cause anxiety or panic that is very severe where a person loses control of himself, is overwhelmed with fear, and feels terror, and it is difficult to think rationally.

Determinant of Stress of Nurses during the COVID-19 Pandemic of Omicron Variant

The results showed no significant relationship between age, gender, education, and length of work with stress in nurses in the adult inpatient room at the RSUD Kota Bandung. The finding of this work stress can be caused by various factors, such as the pandemic situation being faced, which can be a trigger for stressors to this phenomenon. These stressors are manifested in the form of increased awareness of COVID-19 exposure in the work environment of health workers. This is in accordance with the opinion of Muthmainah (2012), which states that one of the causes of work stress is the exposure of health workers to infections and harmful substances from the work environment, the increased risk of being exposed, infected, and infected the family is a cause of stress for health workers.

This study revealed that most nurses did not experience stress, and a small proportion experienced mild-moderate stress. This result is not in line with the research at the Adventist Hospital in Bandar Lampung, which showed the level of stress experienced was 71.85%, with a high level of interpretation. The fear of being infected with a virus that can potentially die is a source of anxiety that can trigger stress (Pasaribu & Ricky, 2021).

Increasing the workload, which is generally experienced due to the pandemic situation by some health workers, is known to be a source of stressors whose impact is also felt. The higher the workload, the higher the work stress experienced by health workers during the pandemic. The high level of work stress in health workers was also found to be related to the increased workload faced during the COVID-19 pandemic (Said & El-Shafei, 2021).

The results of other studies conclude that the lack of availability of personal protective equipment can be a triggering factor for the emergence of stressors for health workers, where when the supply of personal protective equipment is felt to be insufficient it will cause feelings of anxiety

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and stress-related to disease transmission for health workers while providing health services (Fadli et al. 2020).

According to Priyoto (2014), women are more likely to experience stress than men because women are more emotional than rational, for example, feeling guilty for leaving their family to work, feeling pressured because of limited time and too much workload, and unpleasant situations. In addition, someone who has an older age and higher education has lower stress than someone younger because he has more experience, the level of maturity is also increasing, he is more capable of making decisions, able to control emotions, think rationally and be open to the views or opinions of others so that they are resistant to increased stress. Pasaribu & Ricky (2021) state that the longer a person works, the skills will increase, and the easier it will be to adjust to working and can face pressure at work.

Determinants of Depression of Nurses during the COVID-19 Pandemic of Omicron Variant

The results showed that there was no significant relationship between age, gender, education, and length of work with depression in nurses in the adult inpatient room at the RSUD Kota Bandung. Lubis (2019) states that depression often occurs in society and can occur at any age. However, depression is more common in women than men. Depression occurs in 80% of people at some time in their lives as a manifestation of the deep feelings of depression that a person experiences. It could be due to daily problems, feelings of loneliness, or other reasons. In children and adolescents, depression can be a serious problem because it can continue and carry over into adulthood. Depression in children and adolescents can be seen from a decreased interest in something they enjoy or are used to doing. Children and adolescents who are depressed will also be very emotional due to the feeling that no one can understand them.

Elbay et al. (2020) stated that in women, depression peaked at the age of 40 years, while for men at the age of 50 years and had a bachelor's degree or more. This study concludes that those aged 40 years and over have the highest risk of depression compared to those in the age range of children to adolescents. This is in line with the demographic data obtained by the researchers, namely nurses in the adult inpatient room at the RSUD Kota Bandung in dealing with the COVID-19 pandemic. Most (80%) of the depression category was normal, and 2% had moderate depression. This is because most of the inpatient nurses at the RSUD Kota Bandung have an age range of 26-35 years, and most are female.

Nurses can experience depression even though they are currently in normal psychological conditions of depression. Depression experienced by nurses can be in the form of sadness, loss of interest, or feeling worthless. The current treatment for COVID-19 patients impacts the nurses' psychological condition. Therefore, nurses need to be able to manage their mental health to reduce the symptoms of depression they face.

This study revealed that most nurses did not experience depression and a small proportion had mild-moderate depression. Dinah (2020), in his research during the COVID-19 pandemic, stated that 17.2% of respondents experienced depression. Age and length of work have a

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significant relationship with depression. The study showed that as many as 34.3% of nurses were depressed (Zheng et al., 2021).

Anxiety and stress disorders that many health workers have experienced anxiety and stress disorders will develop into depression. Even depression and psychological disorders post-pandemic or SARS and MERS outbreaks have been reported to leave trauma lasting 1-3 years afterward (Liu et al., 2012). This is supported by a study conducted at two hospitals in Wuhan, China which found that 32.8% had mild depression. Having contact with patients infected with COVID-19 and working under pressure and a high risk of infection has an impact on the mental health of nursing staff and medical staff (Kang et al., 2020).

The increasing depression of nurses working in the COVID-19 environment often experiences psychological stress contributing to various mental health stresses during the pandemic. The findings in this study indicate that most of the respondents stated that they felt sad and depressed in providing nursing services to COVID-19 patients. Furthermore, most nurses stated that they lost interest in many things, such as eating, ambulation, and socialization in providing nursing services for COVID-19 patients. While on duty, they must maintain their body in excellent condition. So strictly maintaining health protocols must be done to prevent transmission, including away from family. Physically, the nurse felt a loss of appetite due to fatigue and just wanted to rest after being off duty.

5. CONCLUSION

The results showed that a small proportion experienced anxiety, stress, and depression in the mild to moderate range. The demographic characteristics did not show a significant relationship between age, gender, education, and length of work with anxiety, stress, and depression in nurses in the adult inpatient room at the Bandung City Hospital. Future research should have more respondents and use a modified questionnaire following the conditions of the COVID-19 pandemic.

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