Factors Affecting the Anxiety Levels of Health Workers at Budi Kemuliaan Hospital in Managing Covid-19 Patients

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ARTICLE INFO | ABSTRACT

This study aims to determine the factors that influence the level of anxiety of health workers in handling COVID-19 patients at Budi Kemuliaan Hospital, Batam City. This study uses an observational analytic method and a cross-sectional design with data collection through primary data. The study was conducted in December 2021 – January 2022 at Budi Kemuliaan Hospital Batam City with a research population of 99 health workers who were directly involved in handling COVID-19 patients with a total sample of 91 health workers who met the inclusion criteria and the sampling technique used was total sampling. The research data was taken using a questionnaire and then processed using SPSS. Of 91 respondents, 43 respondents (47.3%) did not experience anxiety, 41 respondents (45.1%) experienced mild anxiety, and 7 respondents (7.7%) experienced moderate anxiety. Based on the results of Kendall's Tau-b analysis, there was no relationship between age, gender, family status, level of knowledge, and availability of PPE on the anxiety level of health workers at Budi Kemuliaan Hospital Batam City (p>0.05). The conclusion is no factors that affect the anxiety level of workers' health. Further research is needed to analyze other factors that influence anxiety with different methods and measuring instruments.

INTRODUCTION

The COVID-19 pandemic has resulted in the emergence of emotional stress such as anxiety. All people or groups experience feelings of excessive sadness, hopelessness, and loss of purpose in life due to anxiety during the pandemic [1]. Anxiety is a condition where a person feels restless, worried, worried, feels uncomfortable, not at peace, or not calm, which can then cause physical complaints [2],[3].

In 2015, WHO stated that the world population with anxiety disorders was estimated at 3.6%. It is estimated that as many as 264 million people experience anxiety disorders. The number in 2015 increased by 14.9% since 2005, as a result of population growth and aging[4]. Meanwhile in Indonesia, based on data from PDSKJI (Indonesian Psychiatric Medicine Specialist Association), as many as 64.3% of people experience depression and anxiety due to the COVID-19 pandemic[5].

Lack of Personal Protective Equipment (PPE) is one of the causes of health workers experiencing increased anxiety in the locations where they work. Health workers caring for COVID-19 patients tend to be at risk of experiencing psychological disorders due to feelings of depression, the main trigger of which is a lack of self-protection from the needs of health workers[6].

Based on the summary of the Inter-Agency Standing Committee (IASC)[7], health workers experience anxiety due to a lack of information regarding long-term exposure to infected individuals, high job demands, including long working hours due to the increase in the number of patients, the existence of public stigma towards workers. health making it increasingly difficult to get social support, PPE that limits movement, and feelings of fear that health workers will transmit COVID-19 to family or friends due to their field of work. Moreover, many health workers have died due to Covid-19[8].

Based on a survey conducted by researchers at Budi Kemuliaan Hospital, Batam City, the results obtained were that all 9 health workers had experienced symptoms of anxiety such as feelings of fear, irritability/offended, panic, difficulty sleeping, lack of PPE, experiencing nightmares, and afraid of being infected when in contact with patients who have fever, cough, flu and shortness of breath. Therefore, this research aims to determine the factors that influence the level of anxiety of health workers at Budi Kemuliaan Hospital in efforts to prevent and handle COVID-19 in Batam City, Riau Islands, Indonesia.

METHODS

This study was carried out at the Budi Kemuliaan Hospital in Batam City. According to the inclusion criteria, the population of this study comprised all health workers at Budi Kemuliaan Hospital who were entrusted with preventing, handling, and caring for COVID-19 patients, a total of 99 participants with a sample size of 91 respondents. This research is quantitative with observational analytics and has a cross-sectional approach. This study used primary data and was conducted between December 2021 and January 2022. Data was collected using a questionnaire and a sampling technique known as total sampling. This questionnaire contains general data on respondents and factors related to anxiety levels including age and gender. Apart from that, it also includes health facilities and facilities in the form of the availability of PPE for health workers when

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carrying out medical procedures. The PPE standards used are in accordance with the standards for handling COVID-19. The scoring criteria for this questionnaire are, if it is 'adequately available' the score obtained is 2, if it is 'inadequate' the score obtained is 1, and the score is 0 if it is 'inadequate'.

To measure the level of knowledge, the author used a questionnaire containing 15 statements made by Viktoria K Danu (2021). Variable measurement uses the Guttman scale, namely if the answer is correct, the score obtained is 1 and if the answer is incorrect the score obtained is 0. The 15 statements consist of positive statements only.

Meanwhile, the author also uses the Anxiety Level Questionnaire from the Zung Self-Rating Anxiety Scale (ZSAS) questionnaire. This questionnaire includes 20 statement items where the characteristics of anxiety include 5 positive statements and 15 negative statements. Numbers 5,9,13,17,19 are positive statements, while numbers 1,2,3,4,6,7,8,10,11,12,14,15,16,18,20 are negative statements.

Respondents determine 1 of 5 available answer choices by applying a Likert scale. This questionnaire has been tested for validity by previous research with results (0.882) so that the questionnaire for knowledge, availability of PPE and anxiety is declared valid. Then the reliability test carried out by previous research obtained Cronbach's alpha results for the anxiety questionnaire with a value of 0.942, the PPE availability questionnaire with a value of 0.905, and the knowledge questionnaire
with a value of 0.944. Conclusions can be drawn based on the values obtained that this research questionnaire is reliable.

Univariate and bivariate analyses were performed. In this research, univariate analysis is useful in describing frequency distribution of each research variable in relation to the level of anxiety of health workers. Univariately, the variables that the researchers analyzed were age, gender, family status, level of knowledge of health workers, level of anxiety and availability of PPE. Meanwhile, bivariate analysis is used to provide proof of the research hypothesis, namely whether there is a relationship between each independent variable and the dependent variable. This analysis uses the Kendall's tau-b statistical test.. This research has received ethical permission from the Ahmad Dahlan University Research Ethics Committee with number 012112099.

RESULTS

Characteristics Respondent

The research results (Table 1) show that the age distribution of respondents was mostly in the 26-35 year age group, amounting to 36 people (39.6%). Most of the respondents were female, namely 59 people (64.8%). A total of 55 respondents (60.4%) were married and lived with their families. The level of knowledge of respondents was mostly good, numbering 78 people (85.7%). It

was shown that 63 respondents (69.2%) said that adequate PPE was available. It can be seen that 43 respondents (47.3%) did not experience anxiety.

Table 1 Characteristics of Respondents

Characteristics	Amount	
	Frequency	Percentage (%)
Age (Years)		
21-25	18	19.8
26-35	36	39.6
36-45	22	24.2
46-55	15	16.5
Gender		
Man	32	35.2
Woman	59	64.8
Family Status		
Not yet married/living alone	21	23.1
Not yet married/living with family	13	14.3
Already married/living alone	2	2,2
Already married/living with family	55	60.4
Knowledge level		
Good	78	85.7
Enough	13	14.3
Availability of PPE		
Sufficiently Available	63	69.2
Inadequate	28	30.8
Anxiety Level		
Not Anxious	43	47.3
Mild Anxiety	41	45.1
Moderately Anxious	7	7.7
Severe Anxiety	0	0.0
Total	**91**	**100.0**

Connection age and anxiety

Table 2 Relationship between age and anxiety of health workers in treating COVID-19 patients

Age	Anxiety of Health Workers				Total	p value
	Not Anxious	Mild Anxiety	Moderately Anxious	Severe Anxiety		
21-25	9	7	2	0	18	
26-35	16	16	4	0	36	0.593
36-45	10	11	1	0	22	
46-55	8	7	0	0	15	
Total	43	41	7	0	91	

From Table 2, it shows that the majority of respondents who experienced anxiety were in the 26-35 year old group, namely 20 respondents with mild anxiety responses in 16 respondents, 4 respondents with moderate anxiety, and 16 respondents who did not experience anxiety . The results of statistical testing for the age variable show a *p value* = 0.593 (α = 0.05),

so the p value exceeds alpha so that it can be concluded that there is no significant relationship between age and the anxiety level of health workers in treating COVID-19 patients at Budi Kemuliaan Hospital.

The relationship between gender and anxiety

Referring to the data in table 3, it is shown that the majority of respondents who experienced anxiety were male respondents. Of the 32 male respondents, 20 respondents (62.5%) suffered from anxiety and the other 12 respondents (37.5%) did not experience anxiety. For the gender variable, statistical test results were obtained with a *p* value = 0.182 (α = 0.05), so the p value exceeded alpha so that it was concluded that there was no significant relationship between gender and the level of anxiety of health workers in treating COVID-19 patients in Budi Kemuliaan Hospital.

Table 3 Relationship between gender and health workers' anxiety in treating COVID-19 patients

Gender	Health Worker Anxiety				Total	p value
	Not Anxious	Mild Anxiety	Moderately Anxious	Severe Anxiety		
Man	12	17	3	0	32	0.182
Woman	31	24	4	0	59	
Total	43	41	7	0	91	

The relationship between family status and anxiety

From table 4 it is known that the respondents who experienced more anxiety were respondents who were married and lived with their families, namely of the 55 respondents, 29 respondents (52.7%) experienced anxiety and the other 26 (47.2%) did not experience anxiety. For the family status variable, statistical test results were obtained with a p value = 0.885 (α = 0.05), so the p value exceeded alpha so that it was concluded that there was no significant relationship between family status and the level of anxiety of health workers in treating COVID-19 patients in Budi Kemuliaan Hospital.

Referring to table 5, it is shown that some respondents with a good level of knowledge tend to experience anxiety, namely 40 respondents, and 38 others do not experience anxiety. In the level of knowledge variable, statistical test results were obtained with a *p* value = 0.352 (α = 0.05), so the p value exceeded alpha so that it was concluded that there was no significant relationship between the level of knowledge and the level of anxiety of health workers in handling COVID-19 patients in Budi Kemuliaan Hospital.

Table 4: Relationship between family status and health workers' anxiety in treating COVID-19 patients at Budi Kemuliaan Hospital

Family Status	Anxiety of Health Workers				Total	p value
	Not Anxious	Mild Anxiety	Moderately Anxious	Severe Anxiety		
Not yet married / living alone	11	7	3	0	21	
Not yet married / living with family	5	8	0	0	13	0.885
Already married / living alone	1	0	1	0	2	
Already married / living with family	26	26	3	0	55	
Total	43	41	7	0	91	

Relationship between level of knowledge and anxiety

Table 5 Relationship between level of knowledge and anxiety of health workers in handling COVID-19 patients

Knowledge level	Anxiety of Health Workers				Total	p value
	Not Anxious	Mild Anxiety	Moderately Anxious	Severe Anxiety		
Good	38	35	5	0	78	
Enough	5	6	2	0	13	0.362
Total	43	41	7	0	91	

The relationship between PPE availability and anxiety

Table 6 Relationship between availability of PPE and anxiety of health workers in treating COVID-19

Availability of PPE	Anxiety of Health Workers				Total	p value
	Not Anxious	Mild Anxiety	Moderately Anxious	Severe Anxiety		
Sufficiently Available	31	29	3	0	63	
Inadequate	12	12	4	0	28	0.357
Total	43	41	7	0	91	

Referring to table 6, it can be seen that most respondents who experienced anxiety stated that adequate PPE was available, namely 32 respondents with the highest anxiety response, namely mild anxiety and 31 others who did not experience anxiety. The results were almost the same between those who were not anxious and those who experienced anxiety. In the variable availability of PPE, statistical test results were obtained with a *p value* = 0.357 (α = 0.05), so the p value exceeded alpha so that it was concluded that there was no relationship between the

availability of PPE and the anxiety level of health workers in treating COVID-19 patients in hospitals. Budi Mulia.

DISCUSSION
The relationship between age and health workers' anxiety in treating COVID-19 patients

Vellyana *et al*[9] said that a person's maturity or maturity can influence the ability of an individual's coping mechanisms, so someone who is more mature rarely experiences feelings of anxiety because someone has a greater ability to adapt to anxiety than someone who is less mature. This theory is similar to research[10] which shows the results that the average anxiety level of teenage patients (14.00) is higher than that of adults (12.97), which means that age is inversely proportional to the level of anxiety, that is, the older you get, the lower your anxiety level becomes.

These theories contradict the results of this study, where anxiety levels are more common in adulthood. Researchers assume that the COVID-19 pandemic is a new situation for health workers, in this case the adult and elderly age groups can be considered to have new experience, just like the teenage age group in dealing with the COVID-19 pandemic, so the adult age group also has There is potential for anxiety to occur. This research is supported by the results of research from Viktoria Danu[11], namely that in her research in early adulthood, anxiety appeared more frequently, namely 9 respondents had mild anxiety and 9 people had moderate anxiety. This is because respondents do not have much experience in dealing with new conditions, namely the COVID-19 pandemic.

The results of this study are also in accordance with the theory of Kaplan and Sadock[12], namely that anxiety disorders can occur at all ages, and in adults anxiety disorders are more common.

In this study, there was no significant relationship between age and anxiety levels. This research is in line with the findings of Vikawati *et al*[13] which shows the results p=0.709>0.05, meaning there is no relationship between age and the respondent's anxiety level. According to him, this was because there was no anxiety in the majority of respondents so there was no relationship with the age variable. This difference in findings is probably because this research was conducted in December-January 2021, where the researchers assume that the pandemic period that has been going on in Indonesia from March 2020 until now has caused health workers to have begun to adjust to the pandemic period, so this could have an influence on coping mechanisms which resulted in not being found. indication of severe anxiety in treating COVID-19 patients. Researchers also suspect that the possibility of differences in results in this study is due to different measuring instruments and research methods[13].

The relationship between gender and health workers' anxiety in treating COVID-19 patients

Some theories state that women experience more anxiety than men, this is because women's sensitivity to their emotions is higher, so they are also sensitive to their feelings of anxiety. Research conducted[14]. found that anxiety occurs more easily in female respondents than in male respondents. Another study with similar results was conducted by Vellyana *et al*[9] which results that anxiety that occurs in women is at higher risk than in men. This is also in accordance with the theory of Kaplan and Sadock[12] which states that anxiety appears more in women. Excessive autonomic nervous reactions in women are a result of high levels of anxiety.

The theories above contradict this research, where the results of the analysis show that there is no significant influence between gender and the level of anxiety of health workers. Where most men suffer from anxiety, while more women do not experience anxiety. The results of this research are in accordance with the findings of[13] who said that in facing the COVID-19 pandemic, there was no influence of gender on anxiety for health workers. Research by Fadli *et al*[15] obtained a *p value* = 0.538> 0.05, indicating that there is no influence of gender on the anxiety level of health workers in order to prevent COVID-19. The result was that almost all respondents, both men and women, experienced mild anxiety on average. This research proves that gender is not always a factor that influences individual emotions such as anxiety. Anxiety will arise and can hamper the activities of individuals, both women and men, when there is pressure from outside, in this case the COVID-19 pandemic.

The relationship between family status and health workers' anxiety in treating COVID-19 patients

Being infected with the COVID-19 virus for health workers is something that is very fearful because they are the front line in treating COVID-19 patients. One of the feared factors apart from the symptoms that appear is transmitting the virus to family and those closest to them. (Shanafelt et al., 2020) stated that health workers were worried about spreading the COVID-19 virus to their families. A research from Fadli et.al[15] shows that there is a large influence between health workers who are married, namely that they tend to experience more anxiety when compared to health workers who are single. This feeling of anxiety also arises from the stigma that health workers feel when they come into contact with patients infected with COVID-19.

The results of this study are different from the research above, where family status did not have a significant influence on the anxiety experienced by health workers in treating COVID-19 patients at Budi Kemuliaan Hospital. The results of this study are in accordance with research results from Vikawati[13] which obtained statistical test results with a *p value* = 0.657> 0.05, revealing

that there is no significant relationship between family status and the level of anxiety of 155 samples of health workers in facing the COVID pandemic. -19. Similar findings were also obtained[17] which showed that there was no relationship between family status and anxiety of medical staff in Indonesia during the COVID-19 pandemic. According to researchers, the difference in the results of this study is due to the feeling of fear of being infected with the COVID-19 virus and worry that the virus could spread to the family, which has been minimized by providing knowledge regarding COVID-19 and fulfilling the need for PPE for health workers, so that when they come into contact with patients they do not feel anxious[13].

The relationship between the level of knowledge and anxiety of health workers in treating COVID-19 patients

The results of this study contradict previous research[11] , where anxiety tends to occur in nurses with good knowledge. With more and more things that nurses know about COVID-19, such as the symptoms it causes, transmission, and the impact of death, nurses are increasingly experiencing anxiety regarding bad things that are not certain to appear. A number of theories state that with good knowledge, feelings of anxiety will decrease because every individual who has knowledge and experience can help in solving psychological problems including anxiety[18].

Referring to the results of this research, knowledge has no significant relationship with anxiety. Some respondents with good knowledge did not experience anxiety. These results are in line with existing theory, where based on theory with good knowledge it can help reduce feelings of anxiety or worry about a situation. Based on the questionnaire contained in this study, the researcher provided a statement regarding the risks and transmission that occurred due to COVID-19. This explains that with the amount of information that health workers know about COVID-19, both its transmission and impact and other things, the respondents' anxiety or fear of something bad happening decreases with this knowledge. In other words, the more information that health workers know, the more their anxiety level decreases.

The relationship between availability of PPE and health workers' anxiety in treating COVID-19 patients

One strategy to break or break the chain of infection is to use Personal Protective Equipment (PPE). The use of PPE is a component of standard precautions[19]. Standard precautions are the minimum basic level of infection control precautions used in caring for all patients. Standard precautions aim to reduce the risk of transmission of bloodborne pathogens and other pathogens from known and unknown sources[20], PPE is very important for health workers because they act as a transmission medium for infections in health care facilities including hospitals. Health workers as the front guard in treating patients during the COVID-19 pandemic have caused anxiety. One of the

factors driving health workers to experience anxiety is the unmet need for PPE. Lack of PPE results in an increased risk of infection for health workers when they come into direct contact with COVID-19 patients.

The results of this study found that health worker anxiety and the availability of PPE were not significantly related. Anxiety and feelings of fear if infected with the virus can arise, one of the reasons is because the availability of PPE is not met when health workers come into direct contact with COVID-19 patients. Research results from[21] show that there is a significant relationship between the availability of PPE and the anxiety of health workers who work in health services. Researchers assume the difference in the results of this study is because the PPE at Budi Kemuliaan Hospital meets WHO standards, so that more health workers do not experience anxiety. Another reason that differentiates the results of this study is because the location of this research was only carried out at one hospital, so the answer from respondents are less varied.

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