

## **Safety Use Of Personal Protective Equipment (PPE) to Anxiety During The Covid-19 Pandemic On Nurses**

**Heru Suwardianto\*<sup>1</sup>, Lilik Setiawan<sup>2</sup>, Andika Siswoariwibowo<sup>2</sup>, Teguh Santoso<sup>3</sup>**

<sup>1</sup>*Department of Nursing, STIKES RS. Baptist Kediri, East Java, Indonesia*

<sup>2</sup>*Department of Nursing STIKES Karya Husada Kediri, East Java, Indonesia*

<sup>3</sup>*Department of Nursing STIKES Guna Bangsa Yogyakarta, DKI Yogyakarta, Indonesia*

\* Correspondent Author: [herusuwardianto7@gmail.com](mailto:herusuwardianto7@gmail.com)

### **ABSTRACT**

Safety of Personal Protective Equipment (PPE) is important to reduce anxiety and anxiety nurses in Indonesia. Safe PPE is a basic need for nurses in carrying out their duties. The purpose of the study was how the relationship between the safety of the use of PPE against anxiety during the COVID-19 pandemic in nurses.

The research method uses a Cross Sectional Design. The population was nurses in Indonesia. The sampling technique used Incidental Sampling. The sample size obtained was 557 respondents. Independent variable was PPE safety. The Dependent Variable was Anxiety. The variable measurement instrument uses a questionnaire on google form. Research has obtained ethical clearance. Data analysis using spearman-rho with a  $\alpha < 0.05$ .

The results showed that the majority of respondents were female (70.4%). Most respondents are 36-45 years old (39.5%). Respondents all worked as nurses and most of the respondents worked  $< 5$  years (26.9%). The results of the study obtained 12% who stated that it was not so safe in the use of PPE, and there were 3.5% who stated that it was not safe to use PPE. The results showed that  $p = 0.001$  with a  $\alpha < 0.05$ , which means there is a significant relationship between the safety of using PPE on anxiety, with a correlation coefficient of 0.407 which means it has a fairly close relationship between the safety of using PPE on anxiety.

The safety of using PPE has a fairly close and significant relationship to anxiety in nurses. Stakeholders must be able to prevent nurses from feeling safe because it is a basic human need and also prevent and reduce anxiety in nurses so that the impact can be minimized.

**Keywords:** Personal Protective Equipment, Anxiety, Nurses

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**BACKGROUND**

Lack of supplies of Personal Protective Equipment (PPE) will result in various worries, and worries about the transfer of the virus from one patient to another or from patient to nurse. Factors that cause the lack of PPE are the unequal distribution of PPE, the large prevalence of COVID-19 in certain areas, miscalculation of hospital management in procurement, and various other factors. The manifestation caused by the lack of PPE is that nurses become vulnerable to viruses that are in the air, or droplets produced by patients that can threaten nurses. Manifestations that may appear psychologically are anxiety that leads to asymptomatic conditions such as dizziness, fatigue, cold sweat, nausea and muscle aches. This can have an impact on the risk of contracting nurses due to decreased immunity, and a more threatening risk, namely infecting other people who should be safe. Complete PPE may also not be accompanied by good psychological disorders (Haryanto and Septimar, 2020; Yunere and Yaslina, 2020; Lestari, 2021; Sinaga *et al.*, 2021). Anxiety in nurses can occur and can lead to unfavorable conditions.

Hospitals at a time when the prevalence of COVID-19 increased in June and July 2021, resulted in hospitals almost collapsing, many victims were not helped and several health workers died from COVID-19. PPE supplies are running low and conditions are tense in the ER and ICU. The results of the study showed that around 44% of PPE supplies were incomplete and even 6% were not available (Sinaga *et al.*, 2021). The results showed that there were still nurses who had less knowledge about hand hygiene as much as 13.8% (Yanti, Pradiksa and Susiladewi, 2021). The mortality ratio of health workers is more than 2% and is among the highest of other countries. The bad behavior of health workers in the use of PPE is one of the causes of transmission. The results of the study also showed that there were more than 10% who stated that PPE was not available (Salcha and Juliani, 2021). More than 50% of health workers do not use single-use PPE, and almost 50% of health workers do not remove PPE with proper procedures (Yanti, Pradiksa and Susiladewi, 2021).

Factors that cause a lack of PPE can be caused by various factors such as hospital management, market availability, PPE distribution, and rising pandemic conditions. The PPE that is expected is in accordance with the level of PPE and the nurse's room is working, such as the use of N95, FFP2 or the equivalent. Inadequate PPE can lead to various risks of COVID-19 transmission in the service setting. Nurses are at risk of transmission and also psychological disorders due to security risks. The psychological manifestation that threatens is anxiety. The anxiety caused can result in the risk of unfavorable conditions. The impact of incomplete and threatening PPE can be a risk to nurses. The standard of protection is highly recommended by using surgical masks, N95 masks, Gloves, Gowns, Medical Covers, Shoe Covers, Goggles, Face Shields, Boots, and all of these tools have been disinfected (Sinaga *et al.*, 2021). The decrease in PPE can have an impact on anxiety in nurses or even though PPE is complete, it may be possible that anxiety in nurses is still there (Haryanto and Septimar, 2020; Suhamdani *et al.*, 2020). Anxiety occurs because nurses are worried about threats to unfavorable situations. Nurse anxiety is something that needs to be considered because this condition must be prevented immediately so that the impact on nurses does not occur.

One of the roles of nurses in the implementation of nursing care is ensuring the safety of nurses and patients. The expected security is to ensure that the completeness of PPE is available at the hospital in the implementation of nursing care at the hospital. Nurses with complete PPE can ensure their safety and reduce nurses' anxiety levels. Reduced anxiety in the implementation of nursing care will improve the quality of service

to patients. Complete PPE and also the safety of nurses can be maintained properly, so it is hoped that anxiety in nurses can be reduced or anticipated beforehand. The safety of using PPE is important for nurses so that nurses are more confident in carrying out their duties in health services that are very at risk of contracting COVID-19. Safety in the use of PPE can reduce anxiety in nurses.

## METHODS

Research Design Using cross-sectional method. The research population was all nurses in Indonesia, the sample of the study was some nurses who filled out the google form. The research sampling technique used incidental sampling with a sample size of 577 nurses. The research inclusion criteria were nurses who worked in health institutions, registered nurses. The Independent Variable is PPE Safety. The Dependent Variable is Anxiety. The research instrument used a questionnaire for PPE safety and for the anxiety level of nurses using the Anxiety Instrument. Research has had ethical clearance. Data analysis using Spearman rho with a  $<0.05$ .

## RESULTS

Table 1. Distribution Frequency of respondent demographics

Variable	$\Sigma$	%
<b>Gender</b>		
Male	171	29.6
female	406	70.4
<b>Age</b>		
17-25years old	67	11.6
26-35years old	201	34.8
36-45 years old	228	39.5
46-55 years old	81	14.0
<b>Length of work</b>		
< 5 years	155	26.9
6-10 years	120	20.8
11-15 years	120	20.8
16-20 years	79	13.7
21-25 years	68	11.8
26-30 years	21	3.6
>31 years	14	2.4

Table 2. Cross Sectional Table and Analize data

Safety Use Of Personal Protective Equipment (PPE)	Anxiety									
	Mild anxiety		Moderate anxiety		Severe anxiety		Extreme anxiety		Total	
	$\Sigma$	%	$\Sigma$	%	$\Sigma$	%	$\Sigma$	%	$\Sigma$	%
Very High Safety	164	28.4	42	7.3	11	1.9	12	2.1	<b>229</b>	<b>39.7</b>
Moderate Safety	72	12.5	30	5.2	9	1.6	4	0.7	<b>115</b>	<b>19.9</b>
Standard	61	10.6	56	9.7	20	3.5	7	1.2	<b>144</b>	<b>25</b>

Safety										
Not so Safe	13	2.3	26	4.5	23	4.0	7	1.2	<b>69</b>	<b>12</b>
Not safe	5	0.9	3	0.5	4	0.7	8	1.4	<b>20</b>	<b>3.5</b>
<b>Total</b>	<b>315</b>	<b>54.6</b>	<b>157</b>	<b>27.2</b>	<b>67</b>	<b>11.6</b>	<b>38</b>	<b>6.6</b>	<b>577</b>	
Spearman Rho	0,001									
Correlation Coefficient	0,407									

In table 1 shows that the majority of respondents are female (70.4%). Most respondents are 36-45 years old (39.5%). Respondents all worked as nurses and most of the respondents worked < 5 years (26.9%). The results of the study obtained 12% who stated that it was not so safe in the use of PPE, and there were 3.5% who stated that it was not safe to use PPE. The results showed that  $p = 0.001$  with a  $<0.05$ , which means there is a significant relationship between the safety of using PPE on anxiety, with a correlation coefficient of 0.407 which means it has a fairly close relationship between the safety of using PPE on anxiety.

## DISCUSSION

The results of the study obtained as many as five hundred and seventy-seven respondents who are willing to become respondents. The results showed that there was a significant relationship between the safety of the use of PPE on anxiety in nurses with a fairly close relationship ( $p < 0.001$ ). The results showed that 39.9% of respondents felt safe in the use of PPE. However, what needs to be highlighted in this study is that there are 12% who are not so safe in the use of PPE, possibly due to the lack of PPE facilities and also the increasing prevalence of COVID-19 in the area. In fact, there are 3.5% of nurse respondents who are not safe at all in the use of PPE. The results of this study are in accordance with the results of previous studies which stated that there were still nurses who had less knowledge regarding PPE and hand hygiene during the Pandemic (Yanti, Pradiksa and Susiladewi, 2021). Attitudes and behaviors to make nurses safe in using PPE are based on good knowledge so that a sense of security can be created.

Nurses with safe behavior in using PPE can reduce the risk of contracting COVID-19, because nurses are one of the health workers who are in constant contact with patients and have a much greater risk than other health workers. PPE is one of the personal protections for nurses at work, discipline in using the right PPE. Nurses must be able to choose and use PPE appropriately according to the level of the infectious room where the nurse works. Accuracy in using and removing PPE is an equally important skill in the safety of using PPE. These procedures must be carried out appropriately to reduce the infection of nurses. Nurses who have safety in the use of PPE are expected to improve the quality of service and also the nurses are more confident and reduce anxiety in nurses in carrying out nursing actions.

Anxiety related to the safety of using PPE. Anxiety related to the work of nurses in hospitals. Anxiety is obtained as a result of the stressor response obtained. All Nurses experience anxiety from mild anxiety to extreme anxiety. Many factors affect anxiety in nurses, one of which is the safety of using PPE (Salcha and Juliani, 2021). The longest working nurse is between 6-15 years. This shows that nurses experiencing anxiety can occur in nurses who have worked for a long time or are still new nurses. Due to the COVID-19 pandemic, it is related to safety issues in treating patients using PPE. Anxiety can also occur because of the workload felt during the COVID-19 Pandemic. Anxiety must

be anticipated by increasing the safety of PPE and various therapeutic modalities to support nurses in carrying out their duties. Most of the respondents are 36-45 years old where that age is an adult who has relatively good stress coping.

Nurses with good PPE safety and nurses are confident about the safety they are wearing, the nurse's anxiety will decrease. There is a fairly strong relationship between the safety of using PPE and anxiety. The use of PPE is basically assessed based on the risk of pathogenic transmission and some literature states that if the patient has no symptoms then PPE can be minimized or following the level of the patient's condition (Pesulima and Hetharie, 2020; Hamdiah and Umar, 2021; Urrahman, PMM and Aziz, 2021). Nurses' non-compliance in using safe PPE can also put the virus at risk. Hospitals and other support systems can continue to motivate nurses in carrying out nursing care or also improve service quality. Safety is a basic need that cannot be removed from human life as well as nurses who have a role in carrying out nursing care. Nurses' safety needs encourage nurses to get certainty and order in the sense of security in the environment where they work. Until finally the nurses were free from anxiety and also safe from the COVID-19 Pandemic conditions by improving the quality of security and comfort when carrying out services to patients. Nurses' concerns in carrying out their duties have become a phenomenon in this COVID-19 pandemic. A decrease in motivation occurs and can be a weakness for health workers in carrying out their duties (Factarun, 2018).. A decrease in motivation can also reduce the level of resilience and also increase the level of stress due to the COVID-19 issue, one of which is the safety of PPE for nurses (Pasaribu and Ricky, 2021). Although every PPE has a risk that threatens the safety of nurses (Theopilus *et al.*, 2020). Many studies have revealed that anxiety is directly proportional to the use of personal protective equipment (Asriyani and Sriningsih, 2021; Hakman, Suhadi and Yuniar, 2021). This is important for policy makers to take precautions before unwanted impacts occur.

## CONCLUSION

Based on the results of the study, it was found that there was a significant relationship between the safety of the use of PPE and anxiety in nurses in Indonesia with a fairly close relationship. Increasing the completeness of the use of PPE is very necessary, as well as strengthening other supporting factors such as discipline in the use of PPE, and how to remove it according to standards and also supporting factors from the hospital. Increasing the safety and comfort of nurses is one of the basic needs that must be met then anxiety can be reduced or suppressed, although many factors can occur or cause anxiety.

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