

## FACTORS RELATED TO USE OF PPE IN HEALTH WORKERS OF THE IGD UNIT AT RSUD CUT NYAK DHIE MEULABOH

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### ABSTRACT

Personal Protective Equipment (PPE) is a set of safety equipment used by workers to protect all or part of their body from the possibility of potential accidents and occupational diseases. Based on the results of a survey obtained by researchers in the field, there is data from 2020-2021, there are 52 nosocomial infection events recorded. The purpose of this study is to examine the relationship in the categories of knowledge, attitudes and compliance with the use of PPE in health workers in the IGD Unit of Cut Nyak Dhien Meulaboh Hospital. This type of research is quantitative research using cross sectional. The sample of this study used the accidental sampling method, where the researcher took a sample that happened to be found at that time amounting to 50 respondents. The results showed that there was a relationship between compliance variables (Pvalue = 0.040 and OR 0.126) with the use of PPE. However, there is no relationship of knowledge variables (Pvalue = 1.000 and OR 0.584) and attitude (Pvalue = 1.000 and OR 0.926) with the use of PPE. The conclusion of this study based on the chi-square test is that there is a relationship of compliance with the use of PPE and there is no relationship of knowledge, attitude towards the use of PPE. It is recommended to the hospital's K3 management to be able to better supervise health workers when performing medical actions to patients so that there are no health workers who do not wear PPE.

Keywords: *Use of PPE, Health Workers, Compliance*

### 1.INTRODUCTION

Hospitals are health service institutions in which there are buildings, equipment, humans (officers, patients and visitors) and health service activities, in addition to being able to produce positive impacts in the form of good health service products on patients, can also cause negative impacts in the form of bad influences on humans such as environmental pollution, sources of disease transmission and hinder the healing and recovery process of patients / sufferers.

Health workers as human resources, need to receive special attention both their abilities, safety, and occupational health. In an activity of health workers, exposure or risk of hazards in the workplace cannot always be avoided so that the work environment or type of work can cause accidents or occupational diseases (Murdiyanto, 2021). The risk of accidents and occupational diseases for health workers is the presence of infectious diseases that originate from patients and nest in workplace hospitals for health workers.

Based on data from the International Labour Organization (ILO) in 2018, more than 2.78 million workers die each year from occupational accidents and occupational diseases. About 2.4 million (86.3%) of these deaths were due to occupational diseases, while more than 380,000 (13.7%) were due to occupational accidents (ILO, 2018).

Nosocomial infection was first known in 1847 by Semmewles and to this day remains a fairly attention-grabbing problem. Since 1950 nosocomial infections began to be seriously studied in various countries, especially in the United States and Europe. The incidence of nosocomial infections differs from one hospital to another. The number of nosocomial infections recorded in several

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countries ranges from 3.3% - 9.2%, meaning that a certain percentage of patients treated contract nosocomial infections and can occur acutely and chronically (Yeni, 2021).

According to WHO (2018), there are 7 patients out of 100 inpatients in high-income countries and 10 patients out of 100 inpatients in low- and middle-income countries at risk of developing nosocomial infections. Every year about 3.2 million patients is exposed to nosocomial infections throughout Europe, and 37,000 of them die directly due to nosocomial infections.

In Indonesia through the Ministry of Health of the Republic of Indonesia, it has conducted a survey in 2019 of 10 General Teaching Hospitals, a fairly high figure of 6-16% of the nosocomial infection rate, with an average of 9.8%. The survey, which was conducted in 10 hospitals in DKI Jakarta, showed that inpatients who received new infections during hospitalization were 9.8%.

Personal Protective Equipment (PPE) is a set of safety equipment used by workers to protect all or part of their body from the possible exposure of potential occupational environmental hazards to accidents and occupational diseases. The types of PPE that should be available in health care facilities are as follows: Level I protection of health workers and support of rapid care workers and doctors and nurses in the form of 3 ply surgical masks, disposable rubber gloves. Protection level II of health workers in the form of 3 ply masks, gowns, disposable rubber gloves, face shields, and headcaps. Level III protection of health workers in the form of N95 masks, gowns, boots, eye protection, face shields, disposable sterile rubber surgical gloves, headcaps, and aprons (Hakim, 2021).

Occupational Health and Safety is the promotion and maintenance of the highest level of physical, mental, and social welfare where there is a prevention of the risk of reducing work accidents, protection of workers from risks that are detrimental to health, placement and maintenance of workers in the scope of work adapted to physiological and psychological equipment that does not endanger life. Occupational Health and Safety has been a concern among governments for a long time. The K3 factor is important because it is related to employee performance, the more available occupational health and safety facilities are, the less likely there are accidents or occupational diseases.

The initial survey conducted at Cut Nyak Dhyen Meulaboh Hospital obtained data from the past 2 years as many as 52 incidences of nosocomial infections during 2020-2021, including 47 cases of phlebitis and 5 incidences of urinary tract infections (UTIs). This work accident found that the cause of the work accident was the result of the negligence of workers who did not use PPE (masks, gloves, aprons/gowns) while working. In this case, the hospital provides the necessary PPE to health workers, namely masks, rubber gloves, aprons/gowns. Problem indicators of the factors of ppe use are the knowledge, attitude and compliance of respondents regarding PPE. Based on the above, this article aims to examine the relationship between the categories of knowledge, attitudes and compliance with the use of PPE in health workers, especially the emergency room unit at Cut Nyak Dhyen Meulaboh Hospital.

## **2. RESEARCH METHODS**

The method used in this study is quantitative research with a cross sectional approach, which is a study design that studies the relationship of independent variables with dependent variables. This research was carried out at the IGD Unit of Cut Nyak Dhyen Meulaboh Hospital, in June 2022. The population and samples in this study were health workers in the IGD Unit totaling 50 respondents with accidental sampling techniques. The data collection used in this study was a questionnaire with an interview method, observation by observing health workers and supported by documentation.

### 3. RESEARCH RESULT

The subjects in this study were health workers who worked in the IGD Unit of Cut Nyak Dhien Meulaboh Hospital, along with frequency distribution based on the characteristics of respondents in the table.

1) Age

**Table 1** Frequency Distribution Based on Respondents' Age Categories on the Use of PPE in Emergency Room Unit Health Workers at Cut Nyak Dhien Meulaboh Hospital.

Age	Frequency	Percentage (%)
26 - 30	14	28
31 - 35	20	40
36 - 40	9	18
>40	7	14
<b>Total</b>	<b>50</b>	<b>100</b>

*Source: primary data 2022*

### 4. DISCUSSIONS

#### 4.1. The Relationship Between Knowledge of health workers and the use of PPE in health workers IGD unit at Cut Nyak Dien Meulaboh Hospital

Based on bivariate analysis, it showed that out of 50 health workers, there were 17 respondents (34%) who were well-informed with the use of complete PPE and did not use 31 respondents (62%), while respondents were not well informed by using complete PPE, there was 1 respondent (2%) and did not use complete PPE 1 respondent (2%).

The results of the chi-square statistical test obtained a p-value of Pvalue of 1.00 and this is greater than  $\alpha = 0.05$  ( $pvalue = 1.00 > \alpha = 0.05$ ) which means that the Hypothesis of  $H_a$  is rejected, so it can be concluded that there is no knowledge relationship to the use of PPE in health workers in the IGD Unit of Cut Nyak Dhien Meulaboh Hospital.

Based on the findings of researchers in the field that respondents have a high knowledge of Personal Protective Equipment (PPE) and its uses. During the interview, respondents also knew the risk of contracting the infection if they did not use PPE when performing medical procedures to patients, but there were some respondents who were incomplete in using PPE due to lack of comfort and limited space to move when performing actions to patients. So, the researcher concluded that most health workers have good knowledge and are certainly more experienced according to what the respondents answered when interviewed and this is very good to maintain in health workers so that the risk of infection does not propagate to the health workers themselves or to other patients.

This is also in line with Nurbaeti's research (2021) that the level of knowledge does not have a significant effect on the use of PPE in hospital staff and health workers with  $p = .594$ . The knowledge measured in the study is the level of knowledge with the use of Personal Protective Equipment (PPE) during a pandemic.

According to Fahri in Azzahri (2019), respondents who are well-informed but do not use PPE while working because their level of awareness of the importance of wearing complete PPE is still low and consider the use of PPE only during emergencies. Meanwhile, respondents who did not know well but used PPE because although the knowledge possessed by respondents was lacking about PPE, respondents still wore PPE when touching patients, for fear that if they did not use PPE, they would be infected by the diseases experienced by patients and to protect themselves from infectious diseases.

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**4.2. The Relationship between the Attitude of Health Workers and the Use of PPE in Health Workers of the IGD Unit at Cut Nyak Dhien Meulaboh Hospital.**

Based on a bivariate analysis, it showed that out of 50 health workers, there were 15 respondents (30%) who had a positive attitude with the use of complete PPE and did not use 27 respondents (54%), while respondents who had a negative attitude using full PPE were 3 respondents (6%) and did not use complete PPE 5 respondents (10%).

The results of the chi-square statistical test obtained a p-value of Pvalue of 1.00 and this is greater than  $\alpha = 0.05$  ( $pvalue = 1.00 > \alpha = 0.05$ ) which means that the  $H_a$  hypothesis is rejected, so it can be concluded that there is no relationship of attitude towards the use of PPE in health workers in the IGD Unit of Cut Nyak Dhien Meulaboh Hospital.

Based on the findings of researchers in the field, where health workers tend to have a lot of positive attitudes. In this case, health workers are quite good at responding when the The subjects in this study were health workers who worked in the IGD Unit of Cut Nyak Dhien Meulaboh Hospital, along with frequency distribution based on the characteristics of respondents in table 1.

. The importance of transportation is reflected in the increasing need for transportation services for the mobility of people within the country, to and from abroad, as well as acting as a driver and driving force for regional growth and regional development.

**4.3. Relationship between Health Workers Compliance with the Use of PPE in Health Workers of the IGD Unit at Cut Nyak Dhien Meulaboh Hospital.**

Based on a bivariate analysis, it showed that out of 50 health workers, there were 18 respondents (36%) who complied with using complete PPE and did not use 25 respondents (50%), while respondents who did not comply and did not use complete PPE were 7 respondents (14%).

The results of the chi-square statistical test obtained a p-value of Pvalue 0.04 and this is smaller than  $\alpha = 0.05$  ( $pvalue = 0.04 < \alpha = 0.05$ ) which means that the Hypothesis  $H_a$  is accepted, so it can be concluded that there is a relationship of compliance with the use of PPE in health workers in the IGD Unit of Cut Nyak Dhien Meulaboh Hospital.

Based on the findings of researchers in the field, there is an appeal before entering the emergency room area, namely the mandatory use of masks. After checking / observing directly the use of personal protective equipment (PPE) on health workers, there are still those who do not complete PPE or are not appropriate to install PPE, especially when taking action, there are some health workers who do not pay attention to the completeness of their personal protective equipment. When interviewing him, researchers were able to conclude that respondents were less comfortable with their wiggle room was quite limited and gave not a few answers because interacting with colleagues was a little difficult. This often happens if there is not frequent evaluation of the use of PPE in health workers.

This is not in line with Selviana's research (2021) that most respondents adhered to using PPE by 74.3%, and similarly with Putri's research (2018) at Dr. Kariadi Hospital Semarang showed that 53.2% of respondents were obedient to use PPE according to procedures.

An important aspect in improving compliance is conformity and self-control, as the study conducted by Hendrawan & Rahayu regarding health protocol compliance. In the context of in the context of health services in hospitals, efforts to maintain safety are always related to the prevention of nosocomial infections and other infections.

Research conducted by Sefia & Koesyanto in Ridarsyah (2022) proves that the regular use of PPE is associated with a low risk of infection events experienced and an increase in the health status of health workers at Puskesmas (Sari, 2021).



## 5.CONCLUSION

1. There is no connection between knowledge and the use of PPE in health workers of the IGD Unit at Cut Nyak Dhien Meulaboh Hospital with Pvalue = 1.00.
2. There is no attitude relationship with the use of PPE in health workers of the IGD Unit at Cut Nyak Dhien Meulaboh Hospital with Pvalue = 1.00.
3. There is a significant relationship between compliance with the use of PPE in health workers of the IGD Unit at Cut Nyak Dhien Meulaboh Hospital with Pvalue = 0.04.

## 6.SUGGESTION

1. It is expected that the Director of the Hospital will periodically evaluate the use of PPE by health workers and monitor the performance of the hospital's K3 management.
2. It is expected that the Hospital K3 Management can better supervise and evaluate health workers when taking actions to patients so that there are no health workers who do not use PPE.

It is expected that health workers must be consistent and complete when wearing PPE during the time of taking action / while in the emergency room and comply with existing work procedures in the hospital so that work accidents or occupational diseases do not occur.

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