



Factors related to compliance with the use of Personal Protective Equipment (PPE) by doctors and nurses during the COVID-19 pandemic in the Mandau District hospital, bengkalis regency

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Abstract

The use of Personal Protective Equipment (PPE) is one of the risk control efforts that aims to protect health workers from occupational safety and health hazards. Personal Protective Equipment (PPE) is a must that must be used by doctors and nurses in serving patients during the COVID-19 pandemic. Personal protective equipment (PPE) is an alternative preventive measure for health workers in protecting themselves from the risk of transmission. However, the responsibility for using PPE is on every health worker. Factors that can determine compliance in the use of PPE by doctors and nurses are knowledge, supervision, action, attitude, and motivation. This study aims to determine the factors related to compliance with the use of personal protective equipment (PPE) by doctors and nurses during the covid19 pandemic at the Mandau District Hospital, Bengkalis Regency in 2021. This type of research is a quantitative study with a Cross Sectional Study design. The location and time of the study was at the Mandau District Hospital from March to June 2021. The sample of this study were 30 doctors and 35 nurses at the Mandau District Hospital. The sampling technique used is the Total Sampling Technique. The results of the research are knowledge p value = 0.000, supervision p value = 0.002, action p value = 0.004, attitude p value = 0.339, motivation p value = 0.001. It can be concluded that there is a relationship between knowledge, supervision, action, motivation and there is no relationship between attitudes and the use of PPE.

Keywords: Personal protective equipment, Hospital, Obedience

Introduction

Hospitals as complex health care facilities must provide health services that aim to improve the health of patients or clients and maintain the health of hospital visitors. Hospitals should also maintain the health of their employees so that they are always healthy and safe in doing their work. Health care workers, including support staff (hospital, equipment and laboratory staff), who work in health facilities are at risk of being exposed to the current dangerous virus, namely COVID-19.

The hospital is a place of work and a gathering place for healthy people, both officers, visitors and sick people (patients) so that the hospital is a place of work that has a high risk of health and disease due to work accidents, and also because of contact with infectious disease agents, with blood and body fluids as well as needle sticks, sharp instruments that can act as transmission of various diseases and also potential as a medium for transmitting other diseases (Sudarmo *et al.*, 2016) ^[25].

According to OSHA (Occupational Safety and Health Administration), personal protective equipment is a tool used to protect workers from injury or disease caused by contact with chemical, biological, radiation, physical, electrical, mechanical and other hazards.

Occupational Health and Safety is the promotion and maintenance of the highest level of physical, mental and social welfare, where there is prevention of the risk of experiencing work accidents, protection of workers from risks that can harm health, placing and maintaining workers in a work environment that is adapted to physiological and psychological equipment that does not life threatening (WHO, 2010).

Meanwhile, based on the Regulation of the Minister of Manpower and Transmigration No. 08/MEN/2010, personal protective equipment is a tool that has the ability to protect a person whose function is to isolate part or all of the body from potential hazards in the workplace. Personal Protective Equipment (PPE) is a set of tools used by workers to protect part or all of their bodies from potential work hazards/accidents. Personal protective equipment or often referred to as personal protective equipment is equipment used to protect microorganisms found in officers working in a health care place.

The results of research conducted at the Mamuju Hospital, West Sulawesi, stated that Personal Protective Equipment (PPE) for nurses was still categorized as lacking in implementation and application. This shows that the attitude of nurses in the use of PPE is still lacking, indicated by a negative attitude of 53.30%. Showing the behavior of using PPE by nurses is not significant as indicated by the majority of respondents who have behavior in using PPE that are less compliant, amounting to 44 nurses (52.4%). In a study conducted by Vinalisa Ditha, the reasons for choosing doctors and nurses were:

The Regional General Hospital (RSUD) Mandau District is a hospital located on JL. Stadium No. 10, Air Jamban, Mandau District, Bengkalis Regency, Riau 28784 class C hospital, consisting of doctors (30) and nurses (35), Mandau District Hospital is a referral hospital for COVID19 patients. Doctors and nurses at the Mandau District General Hospital (RSUD) in this case have been given the task of carrying out their duties. They carry out their duties as doctors and nurses with two shifts per day. With a daily service time of approximately eight hours, where the morning shift is divided into 2 shifts with six hours working hours and night shifts with approximately 12 hours working hours.

In this study, the author uses a modified theory of Lawrence Green's theory. Based on the initial survey that the author conducted through the results of distributing a google form questionnaire to 5 people at the Mandau District Hospital, it was found that the level of compliance with the use of PPE by doctors and nurses was still not carried out according to the applicable SOP. There are still doctors and nurses whose level of compliance with the use of PPE is still not up to hospital standards. The results of the initial survey conducted by the author is that the Mandau District Hospital consists of doctors and nurses.

using PPE that is not good, 60% of actions in the use of PPE are still not good, 40% of doctors and nurses' knowledge of PPE is still not good, 20% of attitudes in using PPE are still not good, 40% motivation to use PPE of nurses and doctors is still not good in motivation. Respondents in this study were all doctors and nurses at the District Hospital of Mandau, Bengkalis Regency. The requirement for compliance with PPE is to use all PPE provided by the hospital, the final result

of this study will see a comparison of doctor and nurse compliance with good and correct use of PPE, if one of the doctors and nurses does not use PPE completely and good and true, the respondent has his own reasons or does not know.

Research conducted by Vinalisa Ditha in the journal the reason for choosing doctors and nurses is to increase compliance in using personal protective equipment for nurses and doctors pay more attention to standard operating procedures regarding the use of personal protective equipment and carry out stricter monitoring of nurses and doctors who are vulnerable to the risk of transmission from patients as well as adding adequate and sufficient personal protective equipment facilities. Nurses and doctors are expected to be able to carry out all nursing actions by always being obedient and obedient not only in using personal protective equipment, but also working in accordance with hospital operational standards. Based on the above background,

Methods

This type of research is quantitative with a Cross Sectional Study research design, namely research conducted by collecting data only at one time to find out factors related to compliance with the use of Personal Protective Equipment (PPE) by doctors and nurses during the COVID-19 pandemic at the District Hospital. Mandau Bengkalis Regency in 2021. Sampling in this study is to use the technique of "total sampling" or saturated sampling, which is a sampling technique if all members of the population are used as samples. In this case, the samples are doctors and nurses at Home.

Regional General Hospital (RSUD) Mandau District, which consists of doctors (30), nurses (35) people who have met the respondent criteria determined by the previous researcher.

Results

1. Respondent Characteristics

Table 1: Frequency Distribution of General Characteristics of Medical Personnel Respondents at the Mandau District Hospital

Characteristics	Frequency (f)	Percentage (%)
Type of power		
Doctor	30	46.15
Nurse	35	53.85
Total	65	100%
Gender		
Man	23	35.38
Woman	42	64.62
Total	65	100%
Age		
<20 years	0	0
21-30 years old	9	13.85
31-40 years old	40	61.54
>40 years	16	24.61
Total	65	100%
Length of work		
<1 year	12	18.61
1-5 years	28	43.08
6-10 years	25	38.46
Total	65	100%

Based on Table 4 above, out of 65 respondents, it is known that the most respondents are nurses as many as 35 respondents (53.85%) and respondents who work as doctors are 30 people (46.15%), the gender of the respondents is mostly female. as many as 42 respondents (64.62%) and men as many as 23 respondents (35.38%), the age of the most respondents was around 31-40 years as many as 40 respondents (61.54%) and the least age was <20 years

because there are no respondents under the age of 20 years. The longest working period of the respondent is 1-5 years as many as 28 (43.08%) Respondents and the longest working period of the respondent is less than 1 year as many as 12 respondents (18.61%).

2. Univariate Analysis

Table 2: Frequency Distribution Based on Independent and Dependent Variables Respondents Medical Staff at Mandau District Hospital 2021

Research variable	Frequency (f)	Percentage (%)
Compliance with the use of PPE Non-compliance	21	33.85
Obey	44	66.15
Total	65	100
Knowledge		
Low	41	63.1
High	24	36.9
Total	65	100
Supervision		
Not Good	19	29.2
Good	46	70.8
Total	65	100
Actions		
Not Good	20	32.3
Good	45	67.7
Total	65	100
Bad Attitude	27	41.5
Well	38	58.5
Total	65	100
Motivation		
Unmotivated	20	32.3
Motivated	45	67.7
Total	65	100

Based on Table 5 above, from 65 respondents, it is known that there are 24 doctors and nurses with high knowledge (36.9%). Furthermore, the respondents who considered that the supervisory factor was good were 46 people (70.8%). Then, the good action factor is 45 people (67.7%). In this case, doctors and nurses who showed a good attitude were 38 people (58.5%), and doctors and nurses who were motivated were 45 people (67.7%). Meanwhile, 44 people (66.15%) out

of 65 doctors and nurses were obedient in using PPE while on duty at the Mandau District Hospital.

3. Bivariate Analysis

a. Relationship between Knowledge and Compliance Using PPE by Doctors and Nurses at the Mandau District Hospital during the COVID-19 Pandemic

Table 3: Knowledge relationship with compliance using PPE

Knowledge	Compliance using PPE				Total	P Value	OR (95% CI)
	Not obey		Obey				
	N	%	N	%	N	%	
Low	5	12.2	36	87.8	41	100	0.000
Tall	16	66.7	8	33.3	24	100	14,400 (4,072-50,921)
Total	21	32.3	44	67.7	65	100	

Based on Table 6 above is the result of the analysis of the relationship between knowledge and compliance using PPE. It is known that of the 41 respondents with low knowledge, there are 5 (12.2%) respondents who stated that they were not compliant in using PPE. while from 24 respondents who stated high knowledge there were 16 (66.7%) respondents who stated that they were not compliant in using PPE. The results of statistical tests obtained P Value = 0.000 or P

<0.05, so it can be concluded that there is a relationship between knowledge and compliance with the use of personal protective equipment (PPE) by doctors and nurses at the Mandau District Hospital, Bengkalis Regency. And the value (OR) Odds ratio = 14,400 > 1 means that compliance with the use of PPE with low knowledge is 14 times risky for non-compliance in using PPE.

b. Relationship between supervision and compliance Using PPE by Doctors and Nurses at the mandau district Hospital during the COVID-19 Pandemic

Table 4: The relationship between supervision and compliance using PPE

Compliance using PPE							
Supervision	Not obey		Obey		Total	P Value	OR (95% CI)
	N	%	N	%			
Not good	12	63.2	7	36.8	19	100	0.002 7.048 (2.159-23.005)
Well	9	19.6	37	80.4	46	100	
Total	21	32.3	44	67.7	65	100	

Based on Table 7 abovenamely the results of the analysis of the relationship between supervision and compliance using PPE, it is known that from 19 respondents with poor supervision there are 12 (63.2%) respondents who stated that they were not compliant in using PPE. while from 46 respondents who stated that the supervision was good, there were 9 (19.6%) respondents who stated that they did not comply with the rules using PPE.

Statistical test results obtained P Value = 0.002 or P <0.05, it can be concluded that there is a relationship between supervision and compliance with the use of personal protective equipment (PPE) by doctors and nurses at the Mandau District Hospital, Bengkalis Regency.

And the value (OR) Odds ratio = 7.048>1 means that compliance with the use of PPE with poor supervision has 7 times the risk of not complying with the use of PPE.

c. Relationship between action and compliance using ppe by doctors and nurses at the mandau district hospital during the COVID-19 pandemic

Table 5: Action relationship with compliance using PPE

Obedience using PPE							
Attitude	Not Obey		Obey		Total	P- Value	OR (CI 95%)
	N	%	N	%			
Not good	12	60.0	8	40.0	20	100	0.004 6,000 (1.890-19043)
Well	9	20.0	36	80.0	45	100	
Total	21	32.3	44	67.7	65	100	

Based on Table 8 above, which is the result of the analysis of the relationship between actions and compliance using PPE, it is known that of the 20 respondents with bad attitudes, there are 12 (60.0%) respondents who stated that they were not compliant in using PPE. while from 45 respondents who stated that the action was good there were 9 (20.0%) respondents who stated that they were not compliant in using PPE.

The results of the statistical test obtained P Value = 0.004 or P <0.05, it can be concluded that there is a relationship between action and compliance with the use of personal protective equipment (PPE) by doctors and nurses at the Mandau District Hospital, Bengkalis Regency.

And the value (OR) Odds ratio = 6.000> 1 means that compliance with the use of PPE with bad actions is 6 times the risk of non-compliance in using PPE.

d. relationship between attitude and compliance using PPE by doctors and nurses at the Mandau district hospital during the COVID-19 Pandemic

Table 6: Attitude relationship with compliance using PPE

Obedience using PPE							
Attitude	Not Obey		Obey		Total	P- Value	OR (CI 95%)
	N	%	N	%			
Not good	11	40.7	16	59.3	27	100	0.339 1,925 (0.671- 5522)
Well	10	26.3	28	73.7	38	100	
Total	21	32.3	44	67.7	65	100	

Based on Table 9 above, namely the results of the analysis of the relationship between attitudes and compliance using PPE, it is known that of the 27 respondents with bad attitudes, there are 11 (40.7%) respondents who stated that they were not compliant in using PPE. while from 38 respondents who stated that they had a good attitude, there were 28 (73.7%) respondents who stated that they were not compliant in using PPE.

The results of the statistical test obtained P Value = 0.339 or P > 0.05, so it can be concluded that there is no relationship between attitudes and compliance with the use of personal protective equipment (PPE) by doctors and nurses at the Mandau District Hospital, Bengkalis Regency.

And the value (OR) Odds ratio = 1.925> 1 means that compliance with the use of PPE with a bad attitude has a 1-time risk of not complying with the use of PPE.

e. The relationship between attitude motivation and compliance using PPE by doctors and nurses at the mandau district hospital during the COVID-19 Pandemic

Table 7: The relationship of motivation with compliance using PPE

Compliance using PPE							
Motivation	Not obey		Obey		Total	P Value	OR (95% CI)
	N	%	N	%			
Not Motivated	13	65.0	7	35.0	20	100	0.001 8,589 (2,600-28,378)
Motivated	8	17.8	37	82.2	45	100	
Total	21	32.3	44	67.7	65	100	

Based on Table 10 above, which is the result of the analysis of the relationship between motivation and compliance using PPE, it is known that of the 20 respondents who were not motivated there were 13 (65.0%) respondents who stated that they were not compliant in using PPE. while from 45 respondents who were well motivated there were 8 (17.8%) respondents who stated that they were not compliant in using PPE.

Statistical test results obtained P Value = 0.001 or P <0.05 then it can be concluded that there is a relationship between motivation and compliance with the use of personal protective equipment (PPE) by doctors and nurses at the Mandau District Hospital, Bengkalis Regency.

And the value (OR) Odds ratio = 8.589> 1 means that compliance with the use of PPE with poor motivation has 8 times the risk of not complying with the use of PPE.

Discussion

1. The relationship between knowledge and the use of PPE by doctors and nurses at the Mandau District Hospital, Bengkalis Regency during the COVID-19 pandemic

Based on statistical tests using the chi square test, the results obtained are p value = 0.000 which means $p < (0.05)$ (H_0 is accepted) meaning that there is a relationship between knowledge and compliance with PPE. With an Odds Ratio (OR) value of 14,400 (4,072-50,921) which means that doctors and nurses with low knowledge are 1 times more likely to be disobedient in using PPE when on duty compared to doctors and employees who have high knowledge of the use of PPE.

According to Lawrence Green in knowledge is one of the predisposing aspects that build human behavior, so the higher a person's level of understanding about PPE is expected to be more loyal when wearing PPE. Along with, knowledge can be obtained from formal education or informal education such as counseling, training, experience or other information. From this theory, doctors and nurses should have good knowledge of the use of PPE when on duty.

Analysis of the knowledge questionnaire of doctors and nurses shows that doctors and nurses have high knowledge of PPE and the function of PPE during the current COVID-19 pandemic. It's just that some of the doctors and nurses still neglect to use PPE at work even though they already have this knowledge. This is in line with the opinion of which states that knowledge is one of the predisposing aspects that build human behavior, and Agussamad *et al*, (2019) [3] which states that knowledge is closely related to the behavior of nurses in using PPE when working because knowledge is the key that important in shaping behavior. Because some doctors and nurses ignore their knowledge about PPE.

In the opinion of the researcher, doctors and nurses at the Mandau District Hospital do not yet have high knowledge regarding the use of PPE when on duty. This can be seen from the responses given to the statements listed in the questionnaire. These statements include, the use of PPE is an effort to protect against all potential hazards while working, PPE does not interfere with comfort while working, the selection of good PPE can provide protection against the hazards faced by workers, using PPE can prevent diseases caused by work, and doctors and nurses know how to use PPE properly and correctly. However, even though doctors and nurses know well the function of PPE, there are still doctors and nurses who are not responsive in using PPE while on duty.

Of the 5 statements given about the knowledge variable, it was found that many respondents gave wrong answers on the questionnaire sheet on the knowledge variable statement, namely PPE does not interfere with comfort at work.

2. The relationship between supervision and the use of PPE by doctors and nurses on compliance with the use of PPE at the Mandau District Hospital, Bengkalis Regency during the COVID-19 pandemic

The results of the analysis of the relationship between knowledge and use of PPE by doctors and nurses at the Mandau District Hospital showed the p value was 0.002,

which means $p < (0.05)$ (H_0 is accepted) meaning that there is a relationship between supervision and compliance with using PPE. With an Odds ratio (OR) value of 7,048 (2.159-23.005) which means that doctors and nurses who have poor supervision are 7 times less likely to be non-compliant in using PPE when on duty compared to doctors and nurses who have good supervision and are obedient in using PPE.

Supervision is a part and method of handling, which is a follow-up follow-up to the implementation of activities to ensure that the implementation of tasks is in accordance with the plan. Compliance is a human behavior that obeys orders, orders, procedures, and discipline. Based on the results of the questionnaire given to the respondents, it is known that the Mandau District Hospital has provided supervision of the use of PPE. This is in accordance with the opinion of Agussamad *et al*, (2019) [3] which said that the reason most nurses had used PPE was because of the supervision from the head of the room, the head of the nursing section, and from the PPI/K3 who made visits to the inpatient room for treatment control health workers in using PPE. However, the results of research conducted by the authors indicate that the supervision carried out by the hospital has not increased the compliance of doctors and nurses to use PPE when on duty.

In the opinion of the researcher, the supervision carried out by the Mandau District Hospital is still not good. This is evidenced by the low compliance shown by doctors and nurses. There are five statements that represent hospital supervision, such as monitoring the use of PPE, whether or not a PPE supervisor is always used, PPE supervision is carried out every day, with supervision being motivated to always use PPE when working, and the hospital providing supervision of hazards while working.

Of the 5 statements given about the monitoring variable, it was found that many respondents gave answers that did not agree on the questionnaire sheet on the statement of the supervision variable, namely the presence or absence of PPE supervision is always used and PPE use supervision is carried out every day.

3. The relationship between action and the use of PPE by doctors and nurses at the Mandau District Hospital, Bengkalis Regency during the COVID-19 pandemic

The results of the analysis of the relationship between knowledge and use of PPE by doctors and nurses at the Mandau District Hospital showed the p value was 0.004 which means $p < (0.05)$ (H_0 is accepted) meaning that there is a relationship between action and compliance in using PPE. With an Odds Ratio (OR) value of 6,000 (1,890-19043) which means that doctors and nurses who are not acted upon when not using PPE properly are 6 times at risk of causing non-compliance in using PPE compared to doctors and nurses who are treated when using PPE properly.

According to, action or practice is the realization of an attitude into a real difference. An attitude that is not yet optimistic is manifested in an action for the realization of the attitude into a real action treated by supporting factors / an enabling condition. In this study, the action in question is the use of PPE by doctors and nurses in RSUD Mandau District when providing services to patients. Based on the analysis

that the author did, it showed that the preventive measures taken by doctors and nurses at the hospital were still lacking, as evidenced by the fact that there were still doctors and nurses who did not use PPE when on duty.

In the opinion of the researcher, the action taken is a disciplinary measure taken to protect hospital doctors and nurses who are basically very vulnerable to contracting the COVID-19 virus. The actions given can be seen from the questionnaires given, such as the statements always use PPE before taking action on patients, using PPE before serving patients to save themselves, the use of PPE affects the safety of health workers and employees, wearing gloves can replace hand washing, and PPE be the first line of defense against the patient's disease.

Of the 5 statements given about the Action variable, it was found that many respondents gave disagreed answers on the questionnaire sheet on the action variable statement, namely Using PPE before serving patients to save themselves.

4. The relationship between attitudes and the use of PPE by doctors and nurses in the use of PPE at the Mandau District Hospital, Bengkalis Regency during the COVID-19 pandemic

The results of the analysis of the relationship between knowledge and use of PPE by doctors and nurses at the Mandau District Hospital using the chi-square test, it is known that the p value is 0.339, which means the p value > (0.05) (H_0 is rejected) meaning that there is no relationship between attitude and the compliance of doctors and nurses in using PPE while on duty at the Mandau District Hospital during the COVID-19 pandemic. With an Odds Ratio (OR) value of 1.925 (0.671-5.522), which means that doctors and nurses who have a bad attitude in using PPE will be at risk of causing non-compliance in using PPE compared to doctors and nurses who have a good attitude in using PPE. PPE while on duty.

According to Fridalni and Rahmayanti (2018)^[12], Agussamad *et al*, (2019)^[3] the more positive the attitude of nurses regarding personal protective equipment, the higher the compliance with the use of personal protective equipment. Attitude is the result or response that is being closed from someone to the stimulus or target, the attitude clearly shows the connotation of a harmonious reaction to a particular stimulus which in everyday life is a sentimental reactions to social stimuli as well as knowledge. With the existence of worker safety training in hospitals, it will produce a good response to the use of PPE or vice versa the response will be stronger if given various kinds of stimuli that are closely related. Thus, when doctors and nurses have a positive view, their behavior will be good in the application of PPE, on the contrary if the nurse is negative, they behave less well in the application of PPE. This shows that the attitude of nurses has an impact on the application of PPE. This is because the negative behavior of nurses will give a poor response from nurses in the application of PPE.

The results of the study are inversely proportional to the research conducted who conducted research at the Mamuju Hospital, West Sulawesi which stated that the use of PPE for nurses was still categorized as lacking in its implementation

and application. This shows that the attitude of nurses in the use of PPE is still lacking. However, the results of this study are in line with the attitude that should be shown by doctors and nurses who should prioritize the health and safety of themselves and others when they are on duty. Especially in the midst of the COVID-19 pandemic which makes health workers vulnerable to being exposed to or transmitting the virus to other people.

When doctors and nurses have a positive view, their behavior will be good in the application of PPE, on the contrary if the nurse has a negative attitude, they will behave less well in the application of PPE. This shows that the attitude of nurses has an impact on the application of PPE. This is because the negative behavior of nurses will give a poor response from nurses in the application of PPE. Fridalni and Rahmayanti (2018)^[12], Agussamad *et al*, (2019)^[3] also stated that the more positive the attitude of nurses regarding personal protective equipment, the higher the compliance with the use of personal protective equipment. The results of the analysis in this study indicate that doctors and nurses already have a positive view of the use of PPE, so there are still doctors and nurses who are still reluctant to use these protective equipment.

In the opinion of the researcher, the unfavorable attitude shown by doctors and nurses at the Mandau District Hospital during the COVID-19 pandemic was not about the unwillingness of doctors and nurses to use PPE. Doctors and nurses still use PPE while on duty at the hospital, it's just that this PPE is used only at certain times and not used throughout the day. Thing This relates to the convenience of using PPE when on duty which makes doctors and nurses have a bad attitude towards the use of PPE. This attitude towards the use of PPE can be seen from the statements in the questionnaire, namely as exemplary doctors and nurses who always use PPE when working, doctors and nurses use PPE to prevent the risk of accidents and occupational diseases in inpatient installations, doctors and nurses use gloves to protect them hands from infectious hazards, doctors and nurses use closed shoes to protect feet from sharp or heavy objects and fluids that fall or drip on the feet, and nurses use gloves to protect hands from chemical hazards.

Of the 5 statements given about the Attitude variable, it was found that many respondents gave disagreed answers on the questionnaire sheet on the attitude variable statement, namely as exemplary doctors and nurses always use PPE when working and Doctors and nurses use PPE to prevent the risk of accidents and occupational diseases in an inpatient setting.

5. by doctors and nurses in the use of PPE at the Mandau District Hospital, Bengkalis Regency during the COVID-19 pandemic

The results of the analysis of the relationship between knowledge and use of PPE by doctors and nurses in the Mandau District Hospital were tested using the chi-square test, it is known that the p value = 0.001 which means the p value < (0.05) (H_0 is accepted) meaning that there is a relationship between motivation with compliance in using PPE. Furthermore, the Odds Ratio (OR) value is 8,589 (2,600-28,378) which means that doctors and nurses who are

not motivated are 8 times more likely to cause non-compliance in using PPE compared to doctors and nurses who have high motivation.

Motivation is a basic ability that every nurse must have and in helping nurses step, motivation is a significant element of every nurse because the higher the nurse's motivation, the more likely the nurse's behavior will be better in the use of PPE (Banda, 2015). In line with this opinion, the results of this study also show that there is a relationship between the motivation of doctors and nurses and their adherence to using PPE. When doctors and nurses have high motivation, they tend to use PPE. Conversely, when motivation is low, the tendency to adhere to the use of PPE will also decrease.

In the opinion of researchers, motivation is an important factor that must be owned by an individual in determining his actions. When individuals have high motivation, they will show positive behavior in their actions, and vice versa. As with the use of PPE, when doctors and nurses have high motivation, they will automatically comply with using PPE even though they are not supervised by others. This is illustrated by the questionnaire given through the statement that disciplined doctors and nurses are required to use PPE when working, the processing of the cleanliness of protective gowns is very much considered by hospital management, praise from superiors will increase motivation to obey using PPE, the PPE used is in accordance with the protection needs self, Of the 5 statements given about the Motivation variable, it was found that many respondents gave answers that did not agree on the questionnaire sheet on the statement of the Motivation variable, namely Processing the cleanliness of the protective gown was very concerned about the hospital management and took the initiative to use it before doing treatment.

Conclusion

1. There is a relationship between knowledge and the use of PPE by doctors and nurses at the Mandau District Hospital during the COVID-19 pandemic.
2. There is a relationship between supervision and the use of PPE by doctors and nurses at the Mandau District Hospital during the COVID-19 pandemic.
3. There is a relationship between actions and the use of PPE by doctors and nurses at the Mandau District Hospital during the COVID-19 pandemic.
4. There is no relationship between attitude and the use of PPE by doctors and nurses at the Mandau District Hospital during the COVID-19 pandemic.
5. There is a relationship between compliance with the use of PPE by doctors and nurses at the Mandau District Hospital during the COVID-19 pandemic.
6. There is a relationship between motivation and the use of PPE by doctors and nurses at the Mandau District Hospital during the COVID-19 pandemic.

References

1. Aarabi A, Effat KL, Gholami H. Health care personnel compliance with standards of eye and face protection and mask usage in operating room. *Iranian Journal of Nursing and Midwifery Research*. 2008;13(2):50-64.
2. Aditama. *Occupational health and safety*. Jakarta: UI Press; c2006.
3. Indri A, Nursiah MS. Factors relating to inpatient nurse compliance in using personal protective equipment at Langsa Hospital in 2019. *Edukasi Journal*. 2019;2(2):90-

- 99.
4. Indonesian Ministry of Health. Managerial guidelines for infection prevention and control in hospitals and other health care facilities. Journal accessed on November 25, 2020, at 10:19 WIB; c2009.
5. Anies. *Occupational diseases*. Jakarta: PT Alex Media Komputindo; c2005.
6. Azzahri LR, Ikhwan K. The relationship of knowledge about the use of personal protective equipment (PPE) with compliance with the use of PPE for nurses at the Kuok Health Center. *Prepotive Journal of Public Health*. 2019;3(1):50-57.
7. Aziz A, Hidayat. *Research methods and data analysis techniques*. Jakarta: Salemba Medika; c2007.
8. Indonesian Ministry of Health. *Guidelines for implementing universal precautions in health services*. Jakarta: Ministry of Health; c2003.
9. Priyambodo D. The relationship of knowledge and attitude with the practice of using personal protective equipment respiratory protection in furniture industry workers PT. Albisindo Timber (Sukun Group) Kudus. Thesis; c2008.
10. Dona R. Factors influencing the use of personal protective equipment (PPE) in midwives during delivery assistance at Bengkalis Hospital. Thesis; c2012.
11. Nova F, Rahmayanti R. Factors related to the behavior of nurses in the use of personal protective equipment. *Journal of Medika Scientific Health*. 2018;11(1):46-50.
12. Sri H, Frenky P. The relationship between motivation and the use of personal protective equipment by nurse practitioners at RSI Ibnu Sina Bukit Tinggi. Journal accessed on October 29, 2020, at 14:23 WIB; c2014.
13. Hasibuan MSP. *Human resource management*. Jakarta: Bumi Aksara; c2007.
14. Indonesian Ministry of Health. KMK NO 1087/MENKES/SK/VIII/2010. *Occupational health and safety standards in hospitals*. Jakarta: Minister of Health; c2010.
15. Ministry of Manpower and Transmigration RI. *Regulation Minister Power Work and Indonesian Transmigration on personal protective equipment*; c2010.
16. Kepmenkes RI. No. 432 concerning guidelines for occupational safety management in hospitals; c2007.
17. Notoatmodjo S. *Health education and behavior*. Jakarta: Rineka Cipta; c2003.
18. Notoatmodjo S. *Health research methodology*. Jakarta: Rineka Cipta; c2010.
19. Daughter. Characteristics of nurses and occupational safety behaviors of nurses at RSUD Depok. *Nurses Journal of Nursing*. 2017;12(1):67-75.
20. Purwanto BY. Analysis of factors affecting the behavior of using personal protective equipment in workers; c2009.
21. Primanadini A. Relationship of standard operational procedure compliance with personal protective equipment. Journal accessed on October 29, 2020, at 15:32 WIB; c2016.
22. Indrianinggrum S. Relationship of nurse knowledge about personal protective equipment (PPE) and nurse compliance using personal protective equipment (PPE) in inpatient room Harum Hospital, East Jakarta 2015. Thesis; c2015.
23. Suhendro S. Relationship between motivation and

- attitude of nurses on the use of personal protective equipment. Thesis; c2008.
24. Helmi ZN, Marlinae L. Factors influencing behavior towards compliance with the use of personal protective equipment (PPE) for the prevention of occupational diseases. *Journal of Health Periodic*. 2016;1(2):88-95.
 25. Wahyu W. Relationship of nurse's motivation with behavior of using personal protective equipment when conducting chemotherapy in the inpatient room of RSUD dr. Moewardi Surakarta; c2015.
 26. Muhammad Z, Fergusel A, Siregar DMS. Factors influencing the use of personal protective equipment (PPE) for nurse health workers at the dr. rm. Pratomo Bagansiapiapi, Rokan downstream district. *Excellent Midwifery Journal*. 2018;1(2):85-92.