

Relationship of Compliance of Personal Protective Equipment Usage and Housekeeping with Near Miss among Nurses

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ABSTRACT

Introduction: The hospital is one of workplaces that has a high risk of hazard that can cause near miss. Nurses are people who play an essential role in the medical service environment. Near misses are more common than work accidents and have become a critical point for preventing workplace accidents. This study aimed to analyze the correlation between compliance of PPE usage and housekeeping with near miss among nurses. **Methods:** This study used a descriptive observational design which was designed in a cross-sectional way. Respondents were 53 nurses. The research data presented in the form of frequency distribution, cross-tabulation, and correlation analysis. The study's independent variable is compliance of PPE usage and housekeeping, and the dependent variable is near miss. The method of data collecting in this research is using a questionnaire for compliance of PPE usage, housekeeping, and near miss. **Results:** The relationship between housekeeping ($r_s = -0.259$) with near miss among nurses is weak because near misses are primarily due to human error or unsafe behavior, and housekeeping is a working condition factor that contributes little to the causes of near miss. Medium category correlation between compliance with PPE use ($r_s = -0.455$) with near miss because nurses have an obligation to provide safe nursing actions and protect themselves from potential hazards by using PPE. **Conclusion:** Compliance of PPE usage and housekeeping that contribute to near miss.

Keywords: compliance of personal protective equipment usage, housekeeping, near miss, nurse

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INTRODUCTION

Hospitals are health service institutions that provide individual health services such as inpatient, outpatient, and emergency services, as defined by Law Number 44 of 2009 (Indonesia Republic Government, 2009). The Minister of Health's Regulation No. 66 of 2016 on the implementation of occupational safety and health in hospitals states that a hospital is a high-risk workplace for occupational health and safety. It is due to the fact that hospitals have a variety of risks, including physical, chemical, biological, psychological, ergonomic, mechanical, electrical, and waste hazards (Ministry of Health, 2016).

Hospital executives or the hospital managers have a responsibility to safeguard employees in order to improve their health. This may be accomplished by implementing Hospital Occupational Health and Safety, which seeks to ensure and safeguard human resources associated with the work process in order to provide a healthy, safe, and comfortable working environment for employees, patients, and visitors (Ministry of Health, 2016).

One of the workers involved in the hospital is a nurse. Nurses are one of the human resources who have an important role in health services in hospitals as medical service providers, communicators, educators, and even managers for patients. According to the World Health Organization (2020) nurses are the largest working team in the health sector with an average of 59% from all professions in the health sector globally. As health workers who have high interaction with patients, work equipment, or work environment, nurses have a risk of accidents

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or occupational diseases. The research by Wåhlin *et al.* (2020) states that the profession in the health sector that often experiences accidents is nurses (41.6%). The Bureau of Labor Statistics (2018) presents data about cases of non-fatal injuries and illnesses in hospitals as many as 577,300 cases and 24,080 of them experienced by nurses. Sources of non-fatal injuries and illnesses to nurses are due to overexertion (45.6%), falls, slips, trips (25%), violence or other injuries caused by other people or animals (12.2%), contact with work equipment (9.8%), incidents in transportation (3.8%), and exposure to hazardous substances (3.3%).

Dahlan (2017) states that accidents with losses such as injuries or property damage are manifestations from incidents. Incidents can be interpreted as a near miss. This is illustrated by an accident pyramid consisting of a near miss ratio (600): property damage (30): minor injury (10): serious injury (1). This shows that near miss has the potential to cause a serious injury. Research by Silpasuwan *et al.* (2017) stated that there were 20% reports of work accidents and 31.31% near misses in health services. The difference between accidents and near miss is the impact that will happen. Accident is an unexpected event that occurs suddenly.

Kristiawan (2018) defines an accident as an unwanted event that is often caused by unsafe acts and unsafe conditions that result in losses. Near miss is an accident without any injury or damage. Safitri and Widajati (2019) explained that a near miss is an incident where a slight shift in time or distance results in injury, ill health, loss but did not happen this time.

The causes of a near miss according to Dahlan (2017) in the ILCI Loss Causation Model Theory consist of lack of control, basic factors, and immediate causes. Immediate causes include substandard actions or commonly referred to as unsafe actions and substandard conditions which are conditions that can be called unsafe. Kristianti and Tualeka (2019) explained that there were 13 near misses caused by unsafe acts by workers. Similar research conducted by Putra *et al.* (2020) explains that unsafe behavior has a four times greater risk than safe behavior in work.

Haas (2020) states that the near miss is caused by workers who didn't use PPE. Another factor that causes near miss is the condition of work environment that is not in accordance to standards or in an unsafe condition. Research conducted

by Kristianti and Tualeka (2019) states that poor housekeeping including equipment or machinery can cause near miss or accidents such as tripping.

Based on the Regulation by Minister of Health of the Republic of Indonesia Number 27 of 2017 about Guidelines for Infection Prevention and Control in Health Service Facilities, it describes several types of personal protective equipment (PPE) in hospitals including gloves, masks, protective gowns, face shields or goggles, safety shoes, and protective hats (Ministry of Health, 2017). Housekeeping is one of the Occupational Health and Safety programs that aims to create a tidy, clean, safe, and comfortable work environment. The housekeeping component consists of 5S, namely Sort, Set in order, Shine, Standardize, and Sustain (Christian, 2018). Hospital environmental conditions must be clean and safe so that the floor is not slippery, flat, and easy to clean.

RSUD Ploso, Jombang is one of the hospitals belonging to the regional government or Jombang Regency. This hospital is located on Darmo Sugondo St. Number. 83, Rejoagung, Kec. Ploso, Jombang, East Java. RSUD Ploso is a type D hospital which has the first pass accreditation. RSUD Ploso involves 179 health workers and 80 of them are nurses. Types of health services at RSUD Ploso include outpatient and inpatient services. Outpatient services comprise pediatric polyclinic, neurosurgery polyclinic, pulmonary polyclinic, internal medicine polyclinic, surgical polyclinic, general polyclinic, skin and genital polyclinic, and dental polyclinic. Inpatient services consist of adult inpatient unit, child inpatient unit, neonate inpatient unit, inpatient operations chambers units, emergency installations, and isolation inpatient unit.

Based on data from nurses at Ploso Hospital, Jombang, in 2017 to 2020, there were four incidents of needle sticks in nurses in RSUD Ploso. According to the pyramid theory of accident it describes an event that causes a loss, it is possibly caused by near miss that is not identified or has not been controlled properly. The results of interviews with nurses showed that six of ten nurses had experienced near miss such as almost being injured by medical objects. In addition, seven of ten nurses have been hit by an object without causing any injury.

Some parts of the building in RSUD Ploso, Jombang have a roof leak, causing a puddle of water which causes the floor to be slippery when it rains. Yuantari and Hafizhatun (2018) stated that slippery work areas increase the risk of workers slipping or

falling. RSUD Ploso has SOPs related to Personal Protective Equipment (PPE) as well as guidelines for its use which aim to minimize near miss and accidents. This is supported by Salmawati, Rasul and Napirah (2019) that the use of PPE is related to near miss or accidents in nurses. RSUD Ploso has an Infection Prevention and Control team that facilitates reporting of potential infections such as nosocomial infections. However, reporting related to near miss and accidents among nurses has not been reported optimally. This causes low data related about near miss or accident among nurses. This also has an impact on the low level of awareness about near miss among nurses.

The purpose of this study was to find the relationship between compliance of PPE usage and housekeeping with near miss among nurses at RSUD Ploso. The results of this study are expected to be one of the inputs for planning prevention programs and hospital management programs related to near miss. This research may be one of the considerations in making decisions regarding near miss at the Hospital.

METHODS

The research is a descriptive observational study with cross-sectional design. This research was conducted on the nurses in RSUD Ploso, Jombang. Determination of the sample using the total population method and obtained as many 53 nurses RSUD Ploso, Jombang. This research was held in February 2021 RSUD Ploso, Jombang. This research has ethical approval with number 032/HRECC.FODM/I/2021.

The independent variable used in this research is the compliance of PPE usage and housekeeping and the dependent variable is near miss among nurses at RSUD Ploso, Jombang. The method of data collecting in this research was using a questionnaire for immediate causes (compliance of PPE usage and housekeeping) and near miss. The questionnaire is based on Regulation by Minister Health Number 27 about Guidelines for Infection Prevention and Control in Health Care, questionnaire of housekeeping, and questionnaire of near miss by Frank E. Bird (Nugraha, Desrianty and Irianti, 2015). The compliance of PPE usage is categorized based on the Regulation by Minister Health Number 27 of 2017 about Guidelines for Infection Prevention and Control in Health Care Facilities which has five different categories, namely terrible, bad, fair, good,

very good. The categorization of housekeeping is based on Khaqiiqudin (2019), which also has five different categories namely terrible, bad, fair, good, very good. Furthermore, the categorization of near miss consists of low, moderate, and high.

Data analysis used the SPSS version 26 application with cross-tabulation and Spearman analysis to find out the relationship between compliance of PPE usage and housekeeping with near miss by reading the correlation coefficient.

RESULTS

The results were obtained using an instrument in the form of a questionnaire related to immediate causes (compliance of PPE usage and housekeeping) and near miss. The distribution of variables can be seen in the following table and explanation.

Immediate Causes

Compliance of PPE Usage

According to table 1, it shows that most compliance of PPE usage among nurses is categorized as good (66%). The assessment of compliance of PPE usage is based on the use of closed footwear, the use of PPE depends on the type of action, sequence of use, hand hygiene, and PPE removal techniques. From the results of the study, it was found that there were nurses who changed their footwear while working by using flip-flops.

Housekeeping

Moreover, Table 2 shows that nurses' perceptions about the application of housekeeping in RSUD Ploso, Jombang are in good category (58.5%). This perception is based on several aspects, namely the tidiness of the arrangement of equipment or goods in the workplace, the placement of unused

Table 1. Distribution of Compliance of PPE Usage of Nurses at RSUD Ploso, Jombang 2021

Compliance of PPE Usage	Frequency (n)	Percentage (%)
Terrible	0	0
Bad	0	0
Fair	7	13.2
Good	35	66
Very Good	11	20.8
Total	53	100

items, and the assessment of the tidiness of the workspace.

Near Miss

In the intermediate category, 49.1% of nurses had a near miss, according to Table 3. This figure is similar to the high category of near miss reported by 45.3% of nurses. Nurses frequently encounter near miss, which occur when they come dangerously close to being hit or colliding with things in the workplace such as tables, beds, wheelchairs, and trolleys. In addition, nurses frequently have near miss with medical objects, almost causing injury.

Correlation between Compliance of PPE Usage with Near miss

Table 4 shows that the majority of nurses with the level of compliance of PPE usage in very good category experienced near miss in the low category of (90.9%). Based on the analysis results, it is stated that the correlation coefficient is -0.455, which means that the relationship between both variables is moderate category with a negative direction. The conclusion from the test results is that the higher the level of compliance of PPE usage by nurses, the lower the near miss. This is because the nurse's self-protection system by using PPE can increase the level of safety and security of nurses, thereby reducing near miss among nurses.

Table 2. Distribution of Housekeeping at RSUD Ploso, Jombang 2021

Housekeeping	Frequency (n)	Percentage (%)
Terrible	0	0
Bad	0	0
Fair	2	3.8
Good	31	58.5
Very Good	20	37.7
Total	53	100

Table 3. Distribution of Near Miss among Nurses at RSUD Ploso, Jombang 2021

Near Miss	Frequency (n)	Percentage (%)
Low	24	45.3
Moderate	26	49.1
High	3	5.7
Total	53	100

Correlation between Housekeeping with Near Miss

Table 5 shows that the majority of nurses have very good perceptions about the application of housekeeping experience near miss in low category (60%). The analysis results are a correlation coefficient of -0.259 for both variables, which means that there is a weak relationship between the two variables. The direction of the relationship between the two variables is negative. Based on the results of the study, it can be concluded that the better the nurse's perception of the application of housekeeping, the lower the near miss.

DISCUSSION

Immediate Causes

Compliance of PPE Usage

The role of management in the implementation of Occupational Health and Safety is the most important aspect. This is in accordance with the Regulation of the Minister of Health of the Republic of Indonesia Number 66 of 2016 concerning Hospital

Table 4. Correlation between Compliance of PPE Usage with Near Miss among Nurses at RSUD Ploso, Jombang 2021

Compliance of PPE Usage	Near miss					
	Low		Moderate		High	
	n	%	n	%	n	%
Fair	2	28.6	3	42.9	2	28.6
Good	12	34.3	22	62.9	1	2.9
Very Good	10	90.9	1	9.1	0	0
Correlation Coefficient (rs) = -0.455						

Table 5. Correlation between Housekeeping with Near Miss among Nurses at RSUD Ploso, Jombang 2021

Housekeeping	Near miss					
	Low		Moderate		High	
	n	%	n	%	n	%
Fair	1	50	0	0	1	50
Good	11	35.5	18	58.1	2	6.5
Very Good	12	60	8	40	0	0
Correlation Coefficient (rs) = -0.259						

Occupational Health and Safety which states that one of the scopes of Hospital's Occupational Health and Safety Management System is the establishment of policies that are the authority of the management.

The policy forms the basis for the implementation of occupational health and safety in the workplace, so it can control potential hazards in the workplace and prevent near miss. In addition, the role of management in implementing occupational health and safety is not limited to providing policies, but also infrastructure and programs that can facilitate the implementation of occupational health and safety.

Nurses in RSUD Ploso, Jombang, have a high level of PPE compliance. PPE plays an essential part in assisting nurses in their profession. The purpose of personal protective equipment (PPE) is to protect nurses from hazards in the workplace and to guarantee that nursing tasks are sterile. One of the risk controls, according to the Minister of Health's Regulation No. 66 of 2016, is the use of OSH in hospitals (Ministry of Health, 2016). As an effort toward realization, RSUD Ploso, Jombang has provided free PPE for use by nurses.

The high level of PPE compliance perception is expressed by the results of the questionnaires and interviews which showed that the SOP related to the implementation of the occupational health and safety in the hospital had been well-communicated by the management. It aims to provide knowledge and information to nurses related to efforts to implement safe and secure work that encourages compliance in acting. Compliance with occupational health and safety lth SOPs plays a role in building safe behavior at work and preventing the occurrence of near miss or work accident (Safitri and Widajati, 2019).

Another effort carried out by RSUD Ploso, Jombang in ensuring the safety and health of nurses during work is providing facilities, infrastructure, and visiting programs. This is exemplified by the provision of PPE, work equipment, light fire extinguishers, and several others. In addition, RSUD Ploso, Jombang also provides supporting programs such as education or training, for example, education related to PPE and infection which is carried out once a year.

However, the delivery of education related to near miss has never been carried out by the management. Delivery of education carried out by RSUD Ploso, Jombang aims to increase the knowledge of nurses in the field of occupational health and safety. Research by Hanifa, Respati and

Susanti (2017) states that increasing knowledge can increase the efforts to implement occupational health and safety carried out by nurses in the workplace.

Housekeeping

The arrangement of cables in the nurse's room in RSUD Ploso, Jombang, was still not neat and quite dangerous for nurses. In addition, the nurses also assessed that the floor in the hospital was perforated and slippery when it rained. Ploso Hospital nurses have a habit of placing work items or equipment according to their original location. This causes time efficiency in the search for goods or work equipment. Kristianti and Tualeka (2019) stated that a neat work environment can reduce the incidence of near miss and make work more efficient.

Housekeeping or better known as sort, sustain, set in order, shine, and standardize (5S) is an effort to create a clean, tidy and comfortable work environment. Liliana (2018) states that the application of housekeeping not only aims to make the workplace neat but also the arrangement of work equipment or objects that are appropriate and safe so that work can be carried out effectively and efficiently and prevent accidents.

Near Miss

The study's findings expressed that all nurses had experienced near miss with varying severity depending on the frequency of events (100 %). Some nurses have had direct contact with hazardous chemicals (without the use of PPE) either by inhalation, splashing, or spilling onto body parts. However, only a few nurses have had direct contact with patient body fluids without PPE. Nurses also complain of overexertion or working too hard where the condition of the body is tired but they are still working. Nurses sometimes make exchanges outside of the supposed shift schedule because of fatigue experienced so they have more time to rest. Management role that must be implemented is to facilitate reporting related to unsafe conditions and behavior in the workplace or near miss to work accidents. The near miss occurrence among nurses is something that is still considered normal so that there is no near miss reporting flow applied at Ploso Hospital, Jombang. This is unfortunate because the results of the near miss report can be used as material for prevention so that in the future it does not cause a work accident with large losses. Thoroman Goode and Salmon (2018) state that near miss reporting has an important role in preventing work accidents.

Correlation between Compliance of PPE Usage with Near miss

The Regulation of the Minister of Health Number 27 of 2017 concerning Prevention and Infection Control in Health Care Facilities states that personal protective equipment (PPE) is a useful tool to protect nurses from several potential hazards in the workplace such as chemical, biological, physical, and infectious hazards (Ministry of Health RI, 2017). PPE is vital equipment for nurses to ensure the safety and security of themselves or patients. As protection or protection, the use of PPE can minimize near miss or reduce the severity caused by potential hazards in the workplace.

Table 4 shows that the better the level of compliance of PPE usage, the lower the near miss experienced. Khaqiqudin (2019) states that the high awareness of workers to use PPE during work and depending on the type of danger faced will reduce the risks experienced, for example, near miss or accidents and occupational diseases. Setiawan, Tambunan and Kuncoro (2019) stated that negligence of PPE usage has an impact on the risk of experiencing something dangerous. This shows that the low of PPE usage illustrates the low level of self-protection against a hazard so that it is vulnerable to near miss and accidents or occupational diseases.

Safitri and Widajati (2019) state that PPE usage can reduce the possibility of near miss, for example, using shoes to avoid slipping, and others. In addition, the use of PPE in the health sector is important because it prevents the transmission of infectious diseases between patients and nurses or vice versa. This is in accordance with the research of Suharto and Suminar (2016) which explained that the use of PPE for nurses had a more important role in preventing infection in hospitals.

The reason for the relationship between the variable of compliance with the PPE usage with near miss is in the medium category because nurses have an obligation to provide safe nursing actions and protect themselves from potential hazards by using PPE. Nurses at RSUD Ploso, Jombang already have a good compliance of PPE usage. However, there are some nurses who have not complied with the overall PPE usage based on the hazards. Based on the results of the study, it was shown that there were nurses who had near miss such as almost slipping due to wearing flip-flops and direct contact with hazardous chemicals without PPE. Several nurses also said that they had near miss like being electrocuted by work

equipment that carried electricity. This happens due to direct contact without the use of PPE that is an insulator, such as latex gloves.

Furthermore, nurses frequently use gloves to write reports or keep track of nursing actions. This results in the spread of viruses or germs in nurses' stationery or smartphones, and can be a near miss. Aryantiningsih (2016) states that workers who do not use PPE completely have a 6.8 times higher risk of near miss or accidents than workers who use complete PPE.

Based on the results of observations and interviews, it shows that there are several reasons nurses do not use PPE, such as discomfort and it does not appear a severe risk. Zahara, Effendi and Khairani (2017) state that the reasons people don't use PPE are discomfort, lack of knowledge and awareness of the risks that will be faced when not using PPE. In addition, the use of PPE that is not up to standard (loose, gapped, not properly attached, etc.) causes the effectiveness of the function of PPE to decrease. This is the same as not getting protection against potential hazards, which increases the risk of experiencing near miss.

Nurses work in a high-risk work environment, so compliance with the use of PPE is absolutely necessary. The danger in the hospital is not only contracting a disease or experiencing an infection, but also a work accident. In accordance with the Regulation of the Minister of Health Number 66 of 2016 concerning Hospital Occupational Health and Safety, it is stated that one of the risk control efforts is the use of PPE in accordance with the type of work of nurses. As an effort to make this happen, Ploso Hospital, Jombang has provided PPE for free for use by nurses. In addition, efforts to increase awareness of the use of PPE have been carried out regularly, namely once a year by the PPI team.

Some of the topics presented included how to use and remove PPE, hand-hygiene, the impact of not using PPE, and others. However, these efforts have not guaranteed the compliance of nurses in the use of PPE, which is proven that there are still nurses using flip-flops and even not using PPE. This is due to the low level of supervision carried out. Research by Lobis, Ariyanto and Warsini (2020) states that supervision has an influence on the level of compliance with the use of PPE in workers. Supervision is an assessment and correction activity related to the performance of nurses so that the work done is appropriate. Implementation of routine supervision will form a habit of using PPE for

nurses. Ploso Hospital, Jombang has implemented a compliance audit of the use of PPE which is carried out every month but has not been accompanied by the application of strict sanctions and awards for nurses who have used PPE appropriately.

Correlation between Housekeeping with Near Miss

Table 5 shows that the better the implementation of housekeeping in the hospital, the fewer the near miss. Khaqiqudin (2019) states that poor housekeeping contributes to near miss. It because the work environment that applies housekeeping will be free from potential hazards, such as piles of unused objects, messy cables, and others. Kristianti and Tualeka (2019) state that a messy work environment increases the risk of near miss.

The results showed that the application of housekeeping was not an inhibiting factor for near miss which was characterized by the value of the correlation coefficient in the weak category. This is because the near miss that occurs is mostly caused by human error or unsafe behavior. Moreover, Rifqi and Dyah (2018) show that the implementation of housekeeping has a weak category relationship to near miss. This is because the near miss is mostly caused by human error or unsafe behavior. This supports the opinion of Mutia, Ekawati and Wahyuni (2017) that accidents are mostly caused by unsafe behavior, followed by unsafe conditions, and other contributing factors. Based on this, it shows that housekeeping is one of the factors in working conditions that contributes little to the cause of near miss.

The reason for the weak relationship between the variables of housekeeping and near miss is that the unsafe behavior is still a dominant factor in nurses, for example, the use of PPE that isn't appropriate and doesn't work carefully. According to nurses, the implementation of housekeeping at RSUD Ploso, Jombang has been categorized as good. The implementation of housekeeping is such as the presence of unused objects or equipment that have been separated from objects that were still used. However, the placement of unused items has not been placed in an adequate container.

Some maintenance rooms dispose of unused equipment in small containers that are placed at the edge of the room corridor with a capacity that exceeds the container. An example of unused equipment is used PPE. Although the arrangement of used PPE does not interfere with the movement

of nurses in providing services, this condition is dangerous because of the source of biological hazards in the PPE.

The neat level applied at Ploso Hospital, Jombang is not run optimally. This is indicated by the arrangement of cables in several rooms that have not been neatly arranged and there is no protection (cable cover) so that there is a risk of causing nurses to trip over cables on the floor. In addition, the arrangement of work equipment such as incubators, cardiac recording devices (ECG), and others are placed in corridors which may hinder the movement of nurses and cause difficulty in taking equipment.

The application of neat levels in file management or administration has been given a written label and a sign with different colors of book or map according to its function. However, the file placement is still random sometimes, so it takes more time to search. Some work equipment or health equipment has been equipped with labels and how to use it as stated in the SOP (Standard Operational Procedures).

The application of the level of shine at Ploso Hospital, Jombang is in the form of daily cleaning of the nurse's room or patient's room carried out by the cleaning service. These activities include sweeping and mopping which is carried out every change of work shift. This is to keep the floor clean and not slippery. However, during the cleaning activity, the 'Beware of Slippery Floor' sign has not been installed, so it has the potential to cause nurses to slip.

Cleaning or mopping activities is needed regularly to determine the condition of the floor so that repairs can be carried out. Based on the results of observations, it showed that there was a puddle of water due to roof leaks so that roof repairs were carried out to prevent leakage again. The results showed that nurses complained of slippery floors and the potential for slipping, especially in rainy conditions. In addition, service rooms are routinely cleaned with disinfectants to prevent exposure to biological hazards when there is direct contact.

Christian (2018) states that the application of care and diligence is a continuation of the previous three levels, namely concise, neat, and clean. The implementation of maintenance will take place automatically when the 3Rs have been met, for example, inspection and maintenance activities so that there is no damaged work equipment. The application of care at the Ploso Hospital, Jombang is the conduction of a regular assessment regarding the

work area. For the example, a once a month work area assessment. This activity aims to check the condition of work equipment and recommendations for repairing tools if there is damage. The existence of this activity encourages nurses to compete in arranging the work area as well as possible so that there are some brainstorming activities between nurses regarding the arrangement of the workplace that feels good and comfortable.

Efforts to implement housekeeping at Ploso Hospital, Jombang have not been carried out evenly in every room so there needs to be a policy for implementing housekeeping (5S) that is determined and communicated to nurses. Based on the results of the interview, it shows that nurses do not know about housekeeping (5S) because there is no introduction and application of 5S. Nurses only know about efforts to maintain tidiness promoted by RSUD Ploso, Jombang.

Mahawati (2020) mentions that the implementation of housekeeping also needs supporting facilities such as the provision of cabinets or shelves. Some supporting facilities that need to be added by RSUD Ploso, Jombang are medical waste bins and medical equipment storage space in the treatment room. Not only that, there needs to be socialization activities and training related to the importance of implementing housekeeping in hospitals as well as exposure related to risks that may occur when the workplace is messy.

The other program of housekeeping implementation is daily cleaning of the nurse's room or patient's room by the cleaning servicer and assessing the tidiness of the nurse room monthly.

CONCLUSION

Compliance of PPE usage in nurses and the housekeeping are in the good category. Near miss that occurs among nurses has a moderate category. Based on the result, the compliance of PPE usage also has a moderate relationship with near miss. The relationship of housekeeping and near miss has a moderate category. It is because the nurses know about the important of using PPE and the good implementation of housekeeping in the hospital.

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