



Analysis of PPE Use with Occupational Disease Risk Control: Analytical Study of Ppe Use at The Sudiang Raya Public Health Center, Biringkanaya District, Makassar City

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A B S T R A C T

The use of PPE is closely related to occupational diseases caused by work factors or diseases acquired while doing work and occur over a long period. This study aimed to determine the relationship between Knowledge, Compliance with the use of PPE, Availability of PPE, Implementation of Standard Operating Procedures (SOP) for the use of PPE and PPE Implementation Policy with Occupational Disease Risk Control. This research is quantitative with an analytic survey approach using a cross-sectional study method. The population in this study were all health workers with a total sample of 28; the sample was all nurses/doctors and midwives. Based on the square or comparative test results to determine the relationship between occupational disease risk control. The results showed that there was no relationship between knowledge ($P=0.608$), there was a relationship between the availability of Personal Protective Equipment (PPE) ($P=0.002$), Standard Operating Procedures (SOP) ($P=0.004$), Compliance with using Personal Protective Equipment (PPE) ($P = 0.000$). There is no relationship between policy ($P = 0.0604$) and controlling the risk of occupational diseases. Interventions are needed to ensure the availability of personal protective equipment (PPE) such as masks, and protective goggles, adherence to the use of self-protection equipment (PPE), and the implementation of Standard Operating Procedures (SOP) in each unit requires complete control so that the Standard Operating Procedures (SOP) are implemented, and adherence to the use of Personal Protective Equipment (PPE) requires awareness/not negligence in using Personal Protective Equipment (PPE) when serving patients to avoid risks occupational illness.

INTRODUCTION

The Community Health Center, better known as the Community Health Center is a health service facility that organizes community health efforts and individual health efforts. According to Hendrik L. Blum, quoted by Khaerun Mawartisna Azzahra (2021), Health Services are one of the factors in improving the degree of public health by prioritizing the security and safety of patients, officers and visitors so that the Community Health Center is a workplace that has a high risk of diseases caused by work or occupational diseases, the risk of contact with infectious agents with blood and body fluids (biological hazard) as well as needle sticks of sharp instruments which can act as the transmission of various diseases such as hepatitis B, Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/Aids) of the patients they treat. These hazards can cause health problems for health workers and can be at risk of illness and even death (Azzahra, 2021).

Nurses are the most health workers, comprising almost all health workers in Community Health Centers. Nurses beside and in direct contact with patients take many actions using sharp instruments and a work atmosphere with high stress and fatigue, which can potentially cause occupational diseases. The cause of

the risk of occupational disease due to non-compliance with the use of Personal Protective Equipment (PPE), the occupational health and safety behaviour of nurses at the Public Health Center is fundamental because even the slightest action of a nurse can pose a risk to nurses and patients. According to the World Health Organization (WHO), nurses are a group that is at risk of injury. The annual injury rate reaches 10-20 people per 1000 workers while the cleaning staff reaches 180 people per 1000 workers, which means it comes from incised and stabbed wounds in sharp waste (Kemenkes R I, 2015). While data from the Occupational Safety and Health Administration (OSHA) in 2013 found in the study that the causes of injury to health workers included fatigue due to movement related to patient handling 48%, sprains or falls 25%, contact with dangerous tools 13% acts of violence in patients 1% exposed to exposure to hazardous substances 4%.

Efforts to implement Occupational Health and Safety must be implemented in all workplaces, especially workplaces that have a risk of health hazards being easily infected with disease or have the least number of employees to reduce the presence of hazards that can have an impact on the health of workers or patients who are taking medication for improve service quality by prioritizing occupational health and safety aspects at the Public Health Center.

The existence of incidents in patients is the basis for the importance of patient safety efforts in health care facilities, such as the use of Personal Protective Equipment (PPE), because several factors can cause incidents of patient safety, namely health care facilities besides that, the impact arising from patient safety incidents decreased patient satisfaction so that it affects the quality of health services.

Personal Protective Equipment (PPE) is a tool used to protect oneself or the body against the hazards of work accidents which technically can reduce the severity of work accidents in nurses and patients. This Personal Protective Equipment (PPE) only reduces the number of hazardous contacts by placing a barrier between the workforce and patient dangers and vice versa. Nurses must use Personal Protective Equipment (PPE) to avoid occupational safety risks in serving patients at the Public Health Center. Unsafe behaviour in nurses when working without using personal protective equipment (PPE) according to standards can result in work accidents and cause work-related illnesses. Injury due to needle sticks in nurses is a significant problem in healthcare institutions. When nurses accidentally stab themselves with needles that have previously entered the body tissues of nursing patients are at risk of contracting at least 20 potential pathogens.

In this case, related to Personal Protective Equipment (PPE), the Government has established Occupational Safety and Health, regulated in Law No. 1 of 1970, concerning Occupational Health Safety enforced in Industry (Presiden RI, 1970). Apart from that, there is also an instruction from the Minister of Manpower No. 02/M/BW/BK/1984 regarding the approval of Personal Protective Equipment (PPE) and an instruction

from the Minister of Manpower No. Ins 05/M/BW/1997 concerning supervising Personal Protective Equipment (PPE) and Circular No. SE/05/BW/1997 concerning Personal Protective Equipment (PPE) (Menteri Tenaga Kerja, 1997; Direktur Jenderal Pembinaan Hubungan Industrial dan Pengawasan Ketenagakerjaan, 1997).

From the description above, the researcher is interested in researching the factors related to using personal protective equipment (PPE) in health workers at the Sudiang Raya Community Health Center, Biringkanaya District, Makassar City. By the initial observations, the researchers found that the working area of the Public Health Center was expansive. The availability of Personal Protective Equipment (PPE) needed to be improved to meet the needs of nurses, midwives, doctors and other officers, and the use of Personal Protective Equipment (PPE) needed to be improved. Not by procedures such as in the action and Maternal and Child Health rooms. The availability of Personal Protective Equipment (PPE) is crucial. It must be adequate, as well as the application of Standard Operating Procedures (SOP), which must be clear that using Personal Protective Equipment (PPE) for health workers can be prevented occupational diseases and avoid existing infectious diseases. at the Sudiang Raya Community Health Center, Biringkanaya District, Makassar City.

METHOD

The research design used is a cross-sectional study design. Analytic research aims to examine the relationship between the independent variables and the dependent variable. The cross-sectional study approach collects the independent variable data and the dependent variable simultaneously. The variables examined in this study were the dependent variables, namely the analysis of the use of personal protective equipment (PPE) in controlling the risk of occupational diseases. This study used an observational analytic survey to determine the use of Personal Protective Equipment (PPE) for controlling the risk of occupational diseases at the Sudiang Raya Community Health Center, Biringkanaya District, Makassar City. This research was conducted at the Sudiang Raya Community Health Center, Biringkanaya District, Makassar City, from July 19 to September 14, 2021. The population in this study were all health workers at the Sudiang Raya Public Health Center, Biringkanaya District, Makassar City, totalling 28 people. At the same time, the sample in this study was all officers on duty at the Sudiang Raya Public Health Center, Biringkanaya District, Makassar City with 28 Officer Respondents. The sampling technique in this study is total sampling. Total sampling is when the number of samples equals the population (Sugiyono, 2017).

The data used in this study were obtained through data collection in the form of primary data and secondary data. Primary data was obtained by conducting a direct survey to obtain data that was not obtained from the local Community Health Center to obtain data by observation or direct observation.

Besides that, a questionnaire was also used to look at the risk factor variables that were considered related to the risk of occupational diseases. Inform consent was signed first by the respondent, and then the researchers collected data directly by conducting interviews and filling out questionnaires with nurses as respondents by visiting the Sudiang Raya Community Health Center. Before filling out the questionnaire, respondents received an explanation of the purpose and method of filling out the questionnaire from the researcher. Meanwhile, secondary data was obtained from institutions or other parties that could be trusted, namely data at the Sudiang Raya Community Health Center, Biringkanaya District, Makassar City.

While data analysis was carried out in two stages, namely 1) Univariate Analysis and 2) Bivariate Analysis. The independent variables in this study are knowledge, availability, SOP, compliance, and policies. Meanwhile, the dependent variable in this study was an occupational disease. The statistical tests used were the chi-square test and the Fisher's exact test to see the relationship with a significant total value ($p < 0.05$) if the p-value obtained was less than 0.05, then there is a significant relationship.

RESULT

This research was carried out in the work area of the Sudiang Raya Public Health Center, Biringkanaya District, Makassar City, South Sulawesi Province, in 2021. Data were collected from July 19, 2021, to September 14, 2021. risk of occupational diseases” with a total sample of 28 respondents. The research results obtained are as follows:

Univariate analysis

Based on the results of research at the Sudiang Raya Community Health Center from 19 July to 14 September 2021, the following results were obtained:

Table 1. Distribution of respondents based on age, gender, length of work, last education of health workers at the Sudiang Raya Community Health Center

Characteristics of Respondents	n	%
Age		
20-25 years	1	3.6%
26-40 years	15	53.6%
41-50 years	7	25%
51-65 years	5	17.9%
Gender		
Man	2	7.1%
Woman	26	92.9%
Length of work		
2-15 years	17	60.7%
16-31 years	11	39.3%
Last education		
Diploma	15	53.6%
Bachelor-Professional Nurse	13	46.4%
Total	28	100%

Source: Primary Data, 2021

Based on Table 1 above, it is known that the most age groups of respondents are 26-40 years, namely 53.6% and ages 41-50 years by 25% than those aged 51-65 years 17.9% while the minor age is 20-25 years of 3.6%. As for gender, it is known that the male respondent is 7.1%, while the female respondent is 92.9%, and the total percentage is 100%.

Table 1 above also explains the length of work, it is known that the length of work of Health Officers at the Sudiang Raya Community Health Center has the longest working time at the Community Health Center, 2-15 years at 60.7%, while the lowest is 16-31 years at 39.3%. As for the respondents' education. It is known that the last education of health workers at the Sudiang Raya Public Health Center is 2021. The education level of the most respondents is 15 people, 53.6%, while the education level that is the least Bachelor-Professional Nurse is 13 people with a percentage of 46.4%.

Research variable

Table 2. Distribution of respondents based on occupational diseases, knowledge of Personal Protective Equipment (PPE), availability of Personal Protective Equipment (PPE), Standard Operating Procedures (SOP), adherence to the use of Personal Protective Equipment (PPE) and policies for health workers at Community Health Centers Sudiang Raya

Research variable	n	%
Occupational illness		
Risky	17	60.7
No Risk	11	39.3
PPE knowledge		
Not enough	0	0
Enough	28	100
Availability of PPE		
Not available	11	39.3
Available	17	60.7
SOP		
Not done	16	57,1
Done	12	42,9
Obedience		
Not obey	20	71,4
Obey	8	28,4
Policy		
There are not any	0	0
There is	28	100
Total	28	100%

Source: Primary Data, 2021

Based on Table 2 above, it is known that 17 officers are at risk of work-related diseases with a percentage of 60.7%, and those who are not at risk of work-related diseases are 11 people with a percentage of 39.3%. It is known that the respondents' knowledge about Personal Protective Equipment (PPE) needs to be improved by a percentage of 0%. Respondents' knowledge is sufficient for as many as 28 people, with a percentage of 100%. As for the availability of Personal Protective Equipment (PPE), it was found that it was not available, with 11 respondents, with a percentage of 39.3%. Meanwhile, there were 17 respondents with a percentage of 60.7%.

Table 2 above also shows the Standard Operating Procedure (SOP) variable. It is known that the Standard Operating Procedure at the Sudiang Raya Public Health Center in 2021 was not carried out by a percentage of 57.1% of the respondents, 16 people, while it was carried out with a percentage of 42.9% of the respondents, 12 people. For the compliance variable, it was found that 20 respondents were non-compliant with the use of Personal Protective Equipment (PPE), with a percentage of 71.4%. At the same time, eight people were obedient, with a a percentage of 28.4%. As for the policy on using Personal Protective Equipment (PPE), 0% of the respondents stated that there were none, while those who stated that there were as many as 28 people, a percentage of 100%.

Bivariate Analysis

The statistical results of the relationship between knowledge of using Personal Protective Equipment (PPE) and controlling the risk of occupational diseases.

Table 3. Relationship between Knowledge, Availability of Personal Protective Equipment (PPE), SOP Standard Operating Procedures (SOP), Compliance and Policy with the Risk of Occupational Diseases at the Sudiang Raya Public Health Center

Research variable	Occupational illness				Total		<i>p</i>
	Risky		No Risk		n	%	
	n	%	n	%			
Knowledge							
Not enough	0	0.0	0	0.0	0	0.0%	0.608
Enough	11	39.3	17	60.7	28	100%	
Availability							
Not available	8	6.7	3	6.7	11	100	0.002
Available	9	10.3	8	4.3	17	100	
SOP							
Not Implemented	9	6.3	7	9.7	16	100%	0.004
Done	10	7.3	2	4.7	12	100%	
Obedience							
Not obey	9	12.1	11	7.9	20	100%	0.000
Obey	8	8.0	0	3.1	8	100%	
Policy							
There is no	0	0.0	0	0.0	0	100%	0.608
There is	11	39.3	17	60.7	28	0.0%	

Source: Primary Data, 2021

Based on the table above, 28 respondents who stated lack of knowledge were 0 (0.0%) at risk of 0 (0.0%) and not at risk of 0 (0.0). Then, 11 people (39.3%) had sufficient knowledge of using Personal Protective Equipment (PPE) and were at risk of exposure to work-related diseases. In comparison, those who were not at risk of exposure were 17 (60.7%) people. According to statistical tests using chi-square, a value (*p*-value = 0.608) was obtained because $P > 0.05$, then H_a was rejected. H_0 was accepted (no significant relationship existed between knowledge and occupational disease risk control). These results show no relationship between knowledge and the risk of occupational diseases at the Sudiang Raya Community Health Center, Biringkanaya District, Makassar City. As for the variable availability of Personal Protective Equipment (PPE), it is known that from 28 respondents who stated that Personal Protective Equipment

(PPE) was not available, 8 (6.7%) people were at risk of experiencing work-related diseases, and 3 (3) were not at risk of experiencing work-related diseases- 4.3%) people. Meanwhile, there were 9 (10.3%) people who stated that Personal Protective Equipment (PPE) was available and at risk of experiencing work-related diseases, and 8 (6.7%) people who were not at risk of experiencing work-related diseases. Based on data analysis using the square test shows that the value ($p\text{-value} = 0.002$), because $P < 0.05$, then H_0 is rejected, and H_a is accepted (there is a significant relationship between the availability of Personal Protective Equipment (PPE) and controlling the risk of occupational diseases).

Table 3 above also shows the relationship between the implementation of Standard Operating Procedures (SOP) and found that 16 respondents stated that it was not implemented and that 9 (6.3%) people were at risk of experiencing work-related illnesses, 7 (9.7%) people were not at risk. Meanwhile, 12 respondents stated that Standard Operating Procedures (SOP) had been implemented, and 10 (7.3%) were at risk of experiencing work-related illnesses, 2 (4.7%) people were not at risk. Based on data analysis using the square test, it shows that $P\text{-value} = 0.004$ because ($P < 0.05$) then H_0 is rejected, and H_a is accepted (there is a significant relationship between Standard Operating Procedures (SOP) and occupational disease risk control). For the variable adherence to the use of Personal Protective Equipment (PPE), it was found that from 20 respondents who stated that they were not adherent to the use of Personal Protective Equipment (PPE) and were at risk of occupational diseases as many as 9 (12.1%) people, and not at risk of occupational diseases as many as 11 (7.9%) people. Meanwhile, 8 respondents stated that they were obedient to the use of Personal Protective Equipment (PPE) and 8 (8.0%) people were at risk, 0 (3.1%) people were not at risk. Based on data analysis using the square test, it shows that $P\text{-value} = 0.000$, because ($P < 0.05$) then H_0 is rejected, and H_a is accepted (there is a significant relationship between compliance with occupational disease risk control). As for the policy variable, it was found from respondents stated that there was no 0 (0.0) risk 0 (0.0%) and no risk 0 (0.0%). In comparison, 28 respondents stated that there were and were at risk of experiencing occupational diseases, as many as 11 (39.3) people, who were not at risk as many as 17 (60.7) people. By the statistical test using chi-square, the value ($p\text{-value} = 0.608$) was obtained because $P > 0.05$, then H_a was rejected, and H_0 was accepted (there was no significant relationship between policy and occupational disease risk control). These results show no relationship between policy and the risk of occupational diseases at the Sudiang Raya Community Health Center, Biringkanaya District, Makassar City.

DISCUSSION

This study aims to determine the use of Personal Protective Equipment (PPE) to control the risk of occupational diseases at the Sudiang Raya Public Health Center, Biringkanaya District, Makassar City, in

2021. The discussion of the bivariate analysis results between the dependent and independent variables can be narrated as follows.

Knowledge about the use of Personal Protective Equipment (PPE) is the knowledge of nurses/doctors/other health workers about the use of Personal Protective Equipment (PPE) in which the respondents' understanding of Personal Protective Equipment (PPE) includes the acronym, definition, purpose, benefits and uses of Personal Protective Equipment (PPE) that is used daily in serving patients at the Public Health Center.

The results of this study indicate that these 28 respondents demonstrated sufficient knowledge about the use of Personal Protective Equipment (PPE) with a frequency of 100% in this study indicating that health workers at the Sudiang Raya Community Health Center as a whole know the meaning, purpose, benefits of using as well as the requirements for Personal Protective Equipment (PPE) that are used daily in serving patients. However, of 28 respondents, 11 people were at risk of developing occupational diseases due to the negligence and indifference of nurses and other health workers in using Personal Protective Equipment (PPE) when handling or serving patients. 17 respondents were not at risk of experiencing occupational diseases who stated that they had sufficient knowledge. Furthermore, none of the respondents stated a lack of knowledge in using Personal Protective Equipment (PPE) to Control the risk of occupational diseases.

From the results of the analysis to see the relationship between knowledge and occupational disease risk control using the statistic chi-square test, it obtained a value (p-value = 0.608) because $P > 0.05$ then H_0 was accepted and H_a was rejected (there was no significant relationship between the availability of protective equipment (PPE) by controlling the risk of work-related diseases).

This study's results differ from research conducted by Sarinah and Supri (2015) with the title Relationship between Knowledge and Attitudes to occupational health and occupational diseases in brick workers. It was stated that the better health workers' knowledge about Personal Protective Equipment (PPE) and work-related diseases, the lower the incidence of work-related diseases. Conversely, the less knowledge of health workers, the higher the risk of work-related diseases (Sarinah and Supri, 2015).

This result happens because independent (free) variables such as knowledge in conducting research at Public Health Centers with respondents such as doctors, nurses and midwives could be more efficient. After all, additional knowledge can be obtained through information dissemination and other technological tools, so doctors, nurses and midwives can easily access information.

Availability is the availability of sufficient facilities and personal protective equipment (PPE), ensuring that sufficient personal protective equipment (PPE) is available, in type and quantity, to protect all or part of the body for nurses, doctors and other health workers. Personal Protective Equipment (PPE) is available at the Sudiang Raya Community Health Center, Biringkanya District, Makassar City. There are sufficient

quantities and types, but several amounts of Personal Protective Equipment (PPE) are lacking and sometimes run out and need to be sufficiently used by all health workers such as masks. The number of stocks ordered, namely Personal Protective Equipment (PPE), is indeed in a less long period and only as needed shortly.

This study's results indicate a relationship between availability and risk control for occupational diseases at the Sudiang Raya Public Health Center, Biringkanaya District, Makassar City. Of 28 respondents who stated that it was not available, 11 were at risk of experiencing occupational diseases. As many as 8 (72.7%) and not 3 (27.3%) are at risk of experiencing occupational diseases. Meanwhile, 9 (52.9%) of respondents said that Personal Protective Equipment (PPE) was available and that they were at risk of experiencing work-related illnesses. As many as 9 (52.9%) and six respondents (47.1%) were not at risk.

From the results of the analysis to see the relationship between availability and risk control for occupational diseases using the statistic chi-square test, a value (p -value = 0.002) is obtained because $P < 0.05$ then H_0 is rejected and H_a is accepted (there is a significant relationship between the availability of Personal Protective Equipment (PPE) with occupational disease risk control).

The availability of Personal Protective Equipment (PPE) that does not comply with procedural standards causes the behaviour of nurses who do not use Personal Protective Equipment (PPE) when carrying out medical procedures. This research is in line with research conducted by Muhammad Zaki, Agnes Fergusel and Dian Maya Sari Siregar (2018), which states that there is a significant influence between the availability of facilities and the use of Personal Protective Equipment (PPE) which is the risk or can endanger health (Zaki, Fergusel and Siregar, 2018).

The results of the respondents' answers indicate that there is some availability of Personal Protective Equipment (PPE) which is not available in sufficient quantity for nurses and other health workers, such as masks for Emergency Room (ER) nurses and protective glasses used in treating patients because the items ordered are not according to the needs of nurses and other health workers.

Standard Operational Procedure (SOP) is any action based on existing rules the reference implements. In this study, the Standard Operating Procedure (SOP) in question assesses the implementation that has been agreed upon and carried out at the Sudiang Raya Community Health Center, Biringkanaya District, Makassar City. Sixteen people who stated that it was not implemented were at risk of experiencing work-related diseases, as many as 7 (43.8%) and not at risk of experiencing/exposed to work-related diseases, as many as 9 (56.3%) people. Meanwhile, as many as 12 people stated that it was implemented, 10 (83.3%) were at risk of experiencing/being exposed to work-related diseases, and 2 (16.7%) were not at risk. However, from the 12 respondents who stated that it was implemented, ten people were at risk of experiencing work-related illnesses. It happened because the controls carried out by each unit were carried

out in a partial amount. The report data were not verified, and the Standard Operating Procedures (SOP) such as Maternal and Child Health and pharmacies were unavailable. This statement can be seen/completed from the results of the questionnaire that was filled in by the respondent.

From the results of the analysis to see the relationship between Standard Operating Procedures (SOP) and controlling the risk of occupational diseases using the chi-square statistical test obtained $p\text{-value} = 0.004$ because ($P < 0.05$) then H_0 is rejected and H_a is accepted (there is a significant relationship between Standard Operating Procedures (SOP) with occupational disease control).

The results of this study are in line with research conducted by Mega Ceria Purnama Zebua (2020) and research conducted by Monica Gabriella Maliangkay, Mesak Rambitan and Prycilia Mamujaja (2021) at the Noongan Regional General Hospital. It was found that there is a relationship between Standard Operating Procedures (SOP) regarding behaviour nurses in the use of Personal Protective Equipment (PPE) with a $p\text{-value}$ of 0.000. This result indicated the need for Standard Operating Procedures (SOP) in increasing control of the risk of occupational diseases among nurses and other health workers (Zebua, 2020; Maliangkay, Rambitan and Mamujaja, 2021).

Compliance is the obedience of nurses/doctors/other health workers in carrying out regulations regarding using Personal Protective Equipment (PPE) and obedience to using it. Of which, 20 respondents who stated that they were not compliant with using Personal Protective Equipment (PPE) were at risk of experiencing/exposed to work-related diseases by 9 (45.0%) and not at risk of experiencing work-related diseases by 11 (55.0%) people. Meanwhile, respondents stated that they adhered to using Personal Protective Equipment (PPE) at risk of experiencing/exposure to work-related diseases by 8 (100%), not at risk by 0 (0.00%).

From the results of the analysis to see the relationship between compliance with occupational disease risk control at the Sudiang Raya Public Health Center, Biringkanaya District, Makassar City, using the chi-square statistical test, a $p\text{-value} = 0.000$ was obtained because ($P < 0.05$) then H_0 was rejected and H_a accepted (there is a significant relationship between Compliance with occupational disease risk control).

According to the results of the respondent's answers, the proper use of Personal Protective Equipment (PPE) must be carried out completely and correctly, such as using incorrect gloves and protective clothing, which are sometimes not used when treating patients. The reasons for using Personal Protective Equipment (PPE) are used when only for risky work, such as when treating injured patients and changing bandages on patients.

The results of this research are in line with research conducted by Rizka Ayu Zahara, Santoso Ujang Effendi and Nurul Khairani (2017) at the Bengkulu City Hospital (IPSR) based on the results of their research 27 officers were not compliant in using Personal Protective Equipment (PPE) and use it correctly

and adequately because nurses and other officers are not aware that their place is very at risk of causing occupational diseases (Zahara, Effendi and Khairani, 2017). As well as research conducted by Inayah Husna Sibarani (2014) with the title occupational diseases for Nurses on Duty at the Hospital, in this study, it was said that adherence to the use of Personal Protective Equipment (PPE) was influenced by several factors, including the attitudes and behaviour of the nurses themselves and limitations tools such as the availability of sufficient Personal Protective Equipment (PPE) to be used in serving patients as well as communication or outreach about the use of Personal Protective Equipment (PPE) to nurses and other health workers (Sibarani, 2014).

Policies are rules, both verbally and in writing, that are implemented and made by the leaders of the Public Health Center to increase the use of Personal Protective Equipment (PPE), namely all written and unwritten rules regarding policies on the use of Personal Protective Equipment (PPE) at the Sudiang Raya Public Health Center, Biringkanya District, Makassar City. The policy referred to in this study is everything related to using Personal Protective Equipment (PPE) for health workers issued by the Public Health Center when providing services to patients who visit the Public Health Center.

The results of this study indicate that out of 28 respondents, no respondents stated that there was no policy. In comparison, 11 respondents (39.3%) stated that there was a policy at risk of exposure to occupational diseases, and 17 (60.7%) did not have a risk. However, of the 28 respondents who stated that there was a policy, 11 people were at risk of experiencing work-related illnesses. The result happened due to a need for more awareness of the importance of using Personal Protective Equipment (PPE) when serving/handling/examining patients, as well as attitudes and reprimands from other nurse friends for one another. Remember to use Personal Protective Equipment (PPE).

From the results of the analysis to see the relationship between policy and occupational disease risk control using the statistic chi-square test, it obtained a value (p-value = 0.608) because $P > 0.05$, H_a was rejected, and H_o was accepted (there was no significant relationship between the availability of protective equipment (PPE) by controlling the risk of work-related diseases).

The results of this study are not in line with research conducted by Nia Supiana, Supriyatningsih and Elsy Maria Rosa (2015) with the title implementing policies and Assessing the Use of Personal Protective Equipment (PPE) by Doctors and Midwives in the delivery and postpartum wards at the Muhammadiyah General Welfare Development Hospital. Yogyakarta Unit I 2014/2015 states that a significant relationship exists between existing and well-implemented policies, reducing the risk of work-related diseases and not implementing the policy correctly, affecting health workers' risk of work-related diseases. This result because the policy that regulates workers' use of Personal Protective Equipment (PPE)

that states that workers need Personal Protective Equipment (PPE) to protect themselves and must be obeyed was unwritten (Supiana, Supriyatiningih and Rosa, 2015).

According to Notoatmodjo, quoted by Inayah Husna Sibarani (2014) with the title of the article, occupational diseases for nurses on duty in hospitals policy is a driving or reinforcing factor for the occurrence of a behaviour. These factors include laws, regulations, supervision and other factors, then refer to the rules of Law No. 1 of 1970 concerning Work Safety (Presiden RI, 1970; Sibarani, 2014). Permenakertrans No: Per: 01/Men/1981, in the Minister of Manpower and Transmigration of the Republic of Indonesia regulations No. Per 08/VII/2010, it is explained that: a) Article 4 paragraph 3, "administrators are required to provide free of charge all self-protection equipment required to use by workers under their leadership to prevent occupational diseases. b) Article 5, paragraph 2, workers must wear mandatory self-protection equipment to prevent occupational diseases" (Kementerian Tenaga Kerja dan Transmigrasi, 1981; Menteri Tenaga Kerja dan Transmigrasi, 2010). Furthermore, the Standard Operating Procedures (SOP) Regulations at the Sudiang Raya Public Health Center, Biringkanaya District, Makassar City, regarding the use of personal protective equipment must be developed, and determine the qualifications for implementing officers who can recognize the types of self-protection equipment and officers who can know the function of personal protective equipment.

CONCLUSION

Based on the results of this study regarding the analysis of the use of Personal Protective Equipment (PPE) with occupational disease risk control at the Sudiang Raya Public Health Center, Biringkanaya District, Makassar City, the following conclusions can be drawn: 1) There is no significant relationship between knowledge and risk control occupational disease; 2) There is a significant relationship between the availability of Personal Protective Equipment (PPE) and controlling the risk of occupational diseases; 3) There is a significant relationship between Standard Operating Procedures (SOP) and occupational disease risk control; 4) There is a significant relationship between compliance with occupational disease risk control; and 5) There is no significant relationship between policy and occupational disease risk control. So it is suggested to the Sudiang Raya Health Center that the availability of PPE should be carried out with a maximum stock of goods (PPE) such as masks and protective goggles. Then the SOP implementation policy is implemented in each unit while maintaining complete control so that each officer can properly and correctly use PPE.

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