

Effect Of Sop Implementation And Ppe Usage On Needle Puncture Incident On Nurses In Rsud Siti Fatimah South Sumatera Province

Muhammad Rizkian Elsaputra^{1*}, Mika Vernicia Humairo²

Research and Community Service Unit, Faculty of Public Health, Institut Ilmu Kesehatan STRADA Indonesia

**Corresponding Author: mhd.rzkn999@gmail.com*

ABSTRACT

Needlestick injuries in healthcare workers are a significant problem in healthcare institutions today it is estimated that more than one million needles are used each year by nurses. When a nurse accidentally stabs herself with a needle that has previously entered the patient's body tissue, the nurse is at risk of contracting hepatitis B (HBV), as well as *Human Immunodeficiency Virus* (HIV). This study was conducted by quantitative methods with *cross sectional* observation research design, based on these problems this study was used to see whether the effect of the application of SOP and the use of PPE on the incidence of work accidents in RSUD Siti Fatimah South Sumatra province. And the results showed that the application of SOP is good with a value of 52.0% along with the results of logistic regression analysis showed a p value of $0.024 < 0.05$ then reject H_0 , while the observance of the use of PPE is also good with a value of 68.8% along with the results of logistic regression analysis showed a p value of $0.012 < 0.05$ then reject H_0 , and the incidence of pinprick work accidents has experienced 13 people (10.4%). So based on the table R Square can be seen that the application of SOP and the use of PPE has an effect with a value of 0.416 (41.6%).

Keywords: Application Of SOP, Influence, Pinprick Work Accident, Use Of PPE.

INTRODUCTION

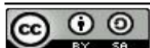
Health workers as human resources in running health services in hospitals is an important resource and is needed to achieve optimal performance (Ridwan, 2013). One of the high-risk occupations is Hospice. Overall, the public and hospital staff are less aware of the various potential risks that exist. "Occupational diseases in hospitals can affect all workers, both medical and non-medical personnel" (Anies, 2005: 123).

The two pathogens are hepatitis B (HBV) and human immunodeficiency virus (HIV). In addition, it is also vulnerable when health workers do recap (inserting used needles into the lid before disposal). The Centers for Disease Control and Prevention (CDC) estimates that 385 hospital health workers in the United States are injured each year by sharp objects contaminated with blood (Sihono, 2012).

The Siti Fatimah Regional General Hospital (RSUD) of South Sumatra Province located in Palembang city is a new hospital that has been running for 3 years since its establishment in 2018. RSUD Siti Fatimah South Sumatra province is a health service that also certainly has a risk of health hazards, not only for patients and visitors to the hospital, but also for nurses who work at the hospital.

Based on preliminary observations with the head of Education and research staff on August 18, 2021, it was found that the Siti Fatimah Hospital of South Sumatra province had passed hospital

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accreditation plenary by the Hospital Accreditation Commission (KARS), through the K3 Committee, information was also obtained that work accidents still exist and occur in nurses, the type of work accidents that often occur are accidents caused by needles. RSUD Siti Fatimah South Sumatra province already has a policy of SMK3 guidelines, but judging from the cases that occur, the implementation of the SMK3 guidelines is still not optimal.

Based on this background, the researcher wanted to conduct a study on "the effect of SOP implementation and the use of PPE on the incidence of needle punctures in nurses at Siti Fatimah hospital in South Sumatra province". It is expected that the results of this study can be used as a medium for evaluation so that the application of Standard Operating Procedures (SOP) and the use of Personal Protective Equipment (PPE) in RSUD Siti Fatimah South Sumatra province can be applied and managed properly so as to make hospital services to be maximized. With the implementation of SOP and the use of well-managed PPE, it is hoped that the case of needled work accidents that occur in nurses can be minimized, and may be eliminated so as to ensure the safety and health of nurses from diseases and infections that can occur due to needles.

METHODS

This research method uses quantitative research with cross sectional observation research design which is where the design of this study examines variations that can only be known more than one case or variable to be studied and carried out at a certain time. This study analyzes the influence or relationship by determining the effect/impact (outcome) first and then identifying the cause (risk factor).

The population in this study were nurses who served in RSUD Siti Fatimah South Sumatra province amounting to 180 people and the sample amounted to 125 people. Sample technique in this study using simple random sampling and data analysis using logistic regression test.

RESULTS

Tabel 1. Overall Model Fit

Iteration History						
Iteration		-2 Log likelihood		Coefficients		
				Constant		
Step 0	1	87.836		-1.584		
	2	83.567		-2.053		
	3	83.446		-2.150		
	4	83.446		-2.154		
	5	83.446		-2.154		
Iteration History ^{a,b,c,d}						
Iteration		-2 Log likelihood		Coefficients		
				Constant	Application of SOP	Use of PPE
Step 1	1	72.018	-2.961	.372	.485	
	2	58.563	-4.835	.728	.813	
	3	55.483	-6.226	1.019	1.025	
	4	55.118	-6.900	1.167	1.116	
	5	55.109	-7.025	1.196	1.131	
	6	55.109	-7.029	1.197	1.131	
	7	55.109	-7.029	1.197	1.131	

From the results of statistical tests above known value -2 log likelihood decreased from Block = 0 to block = 1 ie from 83.446 decreased to 55.109 which means that the entire model is fit with the data.

Tabel 2. Hosmer Test and Lemeshow Test

Hosmer and Lemeshow Test			
	Chi-square	Df	Sig.
	1.602	4	.808

From the results of the table above obtained the significance value of $0.808 > 0.05$ which means receive H_0 or can be said to be the model is in accordance with the significance value.

Tabel 3. Pseudo R-Square Determination Coefficient

Model Summary		
-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
55.109 ^a	.203	.416

From the results of the table above can be seen that the value of the results Nagelkerke R Square of 0.416, which means independent (application of SOP and use of PPE) in the study was able to explain the dependent variable (pinprick work accident) of 0.416 (41.6%) while the rest is explained by other variables outside this study.

Tabel 4. Classification Tabel

Classification Tabel				
Observed		Predicted		
		Needled Work Accident		Percentage Correct
Needled Work Accident	Never	Never	Ever	100.0
	Ever	13	0	.0
Overall Percentage				89.6

From the table above it is found that the research model is good because it is able to predict the research data with the results of the percentage correct value of 89.6%.

Tabel 5. Omnibus Test

Omnibus Tests of Model Coefficients				
		Chi-square	df	Sig.
	Step	28.337	2	.000
	Block	28.337	2	.000
	Model	28.337	2	.000

From the test results obtained omnibus test variable application of SOP and the use of PPE simultaneously significant effect on the variable pinprick work accident because the significance value of omnibus test of 0.000 (< 0.05) so reject H_0 .

Tabel 6. Wald test

	Variabels in the Equation							
	B	S.E	Wald	df	Sig.	Exp(B)	95% C.I for EXP (B)	
							Lower	Upper
Application of SOP	1.197	.531	5.087	1	.024	3.311	1.170	9.369
Use of PPE	1.131	.450	6.326	1	.012	3.098	1.284	7.480
Constant	-7.029	1.432	24.086	1	.000	.001		

From the results of the table above after the Wald test is known that :

1. The application of SOP has a significant effect on the incidence of pinprick because the significance value is 0.024 where this value is smaller than 0.05.
2. The use of PPE has a significant effect on the incidence of pinprick because the significance value of 0.012 where this value is smaller than 0.05.

DISCUSSION

A. Identification of SOP implementation in Siti Fatimah Hospital, South Sumatera province

From the results of the analysis using logistic regression test can be seen that the SOP application factor has a value of 0.024 or p value < 0.05 which means reject H0 so as to give the result of a significant influence of the variable pinprick work accident. Based on the results obtained in this study, it is known that the implementation (Standard Operating Procedures) SOP in RSUD Siti Fatimah South Sumatra has been fairly good. The results obtained by the number of 65 people (52.0%) stated that they were in the good category, then followed by the category of enough as many as 31 people (24.8%), and the category of less amounted to 29 people (23.2%). With controlled activities, of course, the targets to be achieved by the hospital can be realized optimally. Fatimah (2015) states that the purpose of implementing SOPs is to keep employee performance consistent, clarify the duties and responsibilities of each work unit, simplify the supervision process and save time on training programs because SOPs have been systematically arranged.

B. Identification of the use of PPE in RSUD Siti Fatimah South Sumatra province

From the results of logistic regression test PPE use Factor showed a value of 0.012 or p value < 0.05 which indicates that reject H0 so as to give effect to the variable pinprick work accident. From the results of testing conducted on the variables of PPE Use Research, explained that the level of use of PPE by nurses in RSUD Siti Fatimah South Sumatra province has been done well with the results of the test value with the amount of data as many as 86 people (68.8%), 12 people (9.6%) stated at the level of sufficient category, while the remaining 27 people (21.6%) stated less. In this case, although the use of PPE in Siti Fatimah hospital in South Sumatra province has been classified as well, but there are still numbers that record that nurses do not use PPE that must be disciplined again, the use of PPE is very important to be used by nurses because of their work in direct contact with patients. In line with research conducted by Novia (2014) States Personal Protective Equipment (PPE) is not a comfortable equipment when used but the function and essence of this tool is very large and important because and prevent occupational diseases or reduce the risk of accidents at the time of doing the job.

C. Identification of Needlestick Accidents at Siti Fatimah Hospital, South Sumatra Province

After the process of data retrieval and processing is known that in RSUD Siti Fatimah South Sumatra province there are 13 people (10.4%) who have experienced pinprick work accidents, while there are various reasons why this can happen such as being punctured when opening a new syringe (injection), not using PPE, drowsiness, fatigue, stress due to busy work pressure, being nudged, forgetting to close the syringe (injection) that has been used, and also unintentionally when cleaning used injection waste.

This is in line with the research conducted by Hermana (2015) in his research entitled “factors related to the occurrence of needlestick injuries or other sharp objects in nurses at the Cianjur District Hospital”, using a sample of nurses from the inpatient work installation unit, Central surgery and emergency unit to determine the number of nurses who have enough needed work accidents. high, most of the events are caused by syringes or tissue needle sewing, due to unsafe behaviors that occur such as not wearing gloves, putting syringes/tools on the action table, excessive workload and not using one-handed techniques.

Nurses are at risk of contracting at least 20 potential pathogens when they accidentally pierce themselves with a needle that has previously entered the tissue of a patient's organ. The two most active pathogens that commonly cause health problems are hepatitis B (HBV), and Human Immunodeficiency Virus (HIV).

D. Effect of SOP implementation and PPE usage on needled work accident in Siti Fatimah Hospital, South Sumatera province

From the results of the table R Square can be seen that the variable factor affects the influence of 0.416 (41.6%) on the incidence of pinprick work accident in RSUD Siti Fatimah Sumatera Sumatera Selatan province, while the rest is explained by variables outside this study were not studied. Based on the results of research conducted in this study can be seen that some respondents implementation of SOP with pinprick work accidents as many as 64 people (51.2%) have never experienced pinprick work accidents and concluded to be in the good category, while the respondents use of PPE with pinprick work accidents also obtained results in the good category as many as 82 people (67.2%) have never experienced pinprick work accidents. This is also in line with research conducted by Kurniawati et al (2013), in his research showed that 14 respondents have a tendency to have a chance of a syringe accident in the last 1 year. The results of bivariate analysis showed that the practice of applying SOP is related to the incidence of pinprick work accidents.

CONCLUSION

Based on the results of research on the effect of the application of SOP and the use of PPE on the incidence of needled nurses in RSUD Siti Fatimah South Sumatra province, it can be concluded as follows :

1. Based on the results obtained in this study, it is known that the application of Standard Operating Procedures (SOP) in RSUD Siti Fatimah South Sumatra has been fairly good with the results of a number of 65 people (52.0%) which value $>50\%$ with the results of logistic regression analysis showed a p value of $0.024 < 0.05$ then reject H_0 , which means there is influence of SOP application factors to the incidence of pinprick work accidents in RSUD Siti Fatimah Sumatera South Sumatra province.

2. Based on the results obtained in this study, it is known that the variable use of Personal Protective Equipment (PPE), explains that the level of compliance with the use of PPE carried out by nurses in RSUD Siti Fatimah South Sumatra province has been done well with the results of the data value of 86 people (68.8%) which value $>50\%$ with the results of logistic regression, which means that there is an influence of PPE use factors on the incidence of pinprick work accidents in RSUD Siti Fatimah Sumatera Sumatera Selatan province.

3. Based on the results obtained in this study, it is known that in Siti Fatimah hospital in South Sumatra province there are 13 people (10.4%) who have experienced pinprick work accidents, the majority of which are mostly experienced by women as many as 9 people (7.2%) and men as many as 3 people (2.4%).

4. Based on the table R Square can be seen that the application of SOP and the use of PPE factors have an effect of 0.416 (41.6%) on the incidence of pinprick work accident in RSUD Siti Fatimah Sumatera Sumatera Selatan province, while the rest is explained by variables outside this study were not studied.

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