

Analysis of Unsafe Act in the Standard Operational Procedures of Injecting Nurses in Dr. Haryoto General Hospital, Lumajang

Elok Faiqotul Himmah^{1*}

¹Nursing Study Program, Universitas Bondowoso, Bondowoso, Indonesia

*Corresponding author: elviradhe@gmail.com

ABSTRACT

Introduction: Standard Operational Procedures are a set of instructions that have been standardized to meet certain patient needs that aim to direct nursing activities safely in carrying out medical and non-medical actions in order to improve the quality of service through the application of applicable standards.

Method: *Cross-sectional* research design that aims to find out whether there is an influence between the characteristics, knowledge, attitudes and work safety facilities of injecting in the application of Standard Operating Procedures for injecting techniques in efforts to prevent accidents due to needle sticks. The population in this study were 153 people with a total sample of 60 people analyzed using multiple regression.

Results: The results showed that 90% of nurses at Lumajang Hospital applied the SPO for injecting according to the multiple regression test found a significant effect between the variables of knowledge on the application of SPO for injecting with a value of p value $0.017 < 0.05$. The largest OR value obtained is 21.106 meaning that the respondent's knowledge has the opportunity 21.106 times in the application of the appropriate SPO and there is a significant influence between the variables of years of service and the application of the SPO with a p value of $0.025 < 0.05$. And the OR value of 17.739 is obtained, meaning that the respondent's tenure has 17.739 opportunities in implementing the correct SOP.

Conclusion: It is recommended that there be a firm commitment in implementing SPO as an effort to prevent work-related accidents, develop nurse knowledge through education and training in the field of work safety.

Keywords: *Knowledge; Characteristics; Attitudes; Injecting Facilities; SPO Inject*

Introduction

Safety is the main thing in health services. Quality health services are not sufficiently assessed from the completeness of technology, sophisticated infrastructure, professional health workers, but it is necessary to look at the service process and the results of the services provided. The process and results of these services must be able to provide guarantees for customers so that they are free from risk (Cahyono, 2008). This applies to all institutions providing health services.

Abdul Aziz (2002) states that health workers are most at risk of spreading various viruses. Exposure can be through blood or body fluids from an infected person. There was an incident of used needlestick injury from the patient being indirectly stabbed in the skin which then splashed body fluids on the mucous membrane which resulted in exposure to disease to health workers from the incident.

The most common transmission of infectious diseases to health workers is the sticking of a syringe in the hand when attaching a disposable syringe cover and this often happens to health workers, especially nurses. It is known from various studies related to work accidents in hospitals, according to a survey from Rogers (1997) in the United States, more than 800,000 health workers and cleaning service workers were injured by needle sticks. In Metha's research (2000), at the Cipto Mangun Kusumo Hospital, Jakarta, it was stated that 380 health workers had needle stick accidents within 5 years, from 2000 to 2005.

Based on the results of Metha's research (2000) at the Regional General Hospital dr. Soetomo Surabaya, East Java, said that needle sticks occurred when processing sharps by 17%, work accidents due to needle punctures were experienced by nurses and cleaning service workers by 70%, occurred after use and disposal of syringes by 13%, and due to sheathing of syringes by 40%.

The fact states that 88% of the causes of work-related accidents are unsafe behaviour, 10% are unsafe conditions and 2% have no known cause (NSC, 2011). Unsafe behavior is negligent behavior by humans which often results in work-related accidents. Unsafe behavior occurs because nurses feel they are experts in their field and are used to the routines they are carrying out and have never had an accident while doing their job (Copper 2009).

Method

This type of research is survey research (survey research method). The design in this study is to use a cross-sectional study approach, namely tie variables and independent variables at the same time using a quantitative approach to answer the influence of knowledge, age attitude, years of service and availability of safety equipment on the application of Standard Procedures Operational as a form of unsafe act on the nurse. The research sample is some of population taken from whole object studied and considered represent whole population. Study This use calculation big sample named sample size 2.1. Analysis of the data used is to use statistical techniques, namely to determine the effect between the dependent variable and the independent variable. Statistical analysis using the help of a computer program through multiple logistic regression statistical tests with $\alpha = 0.05$ as a test of causal influence in research.

Results

Dr. Haryoto General Hospital, Lumajang already has an SPO for nursing practice and has been used in inpatient rooms based on the determination of the hospital director published on May 13, 2006 with document number 04/Keperawatan/05/110-113 which contains detailed procedures for nursing services. and several nurses have attended infection prevention and universal precaution training programs.

Table 1. Distribution of Respondents Based on the Application of SPO for Injecting in Dr. Haryoto General Hospital, Lumajang

No	Application	N	%
1	In accordance	43	71.7
2	It is not in accordance with	17	28,3
Total		60	100

From the results of the table above in implementing the SPO for injecting, the researcher used an observation instrument which contained the preparation of tools and their implementation with 24 stages in the Standard Operating Procedures for injecting and observation carried out by 2 observers (observers) in one room consisting of the head of the room and assisted by a clinical instructor. At the time of observation the respondents did not know, with a ratio of 2 observers: 4

respondents.

Table 2. Distribution of Respondents Based on Knowledge of the Application of SPO for Injecting in Dr. Haryoto General Hospital, Lumajang

No	Knowledge	N	%
1	Tall	44	73,3
2	Low	16	26,7
	Total	60	100

Based on univariate analysis, the majority of respondents had high knowledge of the application of SPO injections, namely 44 people (73.3 %), as can be seen in the table above.

Table 3. Distribution of Respondents Based on Attitudes Against the Application of SPO Injecting in Dr. Haryoto General Hospital

No	Attitude	N	%
1	Good	39	65.0
2	Enough	21	35.0
	Total	60	100

The results of the analysis of 60 respondents obtained 21 people (35.0 %) in the category of a fairly good attitude towards the application of SPO injecting and 39 people (65.0 %) with a good attitude category. For more details, see the table above

Table 4. Distribution of Respondents Based on the Availability of Injecting Safety Facilities (gloves) in Dr. Haryoto General Hospital

No	Availability of Work Safety Facilities inject	N	%
1	There is	19	31,7
2	There isn't any	41	68.3
	Total	60	100

The results of the analysis of 60 respondents obtained 19 people (31.7%) for the category of willingness to inject work facilities (gloves) and 1 person (68.3 %) in the category of no injecting safety facilities (gloves) can be seen in the table on.

Table 5. Distribution of Respondents Based on Nurse's Service Period at Dr. Haryoto General Hospital, Lumajang

No	Years of service	N	%
1	> 5 years	41	68.3
2	≤ 5 years	19	31,7
	Total	60	100

Based on the table above shows that the lowest working period of the respondents is 2 years

and the highest working period is 15 years. The respondent group has an average working period of 7.38 years with a standard deviation of ± 3.756 . Table 5.5 also shows that the majority (68.3 %) of respondents have worked > 5 years.

Table 6. Distribution of Respondents by Age of Nurses in Dr. Haryoto General Hospital, Lumajang

No	Age	N	%
1	>30 yrs	40	66,7
2	≤ 30 yrs	20	33,3
	Total	60	100.0

Based on the table above shows that the lowest age of the respondents is 25 years and the highest age is 50 years. The respondent group has an average age of 36.72 years or 37 years with a standard deviation of ± 7.812 . Table 5.6 also shows that the majority (66.7%) of the nurses are in RSD. dr. Haryoto Lumajang is more than 30 years old.

Table 7. Distribution of the relationship between the knowledge of nurses and the application of the SOP for injecting in Dr. Haryoto General Hospital in 2018

Knowledge	Application of SPO Injecting				Total	
	In accordance		It is not in accordance with			
	N	%	N	%	N	%
Tall	41	93,2	3	6,8	16	100
Low	2	12.5	14	87.5	44	100

Based on table 5.7 above, it shows that most (93.2%) are nurses in RSD. dr. Haryoto Lumajang who had high knowledge applied the SPO to inject well, while the nurses with low knowledge (87.5%) did not apply the SPO properly.

Table 8. Distribution of the relationship between nurses' attitudes and the implementation of the SOP for injecting in Dr. Haryoto General Hospital in 2018

	Application of SPO Injecting				Total	
	In accordance		It is not in accordance with			
	N	%	N	%	N	%
Good	31	79.5	8	20.5	39	100
Enough	12	57,1	9	42,9	21	100

Based on the table above, it shows that the majority (79.5%) of nurses who have a good attitude can apply the SPO to inject properly. This is in line with nurses who have a fairly good attitude, namely the majority (57.1%) can apply the SPO to inject properly.

Table 9. Distribution of the relationship between the availability of work safety facilities with the application of SPO injecting in Dr. Haryoto General Hospital, Lumajang

Availability of Work Safety Facilities	Application of SPO Injecting				Total	
	In accordance		It is not in accordance with			
	N	%	N	%	N	%
There is	9	47,4	10	52,6	19	100
There isn't any	34	82.9	7	17,1	41	100

Table 5.9 above shows that the nurses who stated that there were safety facilities in the form of gloves and the majority (52.6%) did not apply the SOP for injecting properly, while the nurses who stated that there were no safety facilities, the majority (82.95%) applied SPO injects well.

Table 10. Distribution of the relationship between the ages of nurses with the application of SPO injecting in Dr. Haryoto General Hospital, Lumajang

Nurse age	Application of SPO Injecting				Total	
	In accordance		It is not in accordance with			
	N	%	N	%	N	%
>30 yrs	27	67.5	13	32.5	40	100
≤ 30 yrs	16	80.0	4	20.0	20	100

Table 5.10 above shows that the majority of nurses who are > 30 years old (67.5%) can apply the SPO to inject properly. This is the same as the majority of nurses who are < or = 30 years old (80.0%) can apply the SPO to inject properly.

Table 11. Distribution of the relationship between the length of service of nurses with the application of SPO injecting in Dr. Haryoto General Hospital, Lumajang

Nurse time	Application of SPO Injecting				Total	
	In accordance		It is not in accordance with			
	N	%	N	%	N	%
>5 years	38	92.7	3	7,3	41	100
≤ 5 years	5	26,3	14	73,7	19	100

Based on the table above, it shows that most of the nurses who have worked > 5 years (92.7%) can apply the SPO to inject well, while the nurses who have worked < or = 5 years are mostly (73.7%) unable apply SPO inject well.

Table 12. Distribution of the influence of *Predisposing*, Dr. Haryoto General Hospital, Lumajang

	Predisposing, Enabling and Reinforcing Factors	B	p.s
Application of SPO Injecting	Low knowledge	3,961	0.000
	Pretty good attitude	1.229	0.324
	Lack of work safety facilities	-0.826	0.502
	Age of nurse > 30 years	0.046	0.224
	Nurse's working period <= 5 years	-0.409	0.000

In analyzing the effect of predisposing (attitude, knowledge, age and years of service of nurses) and enabling factors (availability of safety equipment in the form of gloves) using multiple logistic regression. The results of the analysis using multiple logistic regression can be seen in the table above.

Discussion

1. Analysis of Respondents' Knowledge of the Application of SPO for Injecting in Dr. Haryoto General Hospital, Lumajang

Most of the unsafe acts in the application of Standard Procedures for injecting occur because (26.7%) the level of knowledge of nurses is low, (35%) the attitude of nurses is sufficient in implementing SPO for injecting, (68%) injecting work facilities (gloves) are not available, (68.3%) nurse's tenure > 5 years and (66.7) > 30 years the age of a nurse working at Dr. Haryoto General Hospital, Lumajang. in implementing the SPO for injecting, besides that the influence of the nurse's tenure at work is very influential in the application of high SPO with the appropriate category in implementing the SPO for Injecting.

Based on the results of the analysis, it shows the influence between the knowledge of the respondents and the application of the SPO to inject. Respondents with high knowledge who applied SPO to inject according to the appropriate category were 41 people (93.2%), and 3 people (6.8%) who applied SPO to inject in the inappropriate category, while those with low knowledge who applied SPO to inject according to the appropriate category 2 people (12.5%) and 14 people (87.5%) did not fit the category. If you look at the P value , it turns out that you got $p = 0.000$ ($p < 0.05$), which means that there is a significant influence between the respondent's knowledge of the application of SPO injecting. With the understanding that the

higher the respondent's knowledge, the more likely it is to be able to apply the SPO to inject. Even so, in this study it was found that respondents had low knowledge.

2. Analysis of Respondents' Attitudes towards the Application of SPO for Injecting in Dr. Haryoto General Hospital, Lumajang

Based on the results of the analysis, it showed that there was no influence between the attitude of the respondents and the application of the SPO to inject. Respondents with a good attitude category who applied the SPO for injecting well were 31 people (79.5%) and as many as 12 people (57.1%) applied the SPO to inject sufficiently. When viewed from the value of $P = 0.324$, which means that there is no significant relationship between the attitudes of respondents and the application of SPO injecting. With the understanding that the attitude of the respondents tends not to support the implementation of the application of SPO injections.

3. Analysis of the Availability of Injecting Safety Facilities (gloves) on the Implementation of SPO for Injecting in Dr. Haryoto General Hospital, Lumajang

Based on the results of the bivariate analysis, it showed that there was no effect between the availability of injecting safety facilities and the implementation of the SPO for injecting. The availability of injecting safety facilities (gloves) according to the implementation of the SPO for injecting was 9 people (47.4%), while respondents in the category of Availability of injecting safety facilities (gloves) did not apply the appropriate injecting SPO as many as 34 people (82.5 %). When viewed from the value of $P = 0.502$, it means that there is no significant influence between the Availability of Safety Facilities for injecting (gloves) and the application of SPO for injecting. With the understanding that the Availability of Injecting Safety Facilities (gloves) tends not to support the implementation of the implementation of the SPO for injecting

4. Analysis of Nurse's Tenure on the Application of SPO for Injecting in Dr. Haryoto General Hospital, Lumajang

Based on the results of the bivariate analysis, it showed that there was an influence between the tenure of nurses in the application of SPO for injecting. 38 people (92.7%) worked for > 5 years and 3 people (7.3%) were not suitable for implementing SPO for injecting, while 5 people (26.3%) worked for ≤ 5 years) was appropriate in implementing the SPO for injecting

and 14 people (73.7%) were not suitable for implementing the SPO for injection.

When viewed from the P value, it turns out that $P = 0.000$ ($P < 0.05$). A negative β value indicates that the nurse's tenure of more than 5 years has an adverse effect on the application of SPO for injecting, which means that there is a significant influence between the tenure of a nurse and the implementation of the SPO for injecting. The length of working period and work experience will affect the level of skill and maturity of a person at work, the period of work experience is a measure of the length of time or working period that has been taken by someone to understand the duties of a job and have carried out well (Ranupandojo, 1984: 71).

5. Nurse's Age Analysis of the Implementation of SPO for Injecting in Dr. Haryoto General Hospital, Lumajang

Based on the results of the bivariate analysis, it showed that there was no effect between the age of the nurse in the application of the SOP for injecting. aged > 30 years old were suitable for implementing SPO for injecting as many as 27 people (67.5%) and 13 people (32.5%) were not suitable for implementing SPO for injecting, while aged ≤ 30 years 16 people (80%) were suitable for implementing SPO Injecting and 4 people (20%) did not comply with the SPO for injecting. If you look at the P value, it turns out that $P = 0.224$ ($P > 0.05$), which means that there is no significant effect between the age of the nurse and the application of SPO injecting. Age naturally has an influence on one's work productivity. At a certain age, a person can perform optimally, but there are also certain times when there is a decrease in achievement.

6. Analysis of *Unsafe Act* in Standard Operational Procedures for Injecting Nurses in Dr. Haryoto General Hospital, Lumajang

Analysis of unsafe acts as the main factor in causing work accidents by using green theory which has been cited by Notoadmodjo (2003) shows that changes in behavior are influenced or determined by factors both from within and from outside the subject. Factors that determine or shape behavior are called determinants. This is in line with Green's theory which states that behavior change is influenced by 3 factors including:

- a. Predisposing factors, the occurrence of unsafe acts is a change in behavior that can occur due to external influences as well as influences from oneself, unsafe acts on these

predisposing factors include nurse knowledge, nurse attitudes, and nurse characteristics. This is in accordance with the results of the analysis of the application of Standard Operating Procedures to nurses which is influenced by the level of knowledge and years of service of nurses.

- b. factor (enabling factor) several causes of accidents can be predicted so that they can be identified and controlled to avoid work-related accidents, enabling factor is a tool that can control the occurrence of accidents by self-protection through work safety facilities that have been provided by the Hospital in order to avoid accidents work accident.
- c. Unsafe act reinforcement factors can also be due to errors in management, for this reason there is a need for standard and mutually agreed rules to apply together and also the importance of training for nurses in applying these rules so that the management system can run well so that it is unsafe act in implementing actions injection can be minimized.

Based on the principles of Green's theory, it shows that in order to optimize efforts to prevent unsafe acts as a major factor in work accidents, the management of Dr. Haryoto General Hospital, Lumajang can make improvements to the process of implementing the SPO properly. Through re-socialization of nurses in each room and the need for training in efforts to prevent work accidents in hospitals, thus the unsafe act in injecting actions can be minimized.

Conclusion

Based on the results of the study, it can be concluded as follows:

1. Most of the nurses working at Dr. Haryoto General Hospital, Lumajang in implementing the SPO for injecting have a safe act
2. Factors that influence nurses in carrying out *the unsafe act* of implementing the SPO for injecting are the knowledge of nurses about the application of SPO for injecting, the attitude of nurses, the availability of work safety facilities and the characteristics of nurses in hospitals.
3. Variables that influence the occurrence of *unsafe acts* in the application of Standard Operating Procedures for injecting are the knowledge of the nurse and the length of service the nurse has served.

References

- Ali, Zaidin. (2002). *Dasar-Dasar Keperawatan Profesional*, Widya Medika, Jakarta.
- Aditama Tjandra Yoga, 2003, *Manajemen Administrasi Rumah Sakit*, Edisi ke-2, Universitas Indonesia, Jakarta.
- Azwarsyaifudin. (2004). *Sikap Manusia Teori dan Pengukurannya*, Edisike-2 Pustaka Pelajar, Yogyakarta.
- Abdullah, N.AC et al. (2010). *BBSH4103 Fundamental Of Hazard Management*. Selangor Darul Ehsan : Meteor Doc. Sdn. Bhd
- Ariani. (2001). Pengetahuan dan tindakan perawat dalam upaya pencegahan resiko tertular Hhepatitis B di RSUD Singaraja.
- Copper, D. (2009). *Behavior Safety A. Framework For Succes*.Indiana : BSMS Inc
- Depkes, 2004.*System Kesehatan Nasional*, Depkes, Jakarta.
- Geller, E, S. (2012).*Working safe : How to help people Actively Care For Health And Safety*. Florida : Lewis Publisher
- Hidayat, A. (2002). *Metode Penelitian Kebidanan dan Teknik Analisis Data*. Salemba Medika Jakarta.
- Karta, Widjadja. (1992). *Mengukur Sikap Sosial Pegangan untuk Peneliti Praktisi*, Bumi Aksara, Jakarta.
- Karyani. (2005). Faktor-faktor yang berpengaruh pada prilaku aman (Safe Behavior) Tesis. Depok FKM UI
- Lemeshow, S., Hosmer, Jr., David, Klar, J. (1997). *Besar Sampel dalam Penelitian Kesehatan*, Gadjah Mada University Press. Yogyakarta. Edisi Bahasa Indonesia.
- Machfodz, et al,. (2005). *Teknik Membuat Alat Ukur Penelitian Bidang Kesehatan, Keperawatan dan Kebidanan*, Fitramaya, Yogyakarta.
- Masdalifa, P. (2016). *Analisis Pelaksanaan Sop Tindakan Memasang Infus Sebagai Upaya Pencegahan Phlebitis di RumahSakit Haji Medan*, Tesis.
- Notoatmodjo. (1993). *Prinsip-Prinsip Dasar Ilmu Kesehatan Masyarakat*, Rineka Cipta, Jakarta.
- Notoatmodjo. (2002). *Metodologi Penelitian Kesehatan*.EdisiRevisi, PT Rineka Cipta, Jakarta.

- Perry, Potter. (1999). *Buku Ajar Fundamental Keperawatan : Konsep. Proses dan Praktik*, vol 1, EGG, Jakarta.
- Osok. (1998). Pengaruh produktivitas kerja dengan usia pekerja Tesis. Depok FKM UI
- Rumah Sakit Umum Daerah dr Haryoto Lumajang. (2011). *Profil Rumah Sakit Umum Daerah dr.Haryoto Lumajang*.
- Tietjen, et al. (2004). *Panduan Pencegahan Infeksi untuk Fasilitas Pelayanan Kesehatan Dengan Sumber Daya Terbatas*, Yayasan Bina Pustaka Sarwono Prawirohardjo bekerjasama dengan JNPKKR/POGI dan JHPIEGO. srf/www/portalkalbe/files/cdk/files_quality_assurance_keperawatan91.Pdf_quality
- Glanz, K., Rimer, B., & Viswanath, k. (2008). *Health Behavior And Health Education – Theory, Research And Practice*. 4th ed. San Fransisco: Jossey Bass. A Willey Imprint.
- Undang-Undang Nomor 3 Tahun 1992 tentang Jaminan Sosial Tenaga Kerja.
- Sari, C, D. (2011). Kepatuhan Terhadap Penerapan Standar Prosedur Operasional dengan Kejadian kecelakaan kerja di Rumah Sakit. Tesis. Fakultas Kedokteran UI