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THE RELATIONSHIP BETWEEN KNOWLEDGE AND NURSE'S ATTITUDE TOWARDS THE IMPLEMENTATION OF PERMANENT PROCEDURES IN INFUSION INSTALATION

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ABSTRACT

Background: Hospital and other health service facility must implement the prevention and control of infection (*PPI*) in accordance with the Decree of the Minister No 270/MINISTER/2007. However, in 2010, at Lung Hospital “Dr. H. A. Rotinsulu Bandung”, Indonesia, among 868 patients who had the infusion, the incidence rate of phlebitis reached to 2.64 %. In the infusion installation management, nurses must have knowledge, skills and adequate attitude toward the procedure.

Aims: This study aims to assess how nurses' knowledge to the infusion procedure affects their attitude.

Method: It was a descriptive study using a cross sectional approach. A total of 70 nurses from lung hospital “Dr. H. A. Rotinsulu Bandung”, Indonesia, was selected using random sampling technique from April to July 2011. The nurses work in hospital ward, intensive care unit and emergensy instalation. The respondents were given questionnaire regarding to the assessment of nurses' knowledge and attitude. The collected data was analyzed using Person test to show the association between nurses' attitude and their knowledge to the infusion procedure.

Results: Most of respondents (57.1%) work for 11-20 years. While 38.6% nurses employ less than 10 years, there were 14.3% nurses work for more than 21 years. However, as shown in Table 3, out of 70 nurses, only 50% have good knowledge to the infusion procedure, while 32.9% nurses have enough understanding. The rest 17.1% need more attention, where 2 of that 12 nurses orchestrated negative attitude to the procedure. In addition, the statistical analysis shows that the relationship between the knowledge and the attitude of nurses about infusion procedures was found significant (p value = 0.002).

Conclusion: The results shows the length of work will not affect to the better knowledge of nurses to the infusion procedures. The negative attitude that found among the nurses indicated the importance to highlight this issue to the hospital management. Attention to their understanding to the infusion procedure will improve their attitude, in return it can prevent accident during the handling.

Keywords: *Infusion procedures, nurses, knowledge and attitude, hospital management.*

INTRODUCTION

Hospital and others health service facility must be able to provide services by preserving quality, accountability, and transparency to the community, especially towards the patient safety[1]. The Hospital and other health service facility must implement the prevention and control of infection (*PPI*) in accordance with the Decree of the Minister No 270/MINISTER/2007. Patient Safety is the main priority to do, it is related to the quality and the image of the services in the hospital and to meet the needs of the security and

safety that involve physical and psychological security which is one of the basic human needs according to Maslow [2].

The purpose of patient safety in the hospital is to prevent a hazard due to injury that is caused by errors as a result of taking and not taking an action that should be taken and not as a result of the disease suffered by the patients, [1]. The danger can be caused by microorganisms that can cause infections, and one of the infections is hospital infections.

Hospital infection is infection that occurs or acquired in the hospital. Hospital infections happened if the patients come into the hospital and there are no signs or symptoms or they are not in the incubation period of that infection. It occurs 3x24 hours after the patients treated in hospital [1].

Hospital infections may increase morbidity and mortality, prolong hospitalization day (LOS/ *Length of Stay*), add the cost of maintenance and it is associated with the image/ quality of hospital services. The purpose of the hospital infections control is to protect the patients from hospital infections such as: Urinary Tract Infections, Decubitus, Sepsis, Pneumonia, and phlebitis.

Intravenous therapy is used to cure the variety of patients' condition in all nursing environment such as acute care, emergency care, ambulatory treatment, and health care in home, [4]. Intravenous therapy instructed by the doctor but the nurse who is responsible for providing and maintaining the therapy in patients [5]. The infusion is one way or part of the treatment for entering the drugs or vitamins into the body of the patient and phlebitis is the main complication of intravenous therapy (infusion), [6].

Phlebitis is venous inflammation which is caused by chemical irritation and mechanics. This is shown by the existence of the red areas, pain and swelling in the area of stabbing or throughout the veins. Increased phlebitis incident in accordance with the length of the installation of intravenous line. The complications of fluid or medicines that infused (especially *PH* and its tonisitas), the size and the place of cannula inserted. Installation of path IV that is not appropriate and the entry of microorganisms when stabbing [7]. The number of phlebitis incident according to the diseasedistribution of the blood circulation system of hospitalized patients in Indonesia in 2006 are 744 people (17.11%) [8]. According to the data that are obtained from the *PPIRS* team of Lung Hospital Dr. H. A. *Rotinsulu* Bandung since January 2010 to December 2010 from 868 patients who assembled the infusion, the ones who experiencing phlebitis are 23 people (2.64%).

In the management of infusion installation which appropriate with fixed procedures, nurses must have knowledge, skills and adequate attitude. The knowledge and the attitude is the important factors in the formation of the behavior. Knowledge and the attitude of a person will influence their behavior, people who have enough basic knowledge and positive attitude about something usually will perform the better action and *long lasting* than the actions that were done without constituted by enough knowledge [9].

The knowledge and the attitude is the most fundamental basis to the realization of a behavior that can be used as a reference by patients (reinforcing factor). Enough knowledge will provide the electrical impulse and motivation to perform the infusion installation based on fixed procedures [9]. The knowledge will grow positive attitude namely health behavior and customs in decision-making (enabling factor) intended by nurses. Attitude, according to Secord & Backman is defined as a certain regularity in feelings (affection), thinking (cognition) and predisposes actions of a person with an aspect of the surrounding environment. A person's attitude toward an object is either favorable or unfavorable to a particular object [10]. Consequently, when the nurses do not have positive attitude and does not have sufficient knowledge about the management of installation of infusion, then it will not grow a form of new behavior performing the management of installation of infusion solutions in accordance with the fixed procedures, so that the installation of infusion are based on the habit only [9].

Based on the results of the preliminary study done by the author in ward of lung hospital Dr. H. A. *Rotinsulu* Bandung on April 2011 through interview to 10 nurses out of 60 nurses got the data, They have known the

importance of infusion installation based on fixed procedures but they less understand the things that is the critical point in fixed procedures of infusion installation related to aseptic technique that plays an important role in the prevention of phlebitis. From the ten nurses, four nurses were able to answer three questions out of five questions, it is about the intra veinstherapy, aseptic handwashing technique, how to choose venous which will be in the infusion but they were not able to answer other questions, preparation for the infusion installation based on fixed procedures and its rationale. While, six nurses were only able to answer onthe definitions and how to choose venous that will be in the infusion. Based on the observation of the author in the lung hospital Dr. H. A. *Rotinsulu* Bandung from 10 nurses who carry out the infusion installation, 3nurses did the procedures based on fixed procedures, while 7 other nurses installing the infusion based on their habits. After confirmingthem and they assume that infusion is already attached and intra veins therapy can be given.

Based on the background above, the author did the research about "the relationship between the knowledge and the attitude of nurses about the implementation of fixedprocedures installation of infusion in lung hospital Dr. H. A. Bandung *Rotinsulu* in 2011".

METHODS

The type of research is descriptive correlational through cross sectional approach. The study was conducted in lung hospital Dr.H.A. *Rotinsulu* Bandung on April to July 2011. The population in this research was nurses who worked in hospital ward, Intensive care unit and Emergency Unit of Lung Hospital Dr. H. A. *Rotinsulu* Bandung. Nurses with education level of Diploma and Bachelor in nursing included in the study, whilst apprentice and student nurse were excluded. With a population of 110, with 95% population sample confidence, and error rate of 5%, 70 people nurses was selected randomly.

Structured questionnaire was employed as data collection tool. The level of knowledge was assessed by counting the number of correct responses answered; 76-100% will be defined as good, 56-75% as moderate, whilst those who scored less than 56% will be categorized as poor. Attitudes of respondents was assessed by Likert scale where for every positive statement given specific values. The data collected were analyzed using the SPSS program version 14.0 for windows, then continue to validity test with a correlation of Pearson Product Moment and reability tests using Coefisien Cronbach Alpha obtained the value of Cronbach Alpha.

RESULTS

Table 1 shows that more than half of respondents are adult aged 31-40 years old. The vast majority attained Diploma III, and a few of nurses have graduated from Diploma IV and bachelor in Nursing.

Table 1 characteristics of respondents

No	The characteristic	f (N=70)	(%)
1	Age		
	21 - 30 years	20	28.6
	31 - 40 years	40	57.1
	41 - 50 years	10	14.3
2	The level of Education		
	D-III	64	91.4
	D-IV	3	4.3
	S-1	3	4.3

Table 2 shows the duration of working of the sample, which reveals that more than half of respondents have been working as a nurse at the hospital for 11-20 years.

Table 2. Frequency distribution of respondents 'length of work in Lung Hospital Dr. H.A.Rotinsulu Bandung in 2011

No	Length of Work	F	(%)
1	< 10 years	20	28.6
2	11 - 20 years	40	57.1
3	> 21 years	10	14.3
The number of		70	100

Table 3 Nurses' knowledge on the implementation of fixed procedures installation of infusion in Lung Hospital Dr.H. A Rotinsulu Bandung in 2011

No	Knowledge	F	(%)
1	Less	12	17.1
2	Enough	23	32.9
3	Good	35	50
Total		70	100

Knowledge of fixed procedures of installation of infusion was measured as the highlight of the study. Most of nurses (50%) have a good knowledge, in terms of the procedures of infusion of installation in the Dr.H.A Rotinsulu Bandung. About a third of nurses was categorized having intermediate level of knowledge on the procedures, whilst 17% had poor knowledge.

Observing the relationship between knowledge and attitudes, table 4 shows that there was a strong positive association, shown by p-value of 0.002 and r-square of 0.65. The result implies, the better the knowledge of the nurses, the likelihood of having a positive attitude will be higher. It can be seen from the table 4 that among those who has good knowledge, all of them had a positive attitude. The proportion of nurses who have less positive attitude was shown higher among those who have poor knowledge.

Table 4 Bivariate Analysis about the relationship between nurses 'knowledge and attitude of the implementation of fixed procedures of infusion installation and the attitude of nurses in Lung Hospital Dr. H. A Rotinsulu Bandung 2011

No	Knowledge	The Attitude				The number of		P value
		Negative		Positive		N	%	
		N	%	N	%			
1	Less	10	83.3	2	16.7	12	100	0.002
2	Enough	16	69.6	7	30.4	23	100	
3	Good	0	0	35	100	35	100	
4	The number of	16	37.1	44	62.9	70	100	
The level of the relationship						0.654		

DISCUSSION

The study confirmed that there is a relationship between the knowledge of nurses about the implementation of the fixed procedures and their attitude in Lung Hospital Dr. H. A Rotinsulu Bandung.

Statistical tests by Lambda obtained the value of the count of 0.654, while significant value obtained by 0.002, which means that there is a relationship between the knowledge of nurses about the implementation of the fixed procedures and the attitude in Lung Hospital Dr. H. A Rotinsulu Bandung.

This relationship between knowledge and the attitude due to both variables is really gave meaningful input for the implementation of the infusion installation. The relationship of the knowledge and attitude of nurses about this infusion installation is proved by nurses that have good and good enough criteria and more likely to have a positive attitude than negative attitude. This indicates that the knowledge of nurses with good and intermediate level affect their attitudes which tend to be more positive about the correct infusion installation. The relationship of knowledge and the attitude included in cognitive components which are the tendency to behave aspects of someone that associated with the object of the attitude it encounters. This relationship is based on the idea that the beliefs and feelings influence behavior. It means that on how people behave in certain situations and stimulus will determine by knowledge, belief and feelings against the stimulus. However, in certain conditions, those cognitive components are not always compatible with the cognitive and affective components of someone.

The tendency of behaviors consistently in line with the belief and the feeling in forming the attitude of a person. Therefore, it is logical to expect that the attitude of a person will be reflected in the form of the attitudes tendency toward the object where the tendency of the behavior is not only can be seen directly but also includes in a form of behavior in form of statement or words spoken [10].

CONCLUSION

The study confirmed that there is a relationship between the knowledge of nurses about the implementation of the fixed procedures and their attitude in Lung Hospital Dr. H. A Rotinsulu Bandung. Those who has good knowledge, all of them had a positive attitude. The proportion of nurses who have less positive attitude was shown higher among those who have poor knowledge.

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