



FACTORS ANALYSIS RELATED TO THE NURSE ROLE AS A CARE-GIVER IN THE IMPLEMENTATION OF PATIENT SAFETY USING COMPLIANCE MODEL APPROACH IN THE EMERGENCY DEPARTMENT (ED)

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ABSTRACT

To do the role as care giver, a nurse has some duties such as caring the patient, making a decision, communicating and collaborating with other healthcare professionals. In doing these duties, a patient safety-oriented system of the hospital must be the first priority to achieve the safest nursing care and avoid the injury of patient in the emergency department. This department is a complex and dynamic unit which affecting the quality of nursing care and the performance of patient safety culture. The use of health equipment, method, nursing care, and concept understanding have a relationship to the knowledge and skill of nurse in providing nursing care. The performance of patient safety doing by the nurse is a form of a compliance in every single implementation and interaction with the patient. This is in line with a theory called "Compliance Model". In a culture of compliance nurse, there is a plan to produce an efficient and consistent nursing to improve the nursing skill leading to the satisfaction of patient. The aim of this study is to analyze the factors related to the nurse role as a care giver in implementing patient safety using *Compliance Model* in the Emergency Department (ED). This research will be analytic descriptive with cross sectional design. The sample used in this research is 74 nurses respondents in the emergency department of hospital and will be conducted from April to May 2018. Multiple Linear Regression Analysis will be employed to analyze the data of the research. The result of analysis using multiple linear regression method showed that the variables related to the role of nurses were knowledge ($p=0,026$), attitude ($p=0,000$), and motivation ($p=0,047$).

KEYWORDS: Nurse role, *Care Giver*, Patient Safety, *Compliance Model*.

INTRODUCTION

The more science and technology along with the change of culture develop, the faster the people knowledge and information about health. This issue is persuading the continuing self-professional development of health care-giver. Providing treatment is the base of health service in a hospital in which there may occur certain medical error affecting patient safety and resulting in patient harm.

Nursing is a 24-hour and continued service with lots of health professionals in various departments. Nurse as a caregiver has some duties such as caring the patient, making a decision, communicating and collaborating with other healthcare professionals. In doing this role as a caregiver, a nurse has a high-risk in making a medical error if she/he does not have a high level of knowledge and awareness that the treatment will give negative

impact to the patient. It is in line with the research of Rigobello et al (2017) stated that nurse knowledge about patient safety in the context of emergency has a contribution towards the increasing of health service. Patient safety as the hospital system is the main orientation for the nurse to provide safer nursing care and to prevent injury (Depkes, 2008).

Emergency Department (ED) or Emergency Room (ER) is the part of hospital providing the first treatment for patient. Rigobello et al (2017) stated that ED is a dynamic and complex room affecting the quality of nursing care for patients and promoting patient safety. A report from *Institute Of Medicine* (IOM) United States in 1999, estimated that there were 44,000-98,000 numbers of death each year due to a high level of medical error (LT Khon et al, 2000). The research result in a hospital

of Utah, Colorado, and New York found *Adverse Event* for about 2.9%, in which 6.6% of them was dead. While in New York, an Adverse Event was 3.7% with death percentage 13.6%. This is in line with Carayon et al, 2009 stated that patient safety has correlation with human factor, in this case is the nurse itself as a caregiver. The implementation of nursing care method and concept understanding has relationship to knowledge and skill of nurses in providing treatment to the patients.

Based on the the research at Harvard *Medical Practice Study* conducted by nurse and doctor, it was found that more than 30.000 records of side effect of in-patient for about 3.7%. It was stated that 13.6% was fatal and 27.6% was human error (Adam G. James, 2001). Data from the hospital arranged by *Canadian Institute For Health Information* showed that 3.5% of patient in the hospital in 1992 – 1997 has experienced a side effect in relation to the treatment (Hanter et al, 1999; Wanzel et al, 2000 dalam Wong, Beglaryan, 2004). The publication of *World Health Organization* (WHO) in 2004, estimated million patients in the world were at a high-risk of having injured and even death for each year because of human error in implementing patient safety.

Emergency Departement (ED) is the top-three department in the hospital to make an error besides *Intensive Care Unit* (ICU) and surgery room. Medical error occurred in ED is affected by some factors, such as doubtful diagnostic, bad knowledge and feedback of the nurse, and lack of nursing continuity in the *Emergency Department* (ED). Improper diagnose and bad feedback cause the difficulty to increase continued-clinical-skill of nurses. *Department Amerika Serikat* menunjukkan The result of survey in ED showed that there were 4 causes of medical error; physical environment, emergency staff, inpatient coordination, consultation and information cordination (Adam G James, 2001). Another research in Canada showed that most of the side effect occurred in ED (70 – 82%) could be prevented. Thsi side effect was suspectedly caused by lost of patients and lack of medical staff *Efek Emergency Department* in Canada (Croskerry et. al., 2001, Brennan, 1991).

Another research in the United States showed the error in identifying the patient by using bracelet. The percentage of error was starting from 2.8% to 8.4% and the latest research showed that the level of error was 2.8% up to 8.4% and in addition to this research there were some factor that causing unconsisted patient identification, such as timing under-pressure and due to inability in identifying the patient. A research at South of Jakarta in 2004 showed that 9.8% of in-patients has got infection during a treatment in the hospital.

The adverse event in the emergency department is the form of lack of compliance towards the Standard Operational Procedure (SOP) regarding with the patient safety eventhough the SOP has been implemented. This condition represented that the compliance habit towards

various indicators helped nurses to revise their performance at work (Lestari, 2016). The implementation of patient safety is the form of compliance in every treatment or interaction to the patients. This suited to the theory of “*Compliance Model*” (Charles et al, 2003). In this theoru it was explained that in a management process, the change of compliance habit began with the belief that a good performance would carry a useful thing. In nurses compliance culture, there was a plan to manage and coordinate the elements of compliance leading to the consistent treatment, increasing skill, and resulting to the patient satisfaction.

The result of preliminary study conducted by the researcher in ED of “Ngudi Waluyo” Wlingi Hospital showed the data in 2016 that there were nurses not doing bracelet identification to the 52 patients per month. Based on the report from KKPRS team, there were 12 cases of unit and installation in 2016. In the same year in Pare Kediri Hospital, the result of research observation showed that there were nurses who did not use handscoon in providing a treatment likes infuse application. The similar case was also found in Mardi Waluyo Blitar Hospital. Based on the report from Medical Record Department, the nurses in ED did not submit the form of triage report to the Medical Record Department. It was ironic when the forms were available. The report form for in-patient was integrated with the development of patient record. The incidents mentioned above were the crucial cause of patient safety and gave negative impact to the hospital, staff, and especially to the patients. Patient safety cases would decrease public’s view towards the health service and led to the decreasing quality of the hospital.

The nurse who was a caregiver, assisted the patient for 24 hours, regularly interacted to the doctors, pharmacists, family patient, and other health professionals, had an important role in ensuring the patient safety by controlling the patient condition, identifying the error and injury, providing health education for comprehension process, and other duties to prevent adverse event related to the patient safety and to provide high quality health service. (AHRQ, 2004). The study showed that to improve patient safety was the duty of multi faceted involving all health professionals (Wong J, Beglaryan, 2004). Based on the explanation above, the researcher was interested in analyzing the factors related to the patient safety and the role of nurses as caregiver by using *Compliance Model* Approach in th *Emergency Department* (ED).

METHOD

The method employed in this research was analytical observation using cross sectional approach to the nurses of ED at Mardi Waluyo Blitar Hospital, Ngudi Waluyo Blitar Hospital, and Pare Kediri Hospital during April – May 2018. Data sampling techniques used in this

research was non-probability sampling technique with purposive sampling and 74 respondents.

Dependent variable in this research was the nurse role as the caregiver in implementing patient safety, while the independent variable were the nurse knowledge, attitude, and motivation. This research was conducted after getting approval from the research advisor committee, passing the ethic test by Ethic Committee of Medical Faculty of Malang Brawijaya University, approval from the Director of Mardi Waluyo Hospital, Ngudi Waluyo

Hospital, and Pare Kediri Hospital. The instruments used in this research were (1) data collection sheet (respondents characteristics) (2) Knowledge Questionnaire (3) Attitude Questionnaire (4) Motivation Questionnaire (5) Nurse Role as Caregiver to Implement Patient Safety Questionnaire. Bivariant test used in this research was Pearson Correlation to find out if there was a correlation between dependent and independent variable. Multivariant analysis used multiple linear regression.

RESULT

Table 1: The characteristics of Age, Education, Work Period, Official Status, and Patient Safety Training in ED. April-May 2018.

No.	Character of Respondent	Frequency N=74	Percentage (%)
1.	Age		
	a. 40-50 years old	12	16.2
	b. 30-40 years old	32	43.2
	c. 20-30 years old	30	40.5
2.	Education		
	a. DIII-Nursing Program	54	73.0
	b. S1-NUrsing	20	27.0
3.	Work Period		
	a. < 5 years	30	40.5
	b. > 5 years	44	59.5
4.	Official Status		
	a. Non-Government Officer	31	41.9
	b. Government Officer	43	58.1
5.	Patient Safety Training		
	a. Yes	50	67.6
	b. No	24	32.4

The result of characteristics analysis of respondents described the distribution of age, education, work period, official status, and patient safety training. Based on table 5.1 there were 32 respondents of 30-40 years old (43.2%) and 12 respondents of 40-50 years old (16.2%). The respondents distribution based on level of education showed that DIII-Nursing program was the biggest. They were 54 respondents with Nursing degree (73.0%) and 20 respondents with S1-Nursing degree (27.0%). The distribution of respondents based on work period that 44 respondents have workd more than 5 years (59.5%). Based on the official status, there were 43 respondents as the government officers. Based on the patient safety training, it showed that there were 50 respondents have joined patient safety training (67.6%).

Result of Univariate Analysis

Table 2: Respondent Distribution Based on Knowledge of Patient Safety Variable.

April-May 2018

Knowledge	Frequency	Percentage (%)
Less	16	21.6
Sufficient	50	67.6
Less	8	10.8
Total	74	100

Based on table 2, it could be said that 50 respondents have got enough knowledge (67.6%) and 8 respondents have got good knowledge (10.8%).

Table 3: Respondent Distribution Based on Attitude Variable in Patient Safety.

April-May 2018

Attitude	Frequency	Percentage (%)
Less Good	27	36.5
Good	47	63.5
Total	74	100

Based on table 3, it could be concluded that there were 47 respondents having good attitude (63.5%).

Table 4: Respondents Distribution Based on Motivation Variable in Patient Safety.

April-May 2018

Motivation	Frequency	Percentage (%)
Less Good	24	32.4
God	50	67.6
Total	74	100

Based on table 4, it could be concluded that there were 50 respondents having good motivation (67.6%).

Bivariate Analysis

Table 5: Distribution of Relationship between Knowledge and Nurses Role as Caregiver in the Implementation of Patient Safety through Compliance Model.

April-May 2018

Independent Variable	Dependent variable	Coefficient Correlation	p-value	Note
Knowledge	Nurses Role as Caregiver in Patient Safety Implementation	0.237	0.042	Significant

Based on table 5, it was shown that knowledge variable had p value < 0.25. It was concluded that knowledge had significant relationship to the nurses role as caregivers in

patient safety implementation through *Compliance Model*.

Table 6: Distribution of Relationship between Attitude and Nurses Role as Caregiver in the Implementation of Patient Safety through Compliance Model.

April-May 2018

Independent Variable	Dependnet Variable	Coefficient Correlation	p-value	Note
Attitude	Nurses Role as Caregiver in Patient Safety Implementation	0.355	0.002	Significant

Based on table 6, it was explained that attitude had p value < 0.25. it meant that attitude variable had significant correlation to the nurses role as caregiver in

patient safety implementation through *compliance model*.

Table 7: Distribution of Relationship between Motivation and Nurses Role as Caregiver in the Implementation of Patient Safety through Compliance Model.

April-May 2018

Independent Variable	Dependent Variable	Coefficient Correlation	p-value	Note
Motivation	Nurses Role as Caregiver in Patient Safety Implementation	0.389	0.001	Significant

Based on the correlation analysis of table 7, it was shown that motivation variable had p value < 0.25. it meant that motivation had significant correlation to the nurses role

as caregiver in patient safety implementation through *compliance model*.

Table 8: Regression Analysis.

Variable	Coefficient β	Standardized Coefficient β	T _{value}	P-value	Note
Constant	43.452		8.590	0.000	Significant
Knowledge (X1)	1.284	0.222	2.276	0.026	Significant
Attitude (X2)	0.798	0.426	3.987	0.000	Significant
Motivation (X3)	0.254	0.213	2.026	0.047	Significant
A	= 0.05				
Determination Coefficienti (R ² _{adj})	= 0.491				
F-Value	= 24.467				
P-value	= 0.000				

The result of regression model based on table 8:

$$Y = 43.452 + 1.284 X1 + 0.798 X2 + 0.254 X3$$

dimana:

- Y : Nurses Role in the implementation of *Patient Safety*
- X1 : Knowledge
- X2 : Attitude
- X3 : Motivation

DISCUSSION

1. The effect of knowledge towards nurses role as Care Giver in the implementation of patient safety through Compliance Model in ED

Knowledge variable (X1) had regression coefficient 0.3555. Using software SPSS, it was found that t-test was 4.197 with p-value 0.000. P-value was smaller than $\alpha = 0,05$ showed that H₀ was rejected. It meant that knowledge variable (X1) had significant effect to the nurses role as caregiver in the implementation of patient safety through compliance model approach (Y). Positive coefficient regression indicated that X1 had positive

impact to Y. The higher the knowledge, the higher nurses role as caregiver in the implementation of patient safety through compliance model approach was. In the researcher opinion, the nurses knowledge about patient safety would encourage them to provide a treatment based on SOP for patient safety that leading them to have the best performance. To have self-development, the nurse needed knowledge improvement and special skill regarding with patient safety. It was in line with the statement that the higher of someone's knowledge, the more rationale and creative and more opened ourselves was to adapt with the change beyond (H. Purwanto, 2005).

Theory from Rasmussen, Reason & Norman at Cahyono (2008) emphasized the theory of creating a human based on cognitive concept. The process of analysis before making a decision was the contribution of knowledge based level to prevent medical error due to human error. Another research showed that the nurses had to be cared-person in providing nursing care to the patients, in which the first step was knowing that meant the nurses had full of understanding of patient's life, be focus on patient treatment, berfokus pada perawatan untuk klien, assessed the patient condition accurately and being involved with the patient. These processes were the initial process of the interaction between nurse and patient. From the explanation above, it could be said that enough knowledge would encourage a nurse confidence to motivate them actively discussed with other team. Being knowledgable also made the nurse being more creative with various ideas, making quick decision, thinking critically to cope the problem and minimize an error.

2. The effect of attitude towards the nurses role as Care Giver in the implementation of patient safety through Compliance Model in ED

Attitude (X2) had regression coefficient 0.261. Using software SPSS it was found t-test 3.148 with *p-value* 0,002. *P-value* smaller than $\alpha = 0,05$ showed that H_0 was rejected so it was concluded that attitude variable (X2) affected significantly to the nurses role as Care Giver in the implementation of patient safety through Compliance Model (Y) in ED. Positive regression coefficient indicated that X2 had positive impact to Y.

Based on this research, the value of attitude between less good and good was nearly the same because the changes happened at any time. Purwanto in Notoadmojo (2003) stated that one of attitude characteristics was always related to certain object. In other words, the attitude of nurse which related to certain object, could be designed, learnt, or changed, and formulated clearly. This research also stated that knowledge, attitude, and professional skill were required by the nurses in order to have good communication with the patient and provide good performance of treatment. As a professional, nurse was responsible to develop the knowledge and competence in order to have high quality performance (Indrastuti, 2010). The latest focus of helath service is *patient center*

care which requires nurse's role to provide direct service to the patient by having good attitude in solving problems and making decision.

Based on the research of Ariyani, 2009 in Notoadmojo (2013) attitude encouraged the implementation of patient safety and it was needed to be increased. By doing and learning, a nurse would improve the confidence and dare to make a decision that affecting their behavior. Kurniadi, 2013 in Luthans (1996) stated that the previous and latest research supported the effect of organization commitment including nurse attitude towards the expected result of the performance in the workplace, and the negative effect of skipping the duties of the nurse job.

According to Absah (2008) the key characteristics of organization learning was developing attitude continuously. This research was not in line with Adolfin (2012) which stated that good attitude of the employee intended to avoid financial loss and not doing optimum effort. It caused that individual did not give any contribution to the organization. Research stated if someone had a willingness, affective performance, sincere act, she/he would have a continuance to be professional nurse. From the explanation above, it could be concluded if a nurse had a good attitude, a nurse would have a chance to have self-development and a right of making decision affecting the performance.

3. The effect of motivation towards the implementation of patient safety through Compliance Model in ED

Motivation variable (X3) had regression coefficient 0.283. using software SPSS, it was found that t-test value was 3.305 with *p-value* 0.001. *P-value* was smaller than $\alpha = 0,05$, it meant that H_0 was rejected and was concluded that motivation variable (X3) had significant effect towards the variable of nurses role in the implementation of patient safety through Compliance Model in ED (Y). Motivation is an encouragement or reason that makes someone does something. In this research, a nurse who had good motivation was much more than the one with less good motivation. A nurse in the Emergency Department (ED) was required to be high-motivated and loyal. IT was clearly enough that ED was the main entrance for the patient to have better treatment. This was in line with Adair (2007) stated that what made someone did something was motivation, so that she/he would use his/her effort and energy. In other words, they did something well and sincerely.

CONCLUSION

Nurses' knowledge, attitude, and motivation were the factors that provided significant effect toward the nurses role in the implementation of patient safety through Compliance Model Approach in Emergency Department (ED). The most influencing factor toward the nurses role in the implementation of patient safety through Compliance Model in ED was nurse's knowledge.

REFERENCES

1. Adams G. James, *Quality and Patient Safety in Emergency Medicine*. Emergency Medicine, 2001; 208: 1731-1742.e2
2. Arifin, Z. *Educational Research: New Methods and paradigms*. Bandung: Teen Rosdakarya, 2011.
3. Ayu Wardini Danaswari, Sri. *Model Development of Appropriate Patient Safety Culture In Hospital Mothers Children Grow Hibiscus Cimanggis*, 2012.
4. Azwar, S. *Sikap Manusia: Teori dan Pengukurannya*. Edisi Kedua. Yogyakarta: Pustaka Pelajar, 2010.
5. Barbara, K., Erb, G, et al. *Nursing Fundamentals Textbook (concepts, Processes, and Practices)*, volume 2. Jakarta: EGC.
6. Brennan TA, Leapae LL, Laird NM, et al. *Incidence of adverse events and negligence in hospitalised patients: results on the Harvard Medical Practice Study I*, NEJM, 1991; 324: 3706 Available from <http://www.nejm.org>.
7. *Canadian Patient Safety Institute (CPSI)*. 2008. *The Safety Competencies*. Enhancing Patient Safety Across the Health Professions. First Edition (rev. August 2009).
8. Charles H. Le Grand. *Building a Culture of Compliance*. IBS America. 2005.
9. Charles Vinsent. *Patient Safety 2nd Edition Wiley-Black Well*. BMJ Books, 2010.
10. Dahlan S.M. *Standarts for Medicine and Health: Bivariat and multivariate descriptive equipped by using SPSS. Edition 5*. Salemba Jakarta Medical Publishers, 2011.
11. Dahlan S.M. *Statistics for Medicine and Health. The seventh edition of 5 prints*. Salemba Medika Jakarta, 2011.
12. Dahlan S.M. *Analisis Regresi Linear. Accompanied practice with SPSS*. Salemba Medika Jakarta, 2014.
13. Dahlan S.M. *Statistics for Medicine and Health: descriptive bivariat and multivariate descriptive equipped by using SPSS. Edition 6*. Salemba Jakarta Medical Publishers, 2014.
14. Griffiths, Peter., Renz Anna., Rafferty Anne Marie., *The Impact of Organitation and Management Factors on Infection Control in Hospitals: a Scoping Review*. London: King's College London, University of London, 2008.
15. Indah Lestari. *The Development of The Compliance Model For Nurses In Carrying Out Standart Operating Prosedures Patient Safety Based Compliance Pressure*. Surabaya. Universitas Airlangga, 2016.
16. *Institute of Medicine: To Err Is Human: Building a Safer Health System* Washington DC: Nation Academy Press, 1999.
17. Khon LT (Origon) J.M., and Donaldson, MS. 2000. *To Err is Human Building a Safer Health System*. The National Academic Washington, <http://www.nap.edu/openbook.php?isbn=0309068371>.
18. Hospital Patient Safety Committee (KKPRS) *Safety Incident Reporting Guidelines Pasien (IKP) (Patient Safety Incident Report)*. Edisi 2. Jakarta, 2008.
19. Kreitner, Robert dan Kinicki, Angelo. *Organizational Behavior*, books 1 and 2, Salemba Jakarta Four, 2005.
20. Notoatmodjo, S. *Introduction to Health Education and behavioral sciences* jogyakarta. Andi Offset, 2003.
21. Nursalam, *Nursing Management in Professional Nursing Practice Within The Application*. The Second edition Jakarta. Salemba, 2008.
22. Polit & Beck. *Essentials of Nursing Research Apparaising Evidence for Nursing Practice (4ed)*. Philadelphia: Lippincott William & Wilkins, 2014.
23. Riduwan. *The scale Measuring Research Variables*. Alfabeta, Bandung, 2010.
24. Sammer, CE, James BM, *Patient Safety Culture: The Nursing Unit Leaders Role*, The Online Journal of Issues in Nursing, 2011; 16(03).
25. Setiowati D, *Effective Leadership of Head Nurse Relation With The Implementation Of A Culture Of Patient Safety By Implementing in nures RSUPN Dr. Cipto Mangunkusumo Jakarta*. Universitas Indonesia, 2010.
26. Stephen P. Robbins, Timothy A. Judge. *Organizational Behavior*. Buku 1 and 2. Jakarta : Salemba Four, 2007.
27. Wong Jiahui, Beglaryan Hasmik. *Strategies For Hospitals to Improve Patient Safety: A Review of the Research*. The Change Foundation. Creative Change for Better Health, 2004. www.changefoundation.com.
28. World Health Organization. 10 Fact on Patient Safety. Online. http://www.who.int/features/factfiles/patient_safety_facts/en/index1.html.