

Correlation of Individual Characteristics and Knowledge with Behaviour of the Health Providers in Supporting the Patient Safety in the Hospital

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Abstract: Patient safety is an aspect that is assessed in the hospital accreditation standards. An accredited hospital should be able to provide a quality service and prioritize the patient safety. Hospital patient safety is a system that made patient care is safe. An effort to improve the quality and patient safety is by knowing the view of the health providers, because every medical procedure has a risk potential to cause an incident to the patient. The aim of this study is to get the view of the health providers regarding the patient safety in the hospital and the related factors. The method is cross sectional descriptive study with quantitative approach. The population of the study is all doctors and nurses in Hospital X in Jakarta, and the sample is a total of 161 doctors and nurses matched with the inclusion criteria. The result of the study showed that 60.9% health providers have good knowledge regarding patient safety, 44.1% have good perception regarding patient safety, and the dominant factor related to perception is the knowledge ($p=0.001$). The conclusion of the study is the level of knowledge of patient safety with standard value of 85% has been accomplished by 60.9% of the health provider, and the level of perception of the health providers regarding patient safety is within "fair" category 55.9%. The hospital needs to make some efforts to improve the knowledge of patient safety of the staffs so that the perception can be improved as well, and can be implemented in services that prioritize the quality and patient safety. The hospital management needs to create a competitive, innovative, and creative movements to make patient safety culture in the hospital.

Keywords: knowledge, perception, health providers, hospital patient safety

1. Introduction

Patient safety is a critical component in quality management of a hospital. Patient safety results from the interaction of structure and service components that complied to standards, and supported by standardized structure and optimal environment condition that produced safe service to the patient.¹

Patient safety is a system that is needed and hopefully can minimize errors in patient care in emergency room, wards, and the clinics. Another definition of patient safety is an effort to reduce unnecessary incidents related to health care to an acceptable minimum level. In a simple way, can be meaning as prevention efforts of errors and incidents in the health care to the patients.² the implementation of patient safety program is not only to improve the safety of the patients but also the safety of the health providers that doing their jobs based on the standard procedures. The hospital is always improving quality in three elements; structure, process, and outcome with various programs. There are three quality aspects that need concern are; clinical aspect, efficiency aspect, and patient safety aspect.³

The commitment of patient safety program that nowadays becomes a global issue has been developed since the end of 1990s, with the provocation of two reports; "To Err is Human" written by Institute of Medicine (IOM) in 1999, and "An Organization with Memory" from the UK Government's Chief Medical Officer" in 2000. Those two reports showed that errors in health services happened in 10% of the hospital admission in a routine base. In Utah and Colorado have been found adverse event in 2.9% of the hospitalized patients,

6.6% among those patients are death. In New York, adverse event level of the inpatient is 3,7% with 13.6% mortality. More than half of the adverse event from those reports are caused by medical errors that can be prevented. The mortality data of the reported adverse event is higher compared to mortality caused by motorcycles accidents (43.458), breast cancer (42.297) and AIDS (16.516).²

The number of the adverse events in several provinces in Indonesia are within the range of 0,7% - 37,9%. The DKI Jakarta province reported the highest number of incidents; 145 incidents (37,9%) with the details; near miss 69 cases (47,6%), adverse events 67 cases (46,2%) and others 9 cases (6,2%), followed by Central Java province 15,9% and DIY 13,8%¹.

Many patients hospitalized in the hospital became the victims of the patient safety incidents, especially the adverse event, some are caused by medication errors, and not because of the condition of the patient. The effects are vary, from the minor symptoms like nausea, pruritus, diarrhea, to the fatal ones like permanent disability and death. Type of incidents that often happen are error in giving the medicines, expertise error of the diagnostics, and misdiagnosis. Adverse events can be caused by individual factors such as fatigue, inadequate facilities and equipments, and management factors like delayed of the diagnostics or medications due to the complex process.² In his book, James Reason the writer of "Human Error : Models and Management" stated that almost all adverse events involved combination failure of defense system, human factor or staffs performed errors, environment factor, and organizational factor.⁴

According to the data from the KPRS team, the number of the incidents reported in 2017 were 726 cases, and after the safety culture survey was conducted in 2018, 801 incidents were reported, compared to 2017, there was an increased in the number of the case (75 cases, 10,33%).

The sentinel cases were also increased, and from the *Root Cause Analysis* reports, it is revealed that the root cause were; services did not comply to standard, ineffective communication during the hand over, and unintegrated teamwork.

A step towards the patient safety is by building awareness to the safety value.⁵ the early process to build the awareness of the staffs to the safety value is by knowing the level of knowledge regarding the standards, the goal of seven steps of patient safety, that will effect the perception of the staffs so the culture can be implemented in the whole services. The success of the patient safety is also depends on the medical staffs related to services, that has some obstacles in the implementation.

The doctors and the nurses are the staffs having contacts with the patients in the hospital. Both are professional staffs that have important roles in the function of the hospital as a health service institution. Compliance to patient safety standard are affected by the knowledge and perception of the health providers to the patient safety standards. The goal of this study is to see the knowledge and perceptions regarding the patient safety, that cover the patient safety goals, the standard procedures, and the type of the patient safety incidents and the reporting system. The nurses and doctors has the potential to cause incidents or harms to the patients due to ignorance or missed of the procedures. This study was conducted in Hospital X in Jakarta.

2. Method

This study uses a cross sectional design with a quantitative approach. The population involved were all doctors and nurses who caring direct patient totaling 1055 people. The number of samples had taken as many as 161 people were randomly selected by simple random sampling method and include the inclusion criteria, like having worked more than 1 year, the profession of doctors and nurses, being at the place of research and consent to become respondents. Data collection is carried out with questionnaires distributed to the respondent who enter the research sample and had filled by the themselves.

3. Results

Table 1 shows an overview of the characteristics distribution of respondents. Where it is seen that 85% are female and 18% are male. The age of respondents aged 37 years and over is more than 50.9%, the working period of respondents is also more in the group working for bekerja 10 years (55.3%), the level of diploma education (62.7%) with the nursing profession (82.6%). Respondents who had attended patient safety training were 83.9%.

Table 1: Description of Characteristics of Health Workers at X Hospital Jakarta in 2019

Individual characteristic	n	Percentage (%)
Gender :		
• Male	29	18
• Female	132	82
Age :		
• < 37 years	79	49,1
• ≥ 37 years	82	50,9
Work Experience		
• < 10 years	72	44,7
• ≥ 10 years	89	55,3
Education		
• Diploma	101	62,7
• Undergraduate	60	37,3
Profession		
• Doctor	28	17,4
• Nurse	133	82,6
Patient Safety Training		
• Never	26	16,1
• Ever	135	83,9

Table 2 illustrates the level of knowledge of respondents who have been grouped according to the cut-off value of 85 with a scale of 100. It appears that respondents with a good level of knowledge amounted of 98 people (60.9%).

Table 2: Description of the Knowledge Level of Health Workers on Patient Safety at Jakarta X Hospital in 2019

Patient Safety Knowledge	f	Percentage (%)
Less	63	39,1
Good	98	60,9

Table 3 illustrates the perceptual categories of respondents grouped according to the median value of 85. The result is respondents with less perception (55.9%) than those who have good perceptions of patient safety.

Table 3: Description of Health Personnel Perceptions of Patient Safety at Jakarta X Hospital in 2019

Patient Safety Perception	F	Percentage (%)
Less	90	55,9
Good	71	44,1

Table 4 shows a description of bivariate analysis with chi square as a meaningful variable selection process to be continued into multivariate analysis. The results show that the variables have a significant relationship with the perception of patient safety are the age category (p value 0.008), education level (p value 0.008) and knowledge (p value 0.001). The relationship of age with perception shows that of 82 respondents aged ≥ 37 years who have a good perception of patient safety amounted to 45 (54.9%) and in the age group <37 years of 79 respondents obtained 26 respondents (32.9%) had perceptions good for patient safety. The relationship between the level of education and the perception of the analysis showed that of the 101 diploma education respondents there were about 36 people (35.6%) who had good perceptions of patient safety while at the undergraduate level of 60 respondents 35 respondents (58.3%) had good perception. The relationship of knowledge and perception was obtained from 63 people with less

knowledge looked at 3 people (4.8%) who had good perceptions in the other ones 98 people who had good knowledge 68 (69.4%) also had a good perception of patient safety.

Table 4: Chi Square Analysis of Individual Characteristic, Knowledge and Perception of Patient Safety at Hospital X Jakarta in 2019

Variable	Perception				Total		P value
	Less		Good		f	%	
	f	%	f	%			
Gender							
Female	73	55,3	59	44,7	132	100	0,905
Male	17	58,6	12	41,4	29	100	
Age							
< 37 years	53	67,1	26	32,9	79	100	0,008
≥ 37 years	37	45,1	45	54,9	82	100	
Work Experience							
< 10 years	42	58,3	30	41,7	72	100	0,689
≥ 10 years	48	53,9	41	46,1	89	100	
Education							
Diploma	65	64,4	36	35,6	101	100	0,008
Undergraduate	25	41,7	35	58,3	60	100	
Patient Safety Training							
Never	14	53,8	12	46,2	26	100	0,988
Ever	76	56,3	59	43,7	135	100	
Knowledge Level							
Less	60	95,2	3	4,8	63	100	0,001
Good	30	30,6	68	69,4	98	100	

Based on the results of bivariate analysis, there were 3 variables that met the requirements ($p < 0.25$), age, education and knowledge which could enter into multivariate analysis. The final analysis results are only knowledge variables that have a positive relationship with perception. (p value 0.001).

4. Discussion

Doctors and nurses are professional staffs that have daily contacts with the patients in the hospital. The result of this study showed that the level of knowledge of the respondents are majority within good category (60,9%), but this is not followed with proper perception, majority respondents are still having fair perception regarding the patient safety (55,9%). Knowledge is an important domain in creating the perception. The level of understanding to a science is affected by intelligent level and the environment.⁸ Factors affecting the knowledge are; age, education, experience, informations, and the social culture.⁶

The ability to understand things and the way of thinking will develop with the increase of the age, and he or she becomes more wise. The level of education will affect the analysis ability, formal education will give knowledge, theory, and logics that has some impacts on the personality development.

This results are as same as with Mulyana's research (2013) which showed that age is related to influence have to implementing patient safety, where a person's behavior will be influenced by his views or perceptions of a matter. , knowledge with perceptions that support the application of patient safety.⁷ Hospital management have carry out creative and innovative coaching and learning patterns as an effort to

increase awareness services that focus on patient safety make a system that will force someone to change and make the patient safe as a work culture. A system is making competitive activities between employees and work units such as the patient safety award, while improving the knowledge through internal and external training and socialization, made the patient safety standards that important to assess employee performance and so on.

Overall, the understanding and perceptions of health workers still need to be improved because even though they have obtained patient safety knowledge, not all have a good perception of patient safety, especially for young employees with diploma education levels, which in this study are nursing staff.

5. Conclusion

Perception of patient safety of the doctors and nurses are still lacking and is to be related of age, education and knowledge factors of the respondents. It is known that the older age have perception of patient safety is better and the higher educated will be form a perception better than the lower educated. But the most dominant factor affecting one's perceptions is the level of knowledge they have. Individual factors are only a supporting part, but a person's understanding and perception of things will be largely determined by the information or knowledge he receives. Knowledge is an important to maked perception. The management is working hard to increase the level of knowledge about patient safety in their employees, especially health workers through various means and create activities that stimulate employees to be motivated make patient safety being cultural on their job that is formed by good perceptions.

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Author Profile



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