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Research Article

The Relationship between Patient Safety Culture and The Level of Knowledge of Health Personnel with Compliance in Patient Identification Implementation in Hospital

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Abstract

The basic principle of health care in health institutions that continues to require quality improvement is patient safety. This study aims to analyze the relationship between patient safety culture and the level of knowledge of health workers with compliance with patient identification. This research is quantitative analytical with an observational approach. Data was collected on 70 respondents by observing patient identification compliance, patient safety culture questionnaires, and the level of knowledge of health workers regarding patient identification. Data were analyzed using correlation coefficient analysis. The results of the analysis show that there is a significant relationship between patient safety culture and level of knowledge and compliance with patient identification ($p = 0.000 < 0.05$). The findings of this study provide insight into the importance of patient safety culture and the level of knowledge of health workers in increasing their compliance in carrying out patient identification, especially in hospitals. This study suggests that management and related health workers should actively participate in implementing patient safety programs, especially those involved in patient identification, to achieve optimal patient safety outcomes.

Keywords: Patient Safety Culture, Patient Identification, Hospital, Health personnel

INTRODUCTION

The basic principle of health care in health institutions that continue to require quality improvement is patient safety. [1] Patient safety includes risk assessment, patient risk identification and management, incident reporting and analysis, the ability to learn from incidents and their follow-up, and the implementation of solutions to minimize risk generation and prevent injuries caused by mistakes due to carrying out an action or not taking action that should be taken.[2] *Patient safety* is currently a top priority and plays an important role in preventing and reducing risks, errors and injuries that can occur during the service process for hospitals.[3] Patient safety is an important issue today considering the many cases of *medical error* that occur in various countries. Patient safety has become a priority for healthcare around the world.[4]

Patient identification is the first patient safety goal.[5] Patient identification is a process of providing marks or differentiators that include medical record numbers and patient identities with the aim of distinguishing between patients from one another for the accuracy of providing services, treatments and actions or procedures to patients. Patient identification is one indicator of *patient safety*. Correctly identify a particular patient as a person to be given a particular service or treatment by matching services or treatments with that patient.[6]

Patient identification is important to identify patients who will get services or treatment so that unwanted mistakes do not occur. Errors due to misidentification of patients often occur in almost all aspects or stages of diagnosis and treatment. Errors caused by patient misidentification can be prevented when healthcare providers consistently use two unique patient identifiers such as the patient's name and identification number (the patient's room, or bed number is not used) for verification against the patient's identity.[7] Research on the theme of misidentification conducted in India results show that many nurses, doctors and other health workers do not identify patients before performing actions on patients. More than 30% of staff do not carry out patient identification before drug administration.[8]

The research hospital is one of the type C private hospitals owned by a faith-based foundation and is located in the center of one of the cities in East Java. In the implementation of patient service activities, the Hospital also strives to contribute to public health maintenance that focuses on patient safety, but based on data and observations, there are problems related to patient safety and supported by reports on hospital quality indicators. In general, the results of patient identification compliance at RS X are quite fluctuating, but this still remains a problem because it has not reached the expected target of 100%. In addition, in the hospital there was a patient safety incident. From January to September 2022, there were 7 Near

Injury Events (KNC), then 24 Uninjured Events (KTC), and 3 Unexpected Events (KTD) were found with an incident target of 0.

Obedience is defined as a change in attitude and behavior to follow the requests and orders of others.[9] Patient identification compliance is important, even related to patient safety. Patient identification is a very basic thing that must be done by a health worker.[10] Proper identification of patients can avoid the occurrence of medical errors or unexpected events that can affect the patient. [11] The importance of patient identification compliance is greatly supported by the knowledge of a health worker. If health workers apply or identify patients based on adequate knowledge, then the identification behavior towards *patient safety* will be *long-lasting*. Improper identification can result in patients undergoing procedures that they should not have. The implementation of patient identification that must be carried out by health workers should become a culture or habit so that incidents do not occur in the health service process.[12]

Based on the description above, this study is to analyze the relationship between patient safety culture and the level of knowledge of health workers in hospitals with compliance with the implementation of patient identification.

RESEARCH METHOD

This type of research is quantitative analytical research using an observational approach. The design of this study is *Cross sectional*. The location of the research site was carried out in a private hospital in East Java Indonesia, while the research time was carried out from February 2023 to July 2023. The population in this study was all health workers totaling 161 people. The sample in this study was health workers in a qualified sample of 70 people. Inclusion criteria are health workers who are currently active in health services who carry out the service process for patients. Exclusion criteria are health workers who are sick or work permits, health workers who are on leave, health workers who refuse to participate in research. The sampling techniques are: *Propotion stratified random sampling* by proportioning samples based on work units. Work units are IGD, Outpatient, Inpatient, ICU, Pharmacy, Laboratory, Radiology, Operating Room, Nutrition, Medical Staff Group (General Practitioner, General Dentist, Specialist, and Dental Specialist.

The independent variables consist of organizational factors, namely patient safety culture, and individual factors, namely the level of knowledge of health workers. The dependent variable in this study is the compliance of health workers with the implementation of patient identification. Data collection is carried out by observation activities and filling out questionnaires. Data analysis was carried out descriptive and correlation analysis. Correlation analysis in this study uses the Chi-Square test where between independent and dependent variables there can be said to be a relationship if the p value on the Chi-Square test shows <0.05.

RESULT AND DISCUSSION

The results found that the age of health workers varied. The highest number was at the age of 41 years at 24 people (34.3%). Most of them are female. Almost half of the respondents had a diploma 3 education and a tenure of more than 5 years. The largest number worked in inpatient (27.1%), outpatient (12.9%) and KSM (12.9%).

Table 1: Characteristics of Respondents

Variable	Sum	Percentage (%)
Age		
20-25 years	10	14,3
26-30 years	19	27,1
31-35 years	9	12,9
36-40 yrs	8	11,4
> 41 yrs	24	34,3
Gender		
Man	19	27,1
Woman	51	72,9
Recent Education		
SMA	3	4,3
D4	3	4,3
D3	29	41,4
S1	7	10,0
Profession	25	35,7
Specialist	3	4,3
Period of Service		
<5 yrs	29	41,4
>5 yrs	41	58,6
Work Unit		
Hospitalization	19	27,1
Outpatient	9	12,9
Rg. Intensive/ICU	5	7,1
Operating Room	6	8,6
Pharmacy	6	8,6
Nutrient	5	7,1
KSM	9	12,9
ER	6	8,6
Laboratory	3	4,3
Radiology	2	2,8
Total	**70**	**100,0**

Teamwork shows that the teamwork culture in this hospital is mostly strong (91.4%). Strong teamwork strengthens collaboration to improve patient safety. Expectations from supervisors, managers, and actions that support patient safety are the majority strong (74.3%). Strong expectations are necessary to create a solid patient safety culture. The majority of organizational learning cultures related to patient safety are strong (90%). A strong learning culture allows for continuous improvement to prevent mistakes. Management support for patient safety is mostly strong (91.4%). Strong management support is a key factor in creating a good patient safety culture. Overall perception of patient safety: The overall perception of patient safety is mostly strong (92.9%). Strong perceptions reflect a high awareness and priority for patient safety. The hospital has a strong culture of providing feedback from communication regarding errors (87.1%). Constructive

feedback aids learning and improvement. The majority of open communication in this hospital is moderate (71.4%). Good communication openness enables effective exchange of information and error prevention. The majority incident reporting culture is strong (78.6%). Regular incident reporting helps identify problems and take corrective actions. Teamwork between units is mostly strong (84.3%). Good cooperation between units facilitates collaboration in addressing patient safety challenges. The majority staffing arrangement was strong (84.3%). Good staffing arrangements include the allocation of adequate resources to improve patient safety. Handover and transfer of patients were predominantly strong (92.9%). A well-organized handover and transfer process is essential to ensure smooth patient care. The culture of non-punitive response to error is a moderate majority (91.4%).

Table 2 : Analysis of 12 Dimensions of Patient Safety Culture

No	DIMENSION	Patient Safety Culture Categories						Total	
		Strong		Keep		Weak		n	%
		n	%	n	%	n	%		
1	Teamwork	64	91,4	4	5,7	2	2,9	70	100%
2	Supervisor, manager, and patient safety expectations	52	74,3	3	4,3	15	21,4	70	100%
3	Organizational learning	63	90,0	2	2,9	5	7,1	70	100%
4	Safety management support patient	63	90,0	1	1,4	6	8,6	70	100%
5	Overall perception of patient safety	65	92,9	3	4,3	2	2,9	70	100%
6	Feedback from communication regarding errors	61	87,1	3	4,3	6	8,6	70	100%
7	Open communication	50	71,4	5	7,1	15	21,4	70	100%
8	Frequency of incident reporting	55	78,6	9	12,9	6	8,6	70	100%
9	Teamwork between units	59	84,3	9	12,9	2	2,9	70	100%
10	Staff settings	59	84,3	6	8,6	5	7,1	70	100%
11	Handover and transfer of patients	65	92,9	4	5,7	1	1,4	70	100%
12	Non-punitive response to errors	0	0,0	64	91,4	6	8,6	70	100%

Health workers mostly have good knowledge of the concept of patient identification, the purpose of patient identification, the time of implementation of patient identification, patient identification strategies, evidence of implementation of identification, color of patient bracelets and factors affecting identification. However, there is an area where their knowledge is still sufficient or lacking, namely SPO patient identification methods.

Table 3: Level of Knowledge of Health Workers related to Patient Identification

No	Aspects	Level of Knowledge						Total	
		Good		Enough		Less			
		n	%	n	%	n	%	n	%
1.	The concept of patient identification	61	87,1	1	1,4	8	11,4	70	100%
2.	Purpose of patient identification	62	88,6	2	2,9	6	8,6	70	100%
3	Time of patient identification	60	85,7	1	1,4	9	12,9	70	100%
4	Patient identification strategies	68	97,1	1	1,4	1	1,4	70	100%
5	Proof of identification	68	97,1	1	1,4	1	1,4	70	100%
6	SPO how to identify patients	52	74,3	3	4,3	15	21,4	70	100%
7	Color of the patient's bracelet	64	91,4	2	2,9	4	5,7	70	100%
8	Factors affecting identification	69	98,6	0	0,0	1	1,4	70	100%

The results of identifying compliance of health workers show that in all indicators, most actions have been taken correctly. Table 4 shows observations of health worker compliance.

Table 4: Health Workforce Compliance

Indicators	Not done		Done		Done right		Total	
	n	%	n	%	n	%	n	%
Carry out the patient identification process using at least two identities when administering drugs	0	0,0	3	5,0	57	95,0	60	100
Carry out the patient identification process using at least two identities when administering blood or blood products	0	0,0	4	10,3	35	89,7	39	100
Perform the patient identification process using a minimum of two identities when installing intravenous lines	0	0,0	1	2,8	35	97,2	36	100
Carry out the patient identification process using at least two identities before taking blood and other specimens for supporting laboratory examinations	0	0	4	10,3	35	89,7	39	100
Carry out the patient identification process using at least two identities before diagnostic radiology procedures	0	0	0	0	2	100	100	100
Carry out the patient identification process by using at least two identities when serving patient food	0	0	0	0	5	100	5	100

The results found a relationship between patient safety culture and compliance in the implementation of patient identification, with the *significancy value* in the results showing (p = 0.000 < 0.05). In addition, there is a relationship between knowledge of patient identification and compliance in the implementation of patient identification, with the value of *significancy* in the results showing (p = 0.000 < 0.05).

Table 5: The Relationship of Patient Safety Culture and Adherence to Patient Identification Implementation Adherence

Variable	Compliance in the Implementation of Patient Identification								*p-value*
	Obey and True		Obedient		Disobedient		Total		
	f	%	f	%	f	%	f	%	
Patient Safety Culture									
Strong	61	87.1	3	4.3	0	0.0	64	100	0,000
Keep	1	1.4	5	7.1	0	0.0	6	100	
Weak	0	0.0	0	0.0	0	0.0	0	0.0	
Total	62	88.6	8	11.4	0	0.0	70	100	
Patient Identification Knowledge									
Good	58	82.9	3	4.3	0	0.0	61	100	0.000
Enough	4	5.7	5	7.1	0	0.0	9	100	
Less	0	0.0	0	0.0	0	0.0	0	0.0	
Total	62	88.6	8	11.4	0	0.0	70	100	

The results showed a significant relationship between patient safety culture and adherence to patient identification. Culture is defined as a mixture of values, devices, beliefs, communication and explanations of behavior that provide guidance to a person. Organizational culture is a form of a group of principles and rules that are understood together and shape the behavior of members. Patient safety culture is a product of the values, attitudes, perceptions, competencies, and behavior patterns of individuals and groups that determine the commitment and style and proficiency of an organization's safety and health management. A patient safety culture is implemented with the aim of increasing awareness in preventing *errors* and reporting incidents.[13]

Patient safety culture can be defined as part of the organizational culture, and to achieve patient safety there must be a culture that allows health workers working in hospitals to share information about patient safety issues and take corrective actions.[14] Safety culture surveys are useful for

measuring organizational conditions that can reduce unwanted events and patient accidents in hospitals.[15]

Compliance is the behavior of officers who are focused on instructions or instructions that have been given in any form of practice that has been determined.[16] According to Niven (2002) in Suadnyani (2017), compliance of professional officers (health workers) is the extent to which a person's behavior is in accordance with the provisions that have been given by the leadership or the hospital.[17]

The results also found a significant relationship between patient safety culture and knowledge level and adherence to patient identification. This is in accordance with other research which found there was a significant relationship between the level of nurse knowledge and the implementation of patient identification[18]. It is recommended that hospital management make efforts to increase nurses' knowledge, especially in the field of patient safety.[19] Research in Saudi Arabia found health care providers and non-health care providers reported high levels of knowledge about patient identification standards, including the need to use two patient identifiers. However, the audit results showed that health service providers used two identifiers, namely only checking the patient's name and not checking the medical record number. These results highlight the need for further attention to inappropriate patient identification, including understanding the causes and ways to improve the translation of patient identification standards into practice.[20] In individual health services, checking patient identity through identification bracelets is one of the most effective and safest methods, besides verbal identification and checking health documentation. The format/shape of the bracelet is usually standardized thanks to the protocols implemented by each healthcare organization to ensure patient safety goals are achieved; However it is recommended to have at least two of the following descriptions that should always be considered in the design of an identification bracelet: name and surname (mother's full name for newborns), date of birth and medical record number. The use of non-recommended identifiers such as bed number, age and hospitalization data will not guarantee safe assistance to users as they may represent misleading information.[21]

CONCLUSION

The patient safety culture and the level of knowledge of health workers is significantly related to compliance with the implementation of patient identification in hospital. Recommendations for increasing the compliance of health workers in the implementation of patient identification include: periodic re-socialization to all staff about the importance of patient identification in compliance and correctly according to applicable standards, optimization of the team and members of the patient safety program, so that patient safety program activities can run well, so as to reduce the number of insiedn, especially related to patient identification and optimization of the role of superiors, full support and creating a strong safety culture in each and between units

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Conflict of Interest

The authors declare any conflict of interest.

Author contribution

Agustina Ayu: Conceptualization, Methodology, Data Curation, Investigation, Writing-Original draft preparation

Puput Fiohana : Conceptualization, Data Curation, Writing-Original draft preparation

Djazuly Chalidyanto: Writing-Reviewing, and Editing

Nyoman Anita Damayanti: Supervision, Validation

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