



## The Relationship between Safety Culture and Risk Management on Patient Safety Incidents in the Inpatient Room at Stella Maris Hospital, Makassar

Lilian Ishak<sup>1\*</sup>, Yulia Yasmi<sup>2</sup>

Lembaga Akreditasi Fasilitas Kesehatan Indonesia

**Corresponding Author:** Lilian Ishak [lilianishak@gmail.com](mailto:lilianishak@gmail.com)

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### ABSTRACT

Building a culture of safety and risk management is an important element to improve patient safety and quality of service. The aim of this research is to identify the relationship between Safety Culture and Risk Management on Patient Safety Incidents in the Inpatient Room at Stella Maris Hospital, Makassar. The research method uses a descriptive approach, with a cross sectional method. The research sample was 57 nurses in the Inpatient Room at Stella Maris Hospital, Makassar, using a simple random sampling technique. From the results of the Spearman correlation test, it was found that the correlation coefficient ( $r$ ) = 0.575, which means that the level of strength of the relationship (correlation) between risk management and patient safety incidents is 0.575 or very strong. The correlation coefficient number is positive which indicates a unidirectional relationship, the resulting Sig value. (2-tailed) 0.000 where this result is  $<0.05$ , there is a significant relationship between risk management and patient safety incidents. The conclusion and implementation of the research results is that a good safety culture and risk management will reduce patient safety incidents and improve the quality of service and patient safety

## **INTRODUCTION**

One of the principles of health services is to save patients with procedures and actions that are safe and do not endanger the patient or service providers. Patient safety is an effort to ensure that all actions and activities related to patients carried out by health workers are safe and do not cause harmful effects or impacts on patients through a series of activities that have been regulated by law.

Based on research by Maghfiroh & Rochmah (2017), patient safety has a major influence on the image, responsibility, social, moral and performance of health workers so that patient safety is related to the issue of quality and image of health services.

In 1999, the American Institute of Medicine (IOM) initiated a change in perception that brought about a revolution in the healthcare system and contributed greatly to patient safety. The American Institute of Medicine (IOM) announced that "to err is human". When errors or failures occur in medical care that result in harm to patients and even death, one should not look for the culprit but investigate and examine, what caused the failure to prevent similar occurrences in the future. No human being does not make mistakes, and this fact also applies to nurses and the health care system that handles human life. (Yaron and Yossi, 2023)

Patient safety is a global issue in various countries (WHO, 2019), it is estimated that 10 - 25% of inpatients experience patient safety incidents (Levett-Jones et al., 2020). Preventing patient safety incidents is the main role of nurses in hospitals, because nurses are the most dominant health workers in Indonesia and have direct relationships with patients. Nurses are also always around the patient while health services are provided. This position makes nurses play an important role in preventing patient safety incidents (Roussel, Swansburg et al., 2008). Patient safety incidents can be prevented or minimized by implementing a safety culture. Safety culture can be the main foundation in realizing overall patient safety (Karmila, Suharni, 2023). Creating a safety culture is very important. As a health service organization that continuously improves its services, it is important for hospitals to foster a culture of safety. To achieve a safety culture requires an understanding of values, beliefs, important norms in the organization, and attitudes and behavior related to patient safety. With values and beliefs related to patient safety instilled in every member of the organization, each member will know what should be done in implementing patient safety.

Patient safety culture has a direct relationship to improving the implementation of patient safety which will ultimately have an impact on patient safety outcomes. Patient safety culture is the output of individual and group values, behaviors, competencies, patterns and habits that reflect the commitment, style and skills of organizational management and Patient safety explains that patient safety culture is influenced by organizational systems, practices and processes. An organization with a weak safety culture will limit the safety system and organization, whereas one with a positive culture will have many of the right people to promote patient safety. (AHRQ, 2016)

Thus, this behavior ultimately becomes a culture that is embedded in every member of the organization in the form of safety culture behavior. Implementing a safety culture will bring benefits to patients and health service providers. There are several dimensions of patient safety culture.

Every medical effort generally contains risks, some of which are mild or almost clinically insignificant. However, quite a few also have quite serious medical consequences. Risk is defined as the possibility of something happening or the potential for harm to occur that could have an impact on the final result.

Risk management is a coordinated activity to direct and control an organization related to risk. Risk management is also a proactive and continuous process including identification, analysis, evaluation, control, communication information, monitoring and reporting of risks, including various strategies implemented to manage risks and their potential. Specifically, health care risk management consists of the systems and processes used to uncover, mitigate, and prevent risks in health care institutions.

Risk management according to The Joint Commission on Accreditation Of Healthcare Organizations is a clinical and administrative activity carried out by hospitals to identify, evaluate and reduce the risk of injury or loss to patients, visitors and hospital institutions.

Risk management can be described as a continuous process of systemic identification, evaluation and management of risks with the aim of reducing adverse impacts on organizations and individuals

## **THEORETICAL REVIEW**

### ***Patient Safety Culture***

According to Setiowati, 2010, patient safety culture is influenced by organizational systems, practices and processes. An organization with a weak safety culture will limit its safety systems and an organization with a positive culture will have many of the right people to promote patient safety.

According to WHO (2009) explains that health service organizations must of course develop a culture of patient safety such as clear goals, fixed procedures and safe processes. Patient safety culture is the values, beliefs, behaviors and commitments that must be shared in health services related to supervision and control related to a hospital culture oriented towards patient safety.

### ***The Importance of Safety Culture***

The importance of safety culture in healthcare is a topic that continues to receive widespread attention among healthcare professionals and institutions. A strong safety culture is considered the backbone in improving the quality of health services and reducing unwanted incidents, which can have fatal consequences for patients and harm institutions reputationally and financially. According to Weingart et al. (2013), hospitals with an effective safety culture tend to have lower rates of medical errors as well as increased job satisfaction among staff, which directly contributes to improving the quality of patient care. Patient safety culture surveys can be conducted based on the underlying

elements and based on the maturity level of the organization in implementing patient safety culture. Standards for measuring patient safety culture were developed by the Agency for Health Research Quality (AHRQ) published in The Hospital Survey on Patient Safety Culture version 2.0 with 10 dimensions for measuring safety culture, including: Communication about errors, openness of communication, handover and exchange of information, support Hospital Management for Patient Safety, Organizational Learning, Reporting Patient Safety Incidents, Response to Errors, Staffing and Work Pace, Supervisor, Manager or Clinical Leader Support for Patient Safety and Teamwork. (AHRQ, 2019).

### ***Risk management***

Health service risk management consists of systems and processes used to reveal, mitigate and ensure patient safety. All hospital staff must be aware of the risks that may occur in their respective work units, both medical and non-medical. Risk is the possibility of an event occurring that has a negative impact on achieving organizational goals. Risk management is a coordinated activity to direct and control an organization related to risk. The risk management process is the systematic application of policies, procedures and management practices for communication, consultation, establishing context, and identifying, analyzing, evaluating, handling, monitoring and reviewing risks with the aim of eliminating or minimizing their impact. (Permenkes, 2019).

The stages of risk management are: Risk Awareness. that is. All hospital staff must be aware of the risks that may occur in their respective work units, both medical and non-medical. Methods used to identify risks include: Self-assessment, a system for reporting events that have the potential to pose a risk (incident reports) and clinical audits. Risk control (and or Risk Prevention) are steps taken by management to control risks by finding ways to eliminate risks (engineering solutions), reduce risks (control solutions) both in terms of probability and severity, reducing their impact. (Permenkes, 2019)

### ***Patient Safety Incidents***

Patient Safety Incidents are any unintentional events and conditions that result in or have the potential to result in preventable injury to patients, consisting of unexpected events, near-miss events, non-injury events, potential injury events and sentinel events. An adverse event (KTD) is an unexpected event that results in patient injury due to carrying out an action or not taking action that should be taken, and not because of the underlying disease or condition of the patient. Injuries caused by medical errors or not medical errors because they cannot be prevented.

A Sentinel event is an unforeseen accident that results in death or serious injury, including:

- Unexpected death, including but not limited to:
  - a) Deaths that are not related to the course of the patient's illness or the patient's condition (for example, death following a postoperative infection or pulmonary embolism).
  - b) Death of a term baby

- c) Suicide
  - Permanent loss of function that is not related to the patient's disease or condition.
  - Wrong site surgery, wrong procedure and wrong patient
  - Contracting a chronic or fatal disease due to a blood or blood product transfusion.
  - Child care includes babies who are sent to homes other than their parents' homes
  - Rape, workplace cruelty such as assault (resulting in death or permanent loss of function), or murder (intentional) of patients, staff members, doctors, medical students, trainees, as well as visitors or vendors/third parties within the hospital environment .

Patient safety incident reporting is a system for documenting patient safety incident reports, analysis and solutions for learning. The reporting system is expected to encourage individuals within the hospital to care about dangers or potential dangers that could occur to patients. Reporting is also important to use to monitor error prevention efforts so that it can encourage investigations. On the other hand, reporting will be the start of a learning process to prevent the same incident from happening again. (Permenkes 2017)

## METHODOLOGY

The methodology used in this research is a descriptive approach with a cross sectional method. The research sample was 57 nurses in the Inpatient Room at Stella Maris Hospital, Makassar, using a simple random sampling technique. Primary data was collected through a questionnaire created in Google Form. Data collection was carried out using 3 questionnaires, namely a safety culture questionnaire (Hospital Survey on Patient Safety Culture, AHRQ 2004), a risk management questionnaire and a patient safety incident questionnaire. The Safety Culture Questionnaire consists of 2 parts. The first part of the questionnaire contains the identity of the respondent and the second part of the questionnaire is the aspect of the unit in the hospital which consists of positive and negative statements on a Likert scale. For positive statements, the Likert scale is 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree, the Likert scale for negative statements is 1 = strongly agree, 2 = agree, 3 = neutral, 4 = disagree, 5 = strongly disagree. After the data was collected, a statistical test was carried out using the Spearman correlation test.

The Charles Spearman correlation test or Spearman's Rank Correlation Coefficient or Spearman's rho is a hypothesis test to determine the relationship between 2 variables. To find out whether there is a relationship or not, it can be seen from the significance value and how strong the relationship is can be seen from the correlation coefficient or r value. If the correlation coefficient value is 0.00 - 0.25, it means the relationship is weak, the correlation coefficient value is 0.26 - 0.50 is a sufficient relationship and the relationship is strong if the correlation coefficient value is 0.51 - 0.75. (Putu Artaya, 2019)

The strength and direction of the correlation (relationship) will have meaning if the relationship between these variables is significant. It is said that there is a significant relationship, if the Sig value. (2-tailed) calculation results

are smaller than the value 0.05 or 0.01. Meanwhile, if the sig. (2-tailed) is greater than 0.05 or 0.01, then the relationship between these variables can be said to be insignificant or meaningless.

## RESULTS AND DISCUSSION

*Table 1. Distribution Based on Respondent Characteristics at Stella Maris Hospital Makassar*

<b>Karakteristik Responden</b>	<b>N</b>	<b>%</b>
<b>Umur</b>		
≤ 25 Tahun	10	17,5
26 - 35 Tahun	34	59,7
36 - 45 Tahun	11	19,3
46 - 55 Tahun	2	3,5
<b>Jenis kelamin</b>		
Laki- laki	5	8,8
Perempuan	52	91,2
<b>Tingkat Pendidikan</b>		
D III	15	26,3
S1	1	1,8
S1 + Ners	41	71,9

*Sumber : Data Primer 2024*

Based on table 1 regarding the frequency distribution of respondents' characteristics above, it shows that of the 57 respondents, the most age characteristics were in the 26 - 35 year age category, amounting to 34 people (59.7%) then in the 36 - 45 year age category, 11 people (19.3%) and the age category ≤ 25 years was 10 people (17.5%) and the lowest was in the 46 - 55 year age category, there were 2 people (3.5%). Respondents based on gender were 5 men (8.8%) and 52 women (91.2%).

This shows that the nurses who work in the treatment room at Stella Maris Hospital, Makassar, are dominated by women. The frequency distribution of respondents based on the educational level of nurses working in the treatment room was dominated by 41 Bachelor + Nursing graduates (71.9%), 15 people with a D III education level (26.3%) and 1 person with a Bachelor's degree (1,8 %)

### *Collaborative relationships (Teamwork) with patient safety incidents*

From the results of the Spearman correlation test, it was found that the correlation coefficient ( $r$ ) = 0.532, which means that the level of strength of the relationship (correlation) between teamwork and patient safety incidents is 0.532 or very strong. The correlation coefficient figure is positive which indicates a unidirectional relationship, thus it can be concluded that the more cooperation (teamwork) is improved, the patient safety incidents will be lower. From the results of the Spearman correlation test, the Sig value was obtained. (2-tailed) 0.022 where this result is  $<0.05$  so it can be concluded that there is a significant relationship between Teamwork and patient safety incidents.

The results of Sri Oktihastuti's research (2015) showed the significant influence of team collaboration on reporting patient safety incidents at AM Parikesit Tenggarong Hospital with a p value of  $0.000 < 0.05$ .

Working together as a team can function as a barrier against dangers posed by the limitations of each team member, besides that each individual can compete to remind, correct and communicate well in implementing safer nursing care for patients. On the other hand, if IT members cannot work together, communication is not harmonious, individuals prioritize their egos and the unequal distribution of tasks will create opportunities for errors to occur. (Haerawati, 2017).

#### ***Relationship between staffing and work speed with patient safety incidents***

The results of the Spearman correlation test showed that the correlation coefficient ( $r$ ) = 0.281, which means that the level of strength of the relationship (correlation) between staffing and work speed and patient safety incidents was 0.281 or quite strong. The correlation coefficient figure is positive which indicates a unidirectional relationship, thus it can be concluded that staffing and work speed are increasing, patient safety incidents are getting lower. From the results of the Spearman correlation test, the Sig value was obtained. (2-tailed) 0.032 which is  $< 0.05$  so it can be concluded that there is a significant relationship between staffing and work speed and patient safety incidents.

#### ***Relationship of Organizational Learning - Continuous Improvement to patient safety incidents***

From the results of the Spearman correlation test, it was found that the correlation coefficient ( $r$ ) = 0.546, which means that the level of strength of the relationship (correlation) between Organizational Learning - Continuous Improvement and patient safety incidents is 0.546 or very strong. The correlation coefficient number is positive which indicates a unidirectional relationship, thus it can be concluded that the more Organizational Learning - Continuous Improvement is improved, the lower patient safety incidents will be. From the results of the Spearman correlation test, the Sig value was obtained. (2-tailed) 0.008 where this result is  $< 0.05$  so it can be concluded that there is a significant relationship between Organizational Learning - Continuous Improvement and patient safety incidents

Previous research by Rokia Kusumapradja (2017) had Pearson correlation test results showing significance  $< 0.05$  for patient safety incidents. This is in line with research by Yulia Yasmi (2015) where the level of patient safety is proven to be significantly related to a culture of learning and a culture of not blaming with an Odds Ratio (OR = 15.516)

#### ***The relationship of a Supervisor, Manager, or Clinical Leader for Patient Safety to a patient safety incident***

The results of the Spearman correlation test showed that the correlation coefficient ( $r$ ) = 0.436, which means that the level of strength of the relationship or correlation between supervisors, managers or clinical leaders for patient safety and patient safety incidents is 0.436 or quite strong. The correlation coefficient

number is positive which indicates a unidirectional relationship, thus it can be concluded that supervisors, managers or clinical leaders improve patient safety, which will reduce patient safety incidents.

From the results of the Spearman correlation test, the Sig value was obtained. (2-tailed) 0.001 which is  $< 0.05$  or 0.01. An asterisk (\*\*) means that the correlation is significant at a significance value of 0.01.

It can be concluded that there is a significant relationship between supervisors, managers or clinical leaders for patient safety and patient safety incidents.

This is in line with research conducted by Karmila (2023) where the results of the chi square test were 0.02, where this result was smaller than  $\alpha = 0.05$ , so it can be concluded that there is a significant relationship between management/management expectations and actions to support patient safety and reporting patient safety incidents at TK hospitals. II Pelamonia Makassar. This is supported by research by Maria Yuventa (2020) in the inpatient room at Prof.Dr. W.Z. Johannes Kupang who showed the influence of leadership on patient safety incidents ( $p = 0.021$ ).

Management leadership support for patient safety greatly influences employee performance, which is one of the factors that influences patient safety incidents. (Gunawan 2015).

#### ***Relationship between Communication Openness and patient safety incidents***

From the results of the Spearman correlation test, it was found that the correlation coefficient ( $r$ ) = 0.833, which means that the level of strength of the relationship or correlation between openness of communication and patient safety incidents is 0.833 or very strong. The correlation coefficient number is positive which indicates a unidirectional relationship, thus it can be concluded that the more openness of communication is increased, the more patient safety incidents will be reduced. From the results of the Spearman correlation test, the Sig value was obtained. (2-tailed) 0.001 where this result is  $< 0.05$  so it can be concluded that there is a significant relationship between openness of communication and patient safety incidents.

These results are in line with Karmila's research (2023), which showed that the chi square test result was 0.050, where this result was not greater than or equal to  $\alpha = 0.05$ , so it can be concluded that there is a significant relationship between open communication and reporting of patient safety incidents at TK II Pelamonia Hospital. Makassar. Communication patterns influence patient safety incidents. Communication patterns describe mutual trust and openness (communication founded on mutual trust and openness); Good information flow and processing will increase reporting of patient safety incidents (Kusumapradja, 2017).

#### ***Relationship between Hospital Management Support for Patient Safety and patient safety incidents***

From the results of the Spearman correlation test, it was found that the correlation coefficient ( $r$ ) = 0.512, which means that the level of strength of the relationship (correlation) between hospital management support and patient

safety incidents is 0.512 or very strong. The correlation coefficient number is positive which indicates a unidirectional relationship,

Thus it can be concluded that hospital management support is increasingly improved, patient safety incidents are getting lower. From the results of the Spearman correlation test, the Sig value was obtained. (2-tailed) 0.022 where this result is  $<0.05$  so it can be concluded that there is a significant relationship between hospital management support and patient safety incidents. From the research results of Suharni (2023), the chi square test results were 0.02 ( $<0.05$ ), so it can be concluded that there is a significant relationship between hospital management support for patient safety and reporting of patient safety incidents at TK hospitals. II Pelamonia Makassar. This is in line with research by Kartika (2013) showing that analysis of the influence of management on patient safety incidents in hospitals gave positive appreciation to nurses who reported incidents that occurred in the unit with a value of  $p = 0.001$ , which means  $p > 0.05$ .

### ***Relationship of Handover and Information Exchange with patient safety incidents***

From the results of the Spearman correlation test, it was found that the correlation coefficient ( $r$ ) = 0.532, which means that the level of strength of the relationship (correlation) between handover and exchange of information and patient safety incidents was 0.532 or very strong. The correlation coefficient figure is positive which indicates a unidirectional relationship, thus it can be concluded that the more handover and exchange of information is improved, the lower patient safety incidents will be. From the results of the Spearman correlation test, the Sig value was obtained. (2-tailed) 0.022 where this result is  $<0.05$  so it can be concluded that there is a significant relationship between handover and exchange of information and patient safety incidents.

This is in line with research by Hawkins & Flynn (2015) which aims to examine the relationship between patient safety culture and adverse patient events where a positive patient safety culture is an important variable for optimal outcomes in outpatient settings.

### ***The relationship between safety culture and patient safety incidents***

From the results of the Spearman correlation test, it was found that the correlation coefficient ( $r$ ) = 0.516, which means that the level of strength of the relationship (correlation) between safety culture and patient safety incidents is 0.516 or very strong. The correlation coefficient figure is positive which indicates a unidirectional relationship, thus it can be concluded that safety culture is improving, patient safety incidents are getting lower. From the results of the Spearman correlation test, it was obtained

Sig value results. (2-tailed) 0.000 where this result is  $<0.05$  so it can be concluded that there is a significant relationship between safety culture and patient safety incidents.

This is in line with research by Dwi Anggraeni (2016) regarding the influence of patient southern culture on the attitude of reporting incidents to nurses at the TK II Dr. Hospital inpatient installation. Soepraoen shows that

simultaneously patient safety culture has a significant effect on attitudes towards reporting incidents.

This research was also conducted by Delly Tunggal (2018) in her research entitled the relationship between patient safety culture and reporting of patient safety incidents by nurses in the Inpatient Room at Hospital The value  $r = .536$ ,  $p = .000$  which shows that there is a significant relationship between patient safety culture and reporting of patient safety incidents by nurses in hospital inpatient rooms.

In a journal entitled the influence of patient safety culture on attitudes towards reporting safety incidents at hospitals, Nirmala Suri Sukoharto by Tri Wigati (2020) shows a significant relationship between patient safety culture and attitudes towards reporting patient safety incidents at hospitals. This shows that a good safety culture will reduce patient safety incidents.

### *The relationship between risk management and patient safety incidents*

From the results of the Spearman correlation test, it was found that the correlation coefficient ( $r$ ) = 0.575, which means that the level of strength of the relationship (correlation) between risk management and patient safety incidents is 0.575 or very strong. The correlation coefficient figure is positive which indicates a unidirectional relationship, thus it can be concluded that risk management is improved, patient safety incidents are lower. From the results of the Spearman correlation test, the Sig value was obtained. (2-tailed) 0.000 where this result is  $<0.05$  so it can be concluded that there is a significant relationship between risk management and patient safety incidents.

In Andi Nurzakiah's (2016) paper entitled hospital risk management, what needs to be developed is integrated risk management, namely the process of identifying, assessing, analyzing and managing all potential risks and patient safety incidents for all types of services in hospitals at every level. assessed appropriately, this process will help hospitals, owners and practitioners to determine priorities and improve decision making to achieve optimal balance and reduce patient safety incidents. In Fitri's (2016) research entitled Risk Management in health services in the IFRS Pharmacy Installation at Adjidarmo Regional Hospital in Lebak district, Banten shows a strong relationship between risk management and patient safety incidents.

## **CONCLUSIONS AND RECOMMENDATIONS**

The conclusion of the research results shows that the strength of the relationship (correlation) of safety culture and risk management with patient safety incidents is very strong. The correlation coefficient figure is positive which indicates a unidirectional relationship, thus it can be concluded that if safety culture and risk management are improved, patient safety incidents will be lower. From the results of the Spearman correlation test, the Sig value was obtained. (2-tailed) 0.000 where this result is  $<0.05$  so it can be concluded that there is a significant relationship between safety culture, risk management and patient safety incidents

## FURTHER RESEARCH

Suggestions for further research can be carried out with a different research design and type of qualitative research so that it has broader information related to the title raised

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