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# Impact of Patient Safety Culture and Reporting Flow Perception on Nurses' Intentions to Report Safety Incidents

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**KEYWORDS**
Patient Safety Incident*; underreporting;* Patient Safety Culture; Perception; Nurses

**ABSTRACT**
The nursing unit accounts for the highest number of Patient Safety Incidents (PSI), with 64.83% of incidents in Hospital X Malang occurring in this unit, creating opportunities for underreporting. This study analyzes the influence of patient safety culture on nurses' willingness to report incidents, using a descriptive quantitative cross-sectional approach with Partial Least Square analysis. Data were collected through questionnaires from nurses in various units. Results showed a moderate safety culture and reporting willingness, with significant effects of safety culture on perceptions of reporting flow, which in turn influenced reporting willingness. Weaknesses were found in understanding report-making and grading implementation. The study emphasizes the need to foster a strong patient safety culture and streamline reporting systems. Practical applications include targeted training for nurses, enhanced communication channels, and a non-punitive reporting framework to reduce underreporting, strengthen reporting systems, and improve patient safety.



## Introduction

In the past, the first reaction to a patient safety incident (PSI), hereafter referred to as an incident in the hospital, was often to blame the staff involved, and punitive measures were taken. This resulted in staff being reluctant to report incidents. According to Noble and Provonost (2010) Patient Safety Incidents that are not reported or hidden will contribute to the inability of health services to accurately identify patient safety risks. There are several factors that cause health workers to be reluctant to report Patient Safety Incidents, including fear of punishment (being fired from work), fear of lawsuits, unclear reporting systems, complex administration and documentation and unclear follow-up of reported incidents. (Noble, Pronovost, & Fccm, 2010)

There are problems that often hinder incident reporting, namely reports are perceived as nurses' work, including reports that are often hidden / underreported. Data from the US shows that only about 4-50% of actual incidents are reported, while data from the United Kingdom shows that at least 22-39% of medical errors are not reported. The underreporting of Patient Safety Incidents causes the Patient Safety Incident data to be biased.

The Hospital Patient Safety Committee (KPPRS) has made guidelines for Patient Safety Incident reporting in 2015, there are 13 points of incident reporting flow to the hospital patient safety team (internal) which are translated by the hospital into Patient Safety Incident Reporting. (KKP- RS,

2008). The Patient Safety Incident Report in 2018 was divided into two semesters, namely semester I and II. During Semester I, 9 incidents were reported while Semester II increased to 45 incidents as illustrated in the following graph.

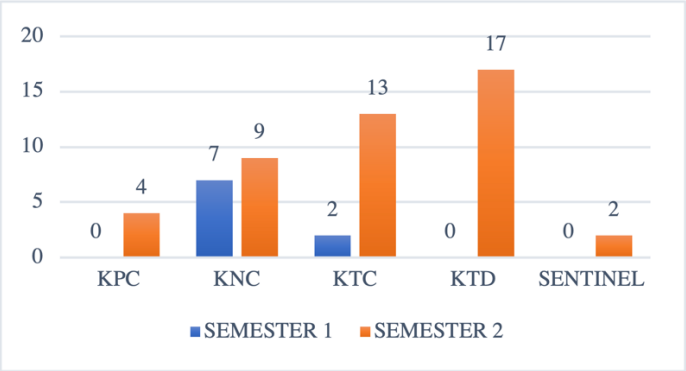


**Figure 1. IKP report at X Malang Hospital**

Based on the 2018 IKP Data Report at X Malang Hospital, 64.83% occurred in the nursing unit, 18.5% in the pharmacy unit, and 49.25% by doctors, and 7.40% in other units. The high number of Patient Safety Incidents in the nursing unit is in accordance with the distribution of Patient Safety Incident Reports published by KKPRS in 2015, where the nursing unit contributed the highest number of incidents. (Djoti, 2019). The highest percentage increase occurred in the inpatient room with a percentage increase in IKP cases of 30% when compared to the same month in 2016. (Handayani & Kusumapradja, 2018).

Based on the data above that the nursing unit, especially inpatients, contributes to a fairly high IKP reporting rate, the researcher wants to examine nursing staff because they are directly related to patients and the largest number of nurses in the hospital as the object of research, who work in inpatient units, *Intensive Care Units*, Operating Room Units, Emergency Units and outpatient units. Meanwhile, to find out the culture, it is necessary to measure the culture of patient safety in the hospital. The measurement survey used the HSPSC (*Hospital Survey on Patient Safety Culture*) survey formulated by AHRQ (*American Hospital Research and Quality*) in 2007. HSPSC is an instrument designed to measure hospital staff opinions on patient safety issues, *medical errors* and incident reporting. The survey consists of 42 items divided into *sections*, namely; 18 questions about the unit, 4 questions about the unit manager, 6 questions about communication within the unit, 3 questions about the frequency of incident reporting within the unit and 11 questions about the hospital (Authors, 2013). The 42 items reflect a patient safety culture categorized into 12 dimensions. These dimensions are cooperation within the unit, expectations and actions of managers in promoting patient safety, organizational learning with continuous improvement, management support for patient safety, perception of patient safety, communication and reciprocity about errors, openness of communication, frequency of incident reporting, cooperation between units, staffing, information passing and patient transfer, non-punitive reaction to errors.

The results of the patient safety culture survey at X Malang Hospital in 2018 using HSPSC with most respondents being nurses (53%). The survey results showed a strong culture in the dimensions of continuous improvement, feedback and communication on errors and cooperation within the unit, weak culture in the dimensions of expectations and actions of managers in promoting patient safety, *non-punitive* response to errors, and staffing.

Given the weak patient safety culture, and the increase in Patient Safety Incidents in 2018 is a phenomenon. If the increase in incidents is real data, then on the one hand it shows a good reporting system, but on the other hand it shows that the quality of service quality is not good, one of which can

be caused by not reporting potential conditions of injury or near injury so that they are not prevented from becoming incidents. In the poor X Hospital IKP report, unexpected events are higher than potential injury or near injury conditions. If staff are diligent in reporting potential injury or near injury conditions, it is expected that there will be no adverse events. However, in poor X Hospital, the number of KNC is less than KTD, it can be assumed that many reports are not reported / hidden (*underreporting*).

A weak patient safety culture can contribute to *underreporting* or the existence of hidden incident cases. To determine the presence of hidden incidents, it is necessary to evaluate the willingness of health workers to report Patient Safety Incidents. Given that one of the factors causing underreporting is the unclear reporting system, it is also necessary to evaluate the perception of the reporting flow of Patient Safety Incidents.

The results of research by Douglas J. Noble (2010), state that *underreporting* is important to determine the potential incidence of incidents. A system that is too complex and complicated, will produce inaccurate information, causing the characteristics of the cause of the problem to be biased. Incident reporting systems require good understanding, bias reduction, and transparency to produce reliable and measurable progress. If the system used is easy to understand and simple, it is expected to provide better benefits.

The purpose of this study was to analyze the effect of patient safety culture on nurses' desire to report Patient Safety Incidents with the perception of Patient Safety Incident reporting flow as an intervening variable in Hospital X Malang.

The motivation for the study was that the researcher was interested in quality improvement and patient safety. Hospital X Malang as a type C private hospital with many patients must provide patient safety-oriented services, but there are obstacles in its implementation. Is it related to culture, considering that the patient safety culture in X Hospital is still weak, so there is no desire for nurses to report incidents. Researchers want to find out what factors contribute most to nurses' willingness to report incidents. Because reported incidents help obtain valid data to find out the details of the cause of the incident and its prevention. The amount of underreporting, especially near-injury conditions, also makes the incident defense system not run based on the "*Swiss Cheese Model*" theory.

Previous studies have explored factors influencing the underreporting of Patient Safety Incidents (PSIs), there is limited understanding of the interplay between patient safety culture, the perception of reporting systems, and the subsequent willingness of nurses to report PSIs. This study uniquely contributes to the literature by examining these relationships within the specific context of Hospital X Malang, employing a comprehensive framework that incorporates cultural and systemic perspectives. By focusing on these dimensions, this research aims to provide actionable insights into improving reporting systems and fostering a robust safety culture, thereby mitigating the risks associated with underreporting.

The purpose of this study was to determine the intention of nurses in reporting Patient Safety Incidents (PSI). The benefits of this study are that it can be used as input to hospital management in determining policies and decisions related to the implementation of patient safety in Malang X Hospital, developing incident reporting and improving safety culture so as to improve hospital quality.

## Research Methods

This study used a descriptive analysis method with a quantitative cross-sectional approach and a causality research design. The sampling process employed a purposive sampling technique to ensure that participants were representative of the target population. Nurses from inpatient, outpatient, emergency, operating room, and intensive care units at Hospital X Malang who had worked for more than one year were selected as respondents, resulting in a total sample size of 100 nurses. This criterion was set to ensure the inclusion of participants with sufficient experience and familiarity with patient safety reporting systems.

The choice of the Partial Least Square (PLS) analysis model was justified by its suitability for examining complex relationships among latent variables, particularly when the sample size is relatively small. PLS is robust in handling non-normal data distributions and provides a predictive framework ideal for exploring the influence of patient safety culture on perceptions of reporting flow and nurses' willingness to report incidents. This approach enhances the rigor of the study by enabling the identification of direct and indirect relationships among variables, contributing to the replicability of the findings in similar healthcare settings.

## Results and Discussion

Descriptive Analysis

1. Description of Period of Service in the Hospital, in the unit, and length of working hours in a week

**Table 1. Overview of Respondents in Hospital X Malang**

| Based on | Criteria | F | % |
|---|---|---|---|
| Hospital tenure | 1-5 years | 9 | 9 |
| | 6-10 years | 81 | 81 |
| | 11-15 years | 9 | 9 |
| | 16-20 years | 1 | 1 |
| | 21 years or older | 0 | 0 |
| Length of service in the unit | 1-5 years | 40 | 40 |
| | 6-10 years | 56 | 56 |
| | 11-15 years | 4 | 4 |
| | 16-20 years | 0 | 0 |
| | 21 years or older | 0 | 0 |
| Length of working hours in a week | <20 hours a week | 2 | 2 |
| | 20-39 hours a week | 14 | 14 |
| | >40 hours a week | 84 | 84 |

In the picture of the characteristics of the working period in the hospital, it appears that the nursing staff with the most tenure is 6-10 years with a percentage of 81%, followed by a tenure of 1-5 years and a tenure of 11-15 years as much as 9% each. And there are no nursing staff who work at the hospital for more than 16 years and above.

In the picture of the characteristics of tenure in the unit, it appears that the nursing staff with the most tenure is 6-10 years with a percentage of 56%, followed by a tenure of 1-5 years as much as 40% each, a tenure of 11-15 years as much as 4% and there are no nursing staff who work in the unit for more than 16 years and above. This illustrates the transfer of employees from one unit to another, and most staff stay in the unit for a long time.

The characteristic picture above shows that the majority of nursing staff, 84%, work more than 40 hours a week. 14% work 20-39 hours a week and 2% work less than 20 hours a week. This illustrates a heavy and unbalanced workload.

2. Description of Frequency Distribution of Patient Safety Culture

**Table 2:** Results of Frequency Distribution of Patient Safety Culture Research Variables

| Dimensions | Value | Implementation |
|---|---|---|
| 1. Cooperation within the unit | 3,80 | powerful |
| 2. Manager expectations & actions in promoting patient safety | 2,57 | weak |
| 3. Organizational learning with continuous improvement | 2,59 | weak |
| 4. Management support for patient safety | 2,56 | weak |
| 5. Perception of patient safety | 2,58 | weak |

| | | | |
|---|---|---|---|
| 6. | Communication and feedback on errors | 3,84 | powerful |
| 7. | Openness of communication | 2,37 | weak |
| 8. | Frequency of event reporting | 3,20 | Medium |
| 9. | Cooperation between units | 3,93 | powerful |
| 10. | Staffing | 2,47 | weak |
| 11. | Information passing and patient transfer | 3,42 | powerful |
| 12. | Non-punitive reaction to mistakes | 2,55 | weak |
| **Average dimension** | | **2,99** | **Medium** |

Overall, the results of the HSPSC questionnaire at Hospital X Malang show that the patient safety culture is rated as moderate with an average value of 2.99. The dimension of patient safety culture with the highest score is the dimension of cooperation between units (3.93), followed by the dimension of feedback and communication (3.84), the dimension of teamwork within the unit (3.80) and information transfer & transition (3.42), meaning that safety culture in 4 dimensions is strong so it needs to be maintained.

The dimension of patient safety culture with a medium score is the frequency of incident reporting (3.20), meaning that the safety culture in the frequency of incident reporting dimension is strong so it needs to be improved. While the dimensions of patient safety culture that get weak scores are organizational learning with continuous improvement (2.59), perceptions of patient safety (2.58), expectations and actions of managers in promoting patient safety (2.57), management support for patient safety (2.56), non-punitive reactions to errors (2.55), staffing (2.47), open communication (2.37), meaning that safety culture in 7 dimensions is weak so it needs to be recreated so that patient safety culture becomes a strong culture.

3. Description of Frequency Distribution of Perception of IKP Reporting Flow

**Table 3.** Results of Frequency Distribution of Research Variables Perception of IKP Reporting Flow

| Indicator Description | Value | Knowledge |
|---|---|---|
| 1. Good at identifying incidents | 3,83 | Good |
| 2. Able to identify incidents | 3,63 | Good |
| 3. Understand how to identify types of IKP | 3,46 | Good |
| 4. Able to identify types of IKP | 3,36 | Simply |
| 5. Understand how to fill in IKP reporting | 2,43 | Less |
| 6. Able to fill in IKP reporting | 2,61 | Less |
| 7. Understand how to do grading | 2,58 | Less |
| 8. Able to do grading | 2,51 | Less |
| **Average dimension** | **3,05** | **Simply** |

The perception variable of the IKP Reporting Flow received a fair score (3.05). Judging from the data table above, the deeper the flow, the lower their understanding and ability. This can be seen in terms of identifying good incidents, understanding and ability to identify IKP get good and fair scores, but less in understanding and ability in terms of filling out IKP reports to *grading.*

4. Description of Frequency Distribution of Nurses' Desire to Report IKP

**Table 4.** Results of Frequency Distribution of Research Variables of Nurses' Desire to Report IKP

| Indicator Description | Value | Knowledge |
|---|---|---|
| 1. Self-reporting during KNC | 2,13 | Don't want to |
| 2. Self-reporting during KPC | 2,02 | Don't want to |
| 3. Self-reporting during the CTC | 1,80 | Don't want to |

| | | | |
|---|---|---|---|
| 4. | Self-reporting of an incident | 4,17 | Want to |
| 5. | Self-reporting during sentinel | 4,42 | Want to |
| 6. | Reporting others during KPC | 2,36 | Don't want to |
| 7. | Reporting others during KNC | 2,66 | Don't want to |
| 8. | Reporting others during the FTC | 2,36 | Don't want to |
| 9. | Reporting others during an incident | 4,14 | Want to |
| 10. | Reporting others during sentinels | 4,04 | Want to |
| **Average dimension** | | **3,01** | **Simply** |

The last variable is the desire of nurses to report IKP to get a sufficient score (3.01). In the variable of nurses' desire to report IKP, there are 10 question items representing 5 desires to report 5 types of IKP when the respondent is the subject and the respondent's desire to report 5 types of IKP when they see a coworker become the subject of an incident.

It turns out that the desire to report is not influenced by the subject who does it, but the desire is influenced by the impact that is caused to make someone want to report whether they really want to or are forced to.

The desire of nurses to report IKP is considered sufficient, nurses want to report incidents that have an impact on patients, but conversely nurses are not willing to report incidents that do not have an impact on patients.

Hypothesis Testing

1. Hypothesis Testing of Direct Influence

**Table 5.** The results of testing the direct effect hypothesis

| Exogenous | Endogenous | Path Coefficient | Standard Error | T Statistics | Ket |
|---|---|---|---|---|---|
| Patient Safety Culture | Perception of Reporting Flow | 0,382 | 0,067 | 5,745 | H accepted |
| Patient Safety Culture | Nurse's willingness to report | 0,013 | 0,076 | 0,171 | H rejected |
| Perception of Reporting Flow | Nurse's willingness to report | 0,555 | 0,064 | 8,604 | H accepted |

2. Testing Direct Hypothesis

**Table 6.** Indirect Hypothesis Testing Results

| Exogenous | Mediation | Endogenous | Indirect Coefficient | Standard Error | T statistics | Ket |
|---|---|---|---|---|---|---|
| Patient Safety Culture | Perception of Reporting Flow | Nurse's willingness to report | 0,382 | 0,067 | 5,745 | H accepted |

3. Dominant Influence

**Table 7.** Dominant Influence

| Exogenous | Mediation | Endogenous | Total Coefficient | Ket |
|---|---|---|---|---|
| Patient Safety Culture | | Perception of Reporting Flow | 0,382 | |

| | | | | |
|---|---|---|---|---|
| Patient Safety Culture | Perception of Reporting Flow | Nurse's willingness to report | 0,255 | |
| Perception of Reporting Flow | | Nurse's willingness to report | 0,555 | dominant |

Based on the data from the table above, the variable of nurses' perceptions of the flow of reporting patient safety incidents has the most dominant influence on nurses' desire to report patient safety incidents with a value of 0.05%.
0.555 or 55.5%.

**Discussion**

Patient safety culture in X Malang Hospital received a fair score (2.99). There are several dimensions of safety culture that get weak scores, namely the dimensions of open communication (2.37), staffing (2.47), non-punitive reactions to errors (2.55), management support for patient safety (2.56), expectations and actions of managers in promoting patient safety (2.57), perceptions of patient safety (2.58), organizational learning with continuous improvement (2.59).

**Table 8. Openness and Communication Dimension**

| No. | Question | Answer Score | Ket |
|---|---|---|---|
| 1 | Employees in our unit are free to speak up if they see something that could negatively impact patient care. | 3,30 | Medium |
| 2 | Employees in our unit can question decisions or actions taken by their superiors. | 2,16 | Weak |
| 3 | Employees in our unit are afraid to ask questions if something goes wrong | 1,65 | Very weak |
| | **Total tendency** | **2,37** | **Weak** |

The Openness of Communication dimension is still weak, staff are not free to speak up if they see something that might negatively affect patients and do not feel free to question people with more authority. Openness of communication includes freedom to express opinions, freedom to ask fellow nurses/doctors about actions to be taken, freedom from fear if they see something wrong in the service. Effective communication is important as one of the strategies to build a culture of patient safety. Effective communication is instrumental in reducing KTDs in patient medical care.

Reporting and compliance with safety procedures are parameters that serve as a benchmark for effective safety communication and are important elements for realizing safe services and leading to a safe culture.

Based on the AHRQ Report, communication is 65% of the root cause of KTDs. Communication should occur in a two-way pattern, from leaders to frontline personnel and vice versa. Likewise, silence about mistakes must be replaced by openness, honesty about events related to patient safety. So it can be assessed that nurses in this unit do not have openness in communication among nurses, doctors, and other health workers.

Openness in communication also involves the patient. Patients get an explanation of the actions and events that have occurred. Patients get information about conditions that will cause the risk of errors. Nurses provide motivation to provide every thing related to patient safety (Nurmalia, 2012). Strategies that can be taken include providing access for patients and families to the service information they receive.

Providing sufficient time for patients to communicate with officers and increasing patient education related to safety are some of the efforts that can be made. The SPEAK UP method is a

method recommended by JCAHO for effective communication between patients and staff (Cahyono, 2008).

*Communication* patterns affect patient safety culture, *communication* patterns describe *mutual trust and openness* (*communication founded on mutual trust and openness*); *good information flow and processing* will improve patient safety culture.

**Table 9. Staffing Dimensions**

| No. | Question | Answer Score | Ket |
|---|---|---|---|
| 1 | Our unit has enough staff to handle the excess workload | 3,07 | Medium |
| 2 | Employees in our unit work overtime for patient safety | 2,11 | Weak |
| 3 | Our unit uses a lot of extra manpower for patient safety activities | 2,42 | Weak |
| 4 | We work as if we are "crunched for time," trying/trying to do too much too quickly | 2,32 | Weak |
| **Total tendency** | | | |

Weak staffing means that there are not enough staff to handle the workload resulting in unsuitable working hours to provide the best care for patients. This is consistent with the distribution of respondents that staff work more than 40 hours a week.

Staff find it difficult to focus on care while working due to the many distractions that result in the delivery of patient care that is not patient safety-oriented. Staff rush to work in "crisis mode" trying to do too much, too fast.

Excessive workload will cause various effects, namely physical and mental fatigue and emotional reactions such as headaches, indigestion, negligence, forgetfulness and irritability, potentially endangering workers or nurses. (Manuaba, 2000).

The same thing was also conveyed by Griffiths *et al* (2008), who stated that one of the influential factors in the risk of infection in hospitals is the workload that does not match the available staff. Unexpected Events (AEs) can occur due to several problems including human resources, policies, inadequate procedures and technical failures (AHRQ, 2003). Proper management of human resources both in quality and quantity can prevent the occurrence of patient safety incidents.

Based on the theory above, it can be concluded that to implement patient safety in hospitals, it is necessary to pay attention to human resource factors by paying attention to working hours, workload, shifts, working time which can result in work stress so that services become ineffective.

**Table 10. Dimension of non-punitive reaction to mistakes**

| No. | Question | Answer Score | Ket |
|---|---|---|---|
| 1 | Our unit employees often feel that if they make a mistake, they will be blamed. | 2.72 | Medium |
| 2 | When our unit reports an incident, the focus is on the name of the perpetrator rather than the issue itself | 2.67 | Medium |
| 3 | Employees are concerned that the mistakes they make will be noted in their performance evaluations. | 2.27 | Weak |
| **Total tendency** | | **2,55** | **Weak** |

Non-punitive reactions to misconduct are weak. Staff feel that their mistakes and incident reports are not communicated to and that mistakes are kept in their personnel *files*. In a culture of accuse, blame, and criticize, any mistakes they make become a bad record for their past and future

performance appraisals. There is a concern that this bad record could affect their career path in the hospital. Often the results of IKP evaluations focus more on the perpetrators involved than on the core problems to be solved. The important issue is not who is to blame but how and why the incident occurred.

In creating a culture of patient safety, incident reporting and a feedback system are important. This condition has not been cultivated in health care institutions because there are factors of fear or concern or even consider incidents a disgrace to health workers that must be covered. Adequate information will be used as data for the learning process in improving patient safety efforts.

**Table 11: Dimensions of Management Support for Patient Safety**

| No. | Question | Answer Score | Ket |
|---|---|---|---|
| 1 | Hospital management creates a work environment that supports patient safety | 3,00 | Medium |
| 2 | Actions taken by hospital management show that patient safety is a top priority | 1,17 | Very Weak |
| 3 | Hospital management seems to be only interested in patient safety when an adverse event occurs | 3,50 | Strong |
| | **Total tendency** | **2,56** | **Weak** |

Management support for patient safety is weak. Hospital management has demonstrated that patient safety is a top priority, but has not provided a work climate that promotes patient safety.

Staff felt that hospital management seemed to be interested in patient safety only when an incident occurred, which was confirmed through an interview with the KPRS team. The KPRS team revealed that we follow up based on incoming reports, while only KTC, KTD, and Sentinel are reported. And for KPC and KNC investigations, it is not as exciting as when KTD occurs. But in reality, the KPRS Team follows up on all incoming IKP reports. The actions taken by hospital management to show that patient safety is a top priority are very weak, this is justified because the KPRS Team is less aggressive in taking action and socializing, even though the follow-up when IKP occurs is good. The KPRS team immediately conducted an investigation and immediately held a meeting, obtained a follow-up answer at the meeting but was not forwarded to all units, only the units involved were socialized because they were in the meeting.

Based on the evaluation of secondary data (work program and RBA), it was found that the patient safety program was stated in the Annual RBA but support for facilities and infrastructure was still lacking. In the Annual RBA, support for facilities and infrastructure that support patient safety has not been budgeted.

**Table 12. Dimensions of Manager Expectations & Actions in Promoting Patient Safety**

| No. | Question | Answer Score | Ket |
|---|---|---|---|
| 1 | Our manager/supervisor in our unit gives us praise when we see work being done according to patient safety procedures | 3,65 | Strong |
| 2 | Our manager/supervisor seriously considers staff input to improve patient safety | 3,87 | Strong |
| 3 | When workloads are high, our manager/supervisor asks us to work faster even if it means taking shortcuts | 1,57 | Very Weak |
| 4 | Our manager/supervisor ignores repeated patient safety issues in our unit | 1,20 | Very Weak |
| | **Total tendency** | **2,57** | **Weak** |

Expectations and actions of managers are still considered weak. Respondents felt that Supervisors/managers in the unit gave praise if they saw work completed according to patient safety procedures, this would be better if it can be developed with further research, to compare between units, because in this study, researchers did not see which units gave appreciation in the form of praise to their members, this is very positive and can be used as a model unit to motivate other units.

Based on evaluation through interviews and secondary data (supervision form and supervisor performance evaluation), there was a lack of information, action, and supervision from the KPRS team to the units.

Supervisors are not competent, so they are not active in following up on unit suggestions. Supervisors rarely give appreciation to units when they do the right thing.

**Table 13. Dimensions of Perception of Patient Safety**

| No. | Question | Answer Score | Desc |
|---|---|---|---|
| 1 | Our unit never sacrifices patient safety to complete more tasks | 1,65 | Very Weak |
| 2 | The procedures and systems in our unit are good at preventing incidents/errors | 1,69 | Very Weak |
| 3 | It is fortunate that more serious incidents do not occur in our unit | 2,23 | Weak |
| 4 | There are many patient safety issues in our unit | 3,32 | Medium |
| **Total tendency** | | | |

Perceptions of patient safety are weak. Procedures and systems are not yet in place to prevent errors and there are still shortcomings in patient safety issues. Staff awareness of patient safety culture is not optimal due to the increasing number of IKP (KTD and sentinel), this illustrates that the defense barrier mechanism from the "*Swiss Cheese Model*" theory has not run optimally, even some incidents of Unexpected Events can actually be prevented, but because awareness to prioritize patient safety is not good, it causes incidents.

**Table 14. Dimensions of Organizational Learning with Continuous Improvement**

| No. | Question | Answer Score | Ket |
|---|---|---|---|
| 1 | Our unit actively carries out activities to improve patient safety | 1,99 | Weak |
| 2 | In our unit, errors that occur are used to make changes in a positive direction | 1,79 | Very Weak |
| 3 | To improve patient safety, our unit evaluates the changes/improvements that have been made | 3,98 | Strong |
| **Total tendency** | | **2,59** | **Weak** |

Organizational learning with continuous improvement is still weak. The weak dimension of organizational learning with continuous improvement can be caused by the absence of continuous evaluation from the unit and the KPRS Team, no follow-up, no evaluation, the innovation of change is not running, so there is no evaluation of the effectiveness of the changes that occur. Organizational learning will not run optimally if the evaluation and follow-up of patient safety incidents that occur are neglected. Furthermore, the dimension that is considered sufficient is the Frequency of Event Reporting with a score of (3.23).

**Table 15. Dimensions of Frequency of Event Reporting**

| No. | Question | Answer Score | Ket |
|---|---|---|---|
| 1 | If an error occurs, but is caught and corrected before exposure to the patient, how often is this reported? | 3,27 | Medium |
| 2 | If an error occurs, but does not have the potential to harm the patient, how often is this reported? | 3,06 | Medium |
| 3 | If an error occurs, and should have harmed the patient but did not, how often is this reported? | 3,29 | Medium |
| | **Total tendency** | **3,23** | **Medium** |

In terms of Frequency of Event Reporting, it is still weak. In the table above, it can be seen that the tendency of respondents to report IKP is moderate, but the highest rate is found in reporting that has been exposed to patients KTC (when an error occurs, and should injure the patient but does not) quite often, followed by KNC reporting (when an error occurs but was known and corrected before exposure to the patient. And low in reporting KPC (which has the potential to harm the patient). This illustrates that nurses' willingness to report IKP is sufficient, but needs to be improved so that solutions can be found to prevent IKP from occurring. Because IKP that occurs can cause losses to the hospital.

Next is the discussion of the dimensions of strong patient safety culture, namely the dimension of cooperation between units (3.93), followed by the dimension of feedback and communication (3.84), the dimension of teamwork within units (3.80) and information passing & transition (3.42).

**Table 16. Inter-unit cooperation dimension**

| No. | Question | Answer Score | Ket |
|---|---|---|---|
| 1 | Units in the hospital collaborate well when cooperation between units is needed | 3,58 | Strong |
| 2 | Provide the best service to patients | 4,04 | Strong |
| 3 | In our hospital, units do not coordinate well with each other | 3,63 | Strong |
| 4 | It is often very unpleasant to work with staff in other units. | 3,72 | Strong |
| | **Total tendency** | **3,93** | **Strong** |

The dimension of cooperation between units is strong. From the table above, the highest is that staff feel they provide the best service for patients. To assess whether the service provided is really good, there must be a standard that can be measured and someone who assesses or monitors whether what staff do is appropriate and appropriate. If there is no standard of assessment, then it is feared that the best intended results are not the same, even though cooperation between units and within units is strong.

**Table 17: Intra-unit cooperation dimension**

| No. | Question | Answer Score | Ket |
|---|---|---|---|
| 1 | Employees in our unit support each other | 3,96 | Strong |
| 2 | Our unit has enough staff to handle the excessive workload | 3,80 | Strong |
| 3 | Officers in our unit respect each other | 4,03 | Strong |
| 4 | When an area in our unit is busy, other areas of our unit will help out | 3,41 | Strong |
| | **Total tendency** | **3,8** | **Strong** |

Cooperation within the unit is strong. Based on evaluation through interviews and secondary data (coordination meetings) it is good. Meetings within units and between units go well, they support and cooperate with each other, and have homogeneous characteristics (young adult age 20-30 years and above).

**Table 18: Dimensions of Communication and Reciprocity About Mistakes**

| No. | Question | Answer Score | Ket |
|---|---|---|---|
| 1 | Employees in our unit receive feedback on changes implemented based on incident reports | 3,53 | Strong |
| 2 | Employees in our unit receive information on incidents that occur in the unit | 3,80 | Strong |
| 3 | In our unit, discussions are held on how to prevent incidents from happening again | 4,19 | Strong |
| **Total tendency** | | **3,84** | **Strong** |

Communication and feedback about errors is strong. Based on evaluation through interviews and secondary data (IKP meeting minutes), after the IKP occurred, the meeting was held immediately within 2x24 hours, and the enthusiasm of the Professional Caregivers (PPA) in providing input and suggestions.

One of the shortcomings of Health care facilities in the past has been the inability to recognize that the cause of failure in one Health care facility can be a way to prevent the risk of failure in another Health care facility. (Minister of Health Regulation No. 11 Year 2017).

**Table 19. Patient Information and Transfer Operant Dimensions**

| No. | Question | Answer Score | Ket |
|---|---|---|---|
| 1 | When transferring patients from one unit to another, there is always information missing (not conveyed) | 3,09 | Medium |
| 2 | Important information about patient care is often wrong when changing shifts | 3,3,7 | Medium |
| 3 | Problems always arise when exchanging information between units in the hospital | 3,38 | Medium |
| 4 | Shift changes are a problem for patients | 3,83 | Strong |
| **Total tendency** | | **3,42** | **Strong** |

Passing information & strong transitions, based on evaluation through interviews and secondary data (medical record data) is running well, this is evidenced by the existence of information passing facilities and transitions using a checklist form so that all information is conveyed properly and completely during patient passes and transfers. Of the 12 dimensions, the dimension that best represents patient safety culture is the frequency of incident reporting (83%).

The next variable is the perception variable of the IKP Reporting Flow which received a fair score (3.05). Of the 8 question items that presented the 4 steps of IKP reporting at the unit staff level, the respondents' answers still showed weak knowledge and understanding in distinguishing types of incidents, filling out reports, and *grading*, but were quite good in terms of identifying incidents. The indicator that best represents the variable of nurses' willingness to report incidents is when respondents are faced with a situation where an incident occurred (80%).

The last variable is the willingness to report by nurses getting a fair score (3.01). Of the 10 question items representing 5 types of patient safety incidents, namely KPC, KNC, KTC, KTD, Sentinel,

a good score was obtained. Their desire to report KTD and sentinel incidents is high, while the desire to report KPC and KNC is low, this shows that their desire to report is high only for the types of incidents that have a real impact on patients so that the possibility of *underreporting* or hidden incident reports becomes large.

The study revealed that patient safety culture in Hospital X Malang was rated as moderate, with significant weaknesses in several dimensions, including open communication, staffing, non-punitive reactions to mistakes, and management support for patient safety. Perception of the reporting flow was adequate overall but showed notable gaps in understanding and implementing grading and reporting systems. Nurses' willingness to report incidents was moderate, particularly for high-impact incidents such as sentinel events, while low-impact incidents were often underreported.

These findings have important implications for daily hospital operations and nurse behaviors. A moderate patient safety culture indicates a need for interventions to promote open communication and a non-punitive reporting environment. Hospitals can focus on improving training for nurses to enhance their understanding of the reporting process and grading systems. Additionally, management should implement clear guidelines, provide consistent feedback, and foster a supportive culture that encourages error reporting without fear of retribution. These measures can increase reporting rates and improve the accuracy of incident data, enabling proactive risk management and better resource allocation in healthcare facilities.

This study has several limitations that should be considered when interpreting the results. First, the sample size was limited to 100 respondents, which may not fully represent the diverse perspectives of nurses in other units or hospitals. Second, the study relied on self-reported data through questionnaires, which could introduce biases such as social desirability bias. Lastly, the cross-sectional design captures a snapshot of behaviors and perceptions, limiting the ability to infer causality. Future research could address these limitations by expanding the sample size, incorporating qualitative methods such as interviews, and employing a longitudinal design to observe changes over time.

**Conclusion**

Patient safety culture has a positive and significant effect on nurses' desire to report Patient Safety Incidents with the perception of the Patient Safety Incident reporting flow as an intervening variable at Hospital X Malang. This shows that the patient safety culture must be improved so that the nurses' desire to report IKP also increases through the perception of the IKP Reporting Flow, so that a good and systematic reporting system can be followed up to get a solution so as to minimize the risk and prevent the same incident from recurring.

Patient safety culture has a positive and significant effect on the perception of the Patient Safety Incident reporting flow at X Malang Hospital. This means that the better the patient safety culture, the better the nurses' perception of the patient safety incident reporting flow and the contribution of patient safety culture to nurses' perceptions of the safety incident reporting flow is 14.6% (*R square*).

Perception of Patient Safety Incident reporting flow has a positive and significant effect on nurses' desire to report Patient Safety Incidents at X Malang Hospital. This means that the better the nurse's perception of the patient safety incident reporting flow, the better the nurse's desire to report patient safety incidents.

Patient safety culture has a positive and insignificant effect on nurses' desire to report Patient Safety Incidents at X Malang Hospital. This means that the better the patient safety culture, the more likely the nurses' desire to report patient safety incidents will be good, although it is not significant and the contribution of patient safety culture to nurses' desire to report patient safety incidents is 31.4% (*R Square*).

Patient safety culture has a positive and significant effect on nurses' willingness to report Patient Safety Incidents (PSI) through the perception of reporting flow as an intervening variable at Hospital X Malang. To enhance patient safety culture and reporting systems, hospitals are advised to

conduct regular training on the reporting process, foster a supportive work environment that encourages open and non-punitive communication, simplify reporting systems with user-friendly technology, provide recognition for staff actively reporting incidents, and strengthen managerial involvement in supervision and constructive feedback. Future research is recommended to adopt a longitudinal design to monitor changes in patient safety culture over time, expand the sample to include various types of hospitals for broader generalization, and integrate qualitative methods such as in-depth interviews to explore underlying factors influencing reporting behaviors. By implementing these recommendations and pursuing further studies, hospitals can enhance patient safety, reduce incident risks, and deliver safer, higher-quality healthcare services.

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