



ANALYSIS OF INDIVIDUAL AND ORGANIZATIONAL FACTORS ON NURSES' PERCEPTION IN REPORTING PATIENT SAFETY INCIDENTS

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ABSTRACT

Patient safety is a situation where patients are protected from all risks of injury that should not occur during health services, one effort is by reporting incidents. The aim of this research is to analyze individual and organizational factors regarding nurses' perceptions in reporting patient safety incidents. Quantitative research method survey method with a cross sectional approach. Samples were collected using purposive sampling technique, totaling 243 respondents. The data collection technique uses a questionnaire. Validity is tested using Pearson's correlation, with items valid if the coefficient exceeds the critical r-value at 5% significance. Reliability is assessed with Cronbach's Alpha, where a coefficient above 0.600 indicates acceptable consistency. The data analysis technique uses multiple linear regression. The research results show that the factors that have an influence on nurses' perceptions are motivation indicators, reward/punishment and hospital policy, this is because the sig value. < 0.05. Meanwhile, the indicators that have no effect are the knowledge, training and leadership indicators, this is because the sig value. > 0.05. It was concluded that individual and organizational factors, namely indicators of motivation, reward/punishment and hospital policy, had an influence on nurses' perceptions, while the results that had no influence were indicators of knowledge, training and leadership

Keywords: hospital policy; knowledge; motivation; reward; training

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INTRODUCTION

Hospitals are healthcare institutions that provide comprehensive medical services, including inpatient, outpatient, and emergency care (Indonesian Hospital Law No. 47, 2021). Patient safety issues include medication errors (wrong type or dosage), improper surgical procedures (wrong site, incorrect technique, or postoperative complications), delayed or incorrect diagnoses, equipment failures leading to misdiagnosis, and other risks such as nosocomial infections, patient falls, pressure ulcers, and mistreatment. Unsafe healthcare services not only harm patients and their families but also impose psychological stress on healthcare workers and society (Kyoung, 2018). In Indonesia, patient safety remains a critical issue, necessitating regulations to address it. However, obtaining accurate patient safety incident data is challenging since not all incidents are reported. Many incidents go unnoticed because only those detected accidentally are reported (Hilda, 2018). In the UK, the National Patient Safety Agency reported 1,879,822 patient safety incidents from January to December 2016. Similarly, Malaysia's Ministry of Health recorded 2,769 incidents in 2016 (Hilda, 2018). The Institute of Medicine (IOM) estimated that between 44,000 and 98,000 hospital patients die annually due to preventable medical errors. In 2000, IOM published "To Err is Human: Building a Safer Health System," highlighting research in hospitals in Utah, Colorado, and New York. It found that adverse events (AEs) occurred in 2.9% of cases in Utah and Colorado, with a 6.6% fatality rate, while New York reported a 3.7% AE rate with a 13.6% fatality rate. WHO's 2004 study across the U.S., UK, Denmark, and Australia found AE rates ranging from 3.2% to 16.6% (Elsa, 2018).

Patient safety is both a global and national issue and a crucial component of healthcare quality. Hospitals must establish systems to ensure safe patient care, including risk assessment, incident reporting, analysis, and corrective actions (Tristantia, 2018). Achieving patient safety requires a strong safety culture, which is a major challenge (Negara, 2018). The Institute of Medicine emphasizes that minimizing medical errors demands a robust safety culture, supported by healthcare workers with a strong sense of responsibility, high motivation, and discipline (Negara, 2018). Nurses play a key role in patient safety; their knowledge directly influences the sustainability of patient safety practices. Without adequate knowledge, healthcare providers, including nurses, cannot establish or maintain a patient safety culture (Naranjo et al., 2016). Both individual and organizational factors shape workplace behavior, affecting an institution's strength. Knowledge, personal traits, and organizational support enhance decision-making confidence and improve work environments (Pratiwi Yuliansari, 2020). Nurses, as frontline healthcare providers working 24/7, significantly impact patient safety by providing information to patients and families, reporting incidents, improving communication among medical teams, and assessing service quality. A nurse's perception of safety is crucial for preventing incidents (Pratama, 2017).

This study focuses on nurses at RSUD dr. Soedono, a provincial government-owned Class B teaching hospital in East Java. A preliminary survey conducted in May 2024 indicated that while the hospital has implemented a patient safety program, incidents still occur, and nurse perception of incident reporting remains low. This is due to limited awareness of patient safety values, lack of knowledge about reporting procedures, and fear of repercussions. Interviews revealed that many errors go unreported due to fear of punishment or being perceived as incompetent. In 2023, patient safety incident data from RSUD dr. Soedono showed that reporting was below standard. While teamwork, continuous learning, supervisor support, and information exchange scored above 80%, staffing, error response, communication about mistakes, and management support were closer to the threshold. In the Merpati Unit, communication about errors and incident reporting scored below standard, while in the Wijaya Kusuma Unit, incident reporting was also inadequate. Nationally, patient safety incident data is scarce due to a weak reporting culture. However, media reports highlight cases of malpractice, suggesting high incident rates. According to the National Commission on Patient Safety, in 2019, there were 2,534 near-miss events, 2,554 non-injury incidents, 2,567 adverse events, 243 deaths, and 89 severe injuries. The highest incidents occurred among those aged 15–30 (1,125 cases) and 30–65 (3,821 cases) (Kemenkes RI, 2019). This underscores the ongoing patient safety crisis, particularly among the productive age group. Understanding nurses' perceptions of incident reporting is crucial for improving healthcare quality. An organization must assess nurses' views on reporting to understand their willingness to engage in safety practices. Based on this background, the purpose of this study was to analyze individual and organizational factors regarding nurses' perceptions in reporting patient safety incidents.

METHOD

This study employs a quantitative survey method with a cross-sectional approach. A cross-sectional study is conducted at a single point in time without follow-up, meaning data collection occurs only once within a specific timeframe with different respondents (Sugiyono, 2022). The research process includes data collection steps, starting from document gathering, questionnaire design, distribution, data processing, and analysis. The data consists of primary and secondary sources. Primary data is obtained directly from respondents through questionnaires, which are immediately collected after being completed. Secondary data, on the other hand, is gathered from other sources beyond the researcher. The data collection

method used in this study is a questionnaire, a structured set of written questions with multiple-choice answers, designed to assess the influence of knowledge, individual, and organizational factors on nurses' perceptions regarding patient safety incident reporting. The study population comprises all nurses working at RSUD dr. Soedono Madiun, East Java, totaling 619 nurses. The sample is determined using specific inclusion and exclusion criteria to ensure relevance to the research objectives. Inclusion criteria include nurses with at least a Diploma III qualification, currently employed, and with a minimum of two years of work experience. Exclusion criteria include hospital management staff, nurses with positions above head nurse, KPRS team members, those on leave, and those unwilling to participate.

The sample size is calculated using Slovin's formula with a 5% margin of error, resulting in a required sample of 243 respondents. A purposive sampling technique is applied, selecting participants based on predefined considerations suitable for this quantitative study (Sugiyono, 2018). The questionnaire undergoes validity and reliability testing before data collection. Validity is assessed using Pearson's Product Moment correlation, ensuring the instrument accurately measures the intended variables. Items with a correlation coefficient greater than the critical r-value at a 5% significance level are considered valid. Reliability is tested using Cronbach's Alpha, with a coefficient above 0.600 indicating acceptable consistency. Both tests are conducted using SPSS version 22.0. The study includes independent and dependent variables. Independent variables consist of individual factors (X1) and organizational factors (X2). The dependent variable (Y) is nurses' perceptions of patient safety incident reporting. The study defines key variables to ensure clarity in measurement. The definition of each variables are: 1) Knowledge: Nurses' cognitive abilities regarding patient safety, assessed through indicators such as patient identification accuracy, medication safety, effective communication, infection risk reduction, and fall prevention; 2) Motivation: The internal and external factors driving nurses' actions, categorized into intrinsic (achievement, recognition, job content) and extrinsic (company policies, supervision, working conditions); 3) Training: The process of equipping nurses with skills and knowledge necessary to improve job performance, measured through training objectives, instructors, materials, and methods; 4) Hospital Policy: Written guidelines ensuring adherence to patient safety standards, including proper patient identification, communication, medication safety, and infection control; 5) Reward/Punishment: Mechanisms motivating nurses, where rewards include salary, promotions, and incentives, while punishments involve warnings or job sanctions; 6) Leadership: Nurses' perceptions of leadership styles influencing workplace performance, classified into autocratic, democratic, participative, and laissez-faire; 7) Nurses' Perception of Patient Safety Standards: Understanding of safety procedures related to patient identification, medication safety, communication effectiveness, infection prevention, and fall reduction.

The study is conducted from September 1 to September 30, 2024, at RSUD dr. Soedono Madiun, East Java. Data is analyzed using statistical methods: 1) Univariate Analysis: Descriptive statistics to present distribution and percentage of each variable; 2) Bivariate Analysis: Examines the relationship between independent variables (knowledge, individual, and organizational factors) and the dependent variable (nurses' perceptions). Multiple linear regression is applied to assess the degree of influence and contribution of independent variables; 3) Multivariate Analysis: Determines relationships among multiple variables simultaneously. Factor analysis is used to identify key elements explaining correlations among independent variables.

RESULT

The majority of nurses at Dr. Soedono Regional Hospital are between 31-40 years old (38.7%), predominantly male (51.9%), and hold a Diploma in Nursing (63.8%). More than half (51%) have worked 16-20 years. Most nurses are civil servants (81.1%) and married (93.8%), indicating a stable workforce with significant professional experience (table 1). Nearly half of the nurses (48.6%) have high knowledge, but most (79.4%) report low motivation. A significant majority (91.8%) received good training. Regarding organizational factors, nearly all nurses (99.2%) find the hospital policy good, and 100% perceive the reward/punishment system as effective. However, all nurses (100%) describe the hospital leadership as autocratic. Importantly, all nurses (100%) have a positive perception of reporting patient safety incidents, indicating a well-established safety culture despite concerns about leadership and motivation (table 2).

Table 1.
Respondent characteristics (n= 243)

Characteristic	Category	f	%
Age	20-30 years	18	7.4
	31-40 years	94	38.7
	41-50 years	87	35.8
	>50 years	44	18.1
Gender	Male	126	51.9
	Female	117	48.1
Education	Diploma (D3)	155	63.8
	Bachelor's (S1)	1	0.4
	Bachelor's + Nursing (S1 + Ners)	87	35.8
Years of Service	1-5 years	40	16.5
	6-10 years	43	17.7
	11-15 years	36	14.8
	16-20 years	124	51.0
Employment Status	Civil Servant (PNS)	197	81.1
	Non-Civil Servant	46	18.9
Marital Status	Married	228	93.8
	Not Married	15	6.2

Table 2.
Specific Data on Individual and Organizational Factors

Variable	Category	f	%
Knowledge	High	118	48.6
	Moderate	94	38.7
	Low	31	12.8
Motivation	Strong	50	20.6
	Weak	193	79.4
Training	Good	223	91.8
	Adequate	20	8.2
Hospital Policy	Good	241	99.2
	Not Good	2	0.8
Reward/Punishment	Good	243	100
	Not Good	0	0
Leadership Style	Autocratic	243	100
	Democratic	0	0
	Participative	0	0
	Laissez-faire	0	0
Perception of Incident Reporting	Positive	243	100
	Negative	0	0

Table 3.

Results of Multiple Linear Regression Analysis			
Variable	Sig.	Significance Level ($\alpha=0.05$)	Description
Individual Factors			
Knowledge * Nurses' Perception in Reporting Patient Safety Incidents	0.956	0.05	Not Significant
Motivation * Nurses' Perception in Reporting Patient Safety Incidents	0.014	0.05	Significant
Training * Nurses' Perception in Reporting Patient Safety Incidents	0.823	0.05	Not Significant
Organizational Factors			
Hospital Policy * Nurses' Perception in Reporting Patient Safety Incidents	0.000	0.05	Significant
Reward/Punishment * Nurses' Perception in Reporting Patient Safety Incidents	0.023	0.05	Significant
Leadership * Nurses' Perception in Reporting Patient Safety Incidents	0.755	0.05	Not Significant

Knowledge and Nurses' Perception in Reporting Patient Safety Incidents

The t-test result for the knowledge variable shows a significance value of 0.956, which is greater than 0.05 (5% significance level). This indicates that H0 is accepted, meaning knowledge does not have a significant influence on nurses' perception in reporting patient safety incidents.

Motivation and Nurses' Perception in Reporting Patient Safety Incidents

The t-test result for the motivation variable shows a significance value of 0.014, which is less than 0.05. This indicates that H0 is rejected, meaning motivation significantly influences nurses' perception in reporting patient safety incidents.

Training and Nurses' Perception in Reporting Patient Safety Incidents

The t-test result for the training variable shows a significance value of 0.823, which is greater than 0.05. This indicates that H0 is accepted, meaning training does not have a significant influence on nurses' perception in reporting patient safety incidents.

Hospital Policy and Nurses' Perception in Reporting Patient Safety Incidents

The t-test result for the hospital policy variable shows a significance value of 0.000, which is less than 0.05. This indicates that H0 is rejected, meaning hospital policy significantly influences nurses' perception in reporting patient safety incidents.

Reward/Punishment and Nurses' Perception in Reporting Patient Safety Incidents

The t-test result for the reward/punishment variable shows a significance value of 0.023, which is less than 0.05. This indicates that H0 is rejected, meaning reward/punishment significantly influences nurses' perception in reporting patient safety incidents.

Leadership and Nurses' Perception in Reporting Patient Safety Incidents

The t-test result for the leadership variable shows a significance value of **0.755**, which is greater than 0.05. This indicates that H0 is accepted, meaning leadership does not have a significant influence on nurses' perception in reporting patient safety incidents.

Table 4.
Results of Multivariate Analysis (ANOVA Test)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	201.535	6	33.589	12.318	0.000
Residual	640.817	235	2.727		
Total	842.351	241			

Based on the ANOVA or F-test results shown in Table 4., the F-value is 12.318, with a significance level of 0.000, which is less than 0.05. This indicates that individual and organizational factors (knowledge, motivation, training, hospital policy, reward/punishment,

and leadership) collectively have a significant influence on nurses' perception in reporting patient safety incidents. Therefore, H0 is rejected, and Ha is accepted.

Table 5.
Factor Analysis Results

Variable	Component 1	Component 2	Component 3
Individual Factors			
Knowledge	-0.071	0.856	-0.061
Motivation	-0.111	0.220	0.639
Training	0.954	0.065	0.041
Organizational Factors			
Hospital Policy	-0.041	0.821	-0.100
Reward/Punishment	-0.089	-0.006	0.794
Leadership	0.953	0.065	-0.018

From both individual and organizational factors, three key components were identified: 1) First Component (Most Influential): Training (0.954 or 95.4%) and Leadership (0.953 or 95.3%); 2) Second Component: Knowledge (0.856 or 85.6%) and Hospital Policy (0.821 or 82.1%); 3) Third Component: Motivation (0.639 or 63.9%) and Reward/Punishment (0.794 or 79.4%).

DISCUSSION

Statistical analysis showed that nearly half of the respondents had good knowledge. Knowledge plays a crucial role in shaping actions (Zulmietri, 2020). Nurses with strong knowledge of safety protocols are more capable of identifying and reporting incidents (Yulia, 2023). This finding aligns with Silaban (2024), who found that most respondents at RSU Royal Prima Medan had good knowledge of incident reporting. However, motivation levels were low among respondents. According to Gibson (in Wanda, 2020), motivation significantly impacts performance. Bogar et al. (2013) also found that motivation affects nurses' performance. McClelland's theory (in Wanda, 2020) states that low motivation leads to reduced incident reporting. Training was reported as good by most respondents, indicating that RSUD dr. Soedono provides adequate training for nurses to handle safety incidents (Wiliandari). Training helps develop job-related skills and knowledge. Hospital policy was rated as good by nearly all respondents, in line with East Java Regional Regulation No. 11 of 2008, which emphasizes patient safety. Most nurses agreed that incident reporting is a professional responsibility (Nursalam et al., 2010).

Regarding reward and punishment, all respondents rated the system as good. Rewards (such as salaries, incentives, and promotions) positively impact performance (Ruslan et al., 2017), while punishments were found to be ineffective. Leadership was also rated positively, with most respondents describing their leaders as autocratic, ensuring clear communication and structured decision-making. All respondents had a positive perception of incident reporting, viewing it as a learning opportunity rather than a punitive measure. This aligns with Silaban (2023), who found that a strong safety culture improves reporting rates. Regression analysis identified motivation, reward/punishment, and hospital policy as significant factors influencing nurses' perceptions ($p < 0.05$), while knowledge, training, and leadership were not significant ($p > 0.05$). Lower motivation, linked to educational background, affected incident reporting. Fear of consequences was a barrier (Sujan, 2015). Reward/Punishment: Positive reinforcement improved reporting behavior (Pratama, 2021). Hospital Policy: Longer work experience correlated with better adherence to safety policies (Rn, Brien-Pallas, Stevens, & Murphy, 2016). Knowledge: Despite good knowledge, it did not significantly influence reporting (Ulva, 2023). Training: Training quality did not directly impact reporting due to workload constraints. Leadership: Autocratic leadership ensured discipline but did not

significantly affect reporting behavior. Barriers to reporting included fear of punishment, lack of knowledge, unclear definitions of incidents, and fear of legal consequences (Afaya et al., 2021). Addressing these factors could improve patient safety incident reporting.

The researcher was unable to distribute the questionnaire directly to respondents or assist them in completing it; therefore, the questionnaire was administered via Google Forms. This was due to the respondents' busy schedules, as none were able to complete the questionnaire immediately and requested up to two weeks to respond. This limitation made it impossible to verify whether the respondents had filled out the questionnaire properly. Additionally, the researcher could not directly address any questions or clarifications the respondents might have had regarding the questionnaire items.

CONCLUSION

The study found that both individual and organizational factors significantly influence nurses' perception in reporting patient safety incidents. Among individual factors, motivation had a significant impact, while knowledge and training did not. Among organizational factors, hospital policy and reward/punishment significantly influenced nurses' perception, whereas leadership did not. Factor analysis revealed that training and leadership were the most influential components, followed by knowledge, hospital policy, motivation, and reward/punishment.

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