



Patient safety culture and nurses' attitude on incident reporting in Indonesia[☆]



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Abstract

Objective: This study intended to evaluate the relationship between patient safety culture and nurses' attitudes towards incident reporting.

Method: This cross-sectional study used cluster sampling at three public hospitals in Daerah Istimewa Yogyakarta (DIY) districts and continued with proportionate stratified random sampling on 400 nurses, including the head nurse, primary nurse/team leader, and charge nurse. Data were obtained through questionnaires.

Result: There was a strong and significant relationship between patient safety culture and nurses' attitudes toward incident reporting ($r=0.838$; $p=0.005$).

Conclusion: Patient safety culture has an important role in nurses' attitudes toward incident reporting. Hence, efforts to strengthen the patient safety culture could also improve nurses' attitudes toward incident reporting.

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Introduction

Incident reporting is essential to improving patient safety. Nurses are expected to learn from reporting evaluated

data.¹ However, incident reporting cannot possibly measure improvements in patient safety if not all incidents are reported.² Nurses report only events to a certain extent, and there may be unrecorded cases.² Nurses often state that small errors do not adversely affect them.³

Nevertheless, attitude problems regarding the reporting of incidents are still often found, both internationally and nationally, including public hospital districts in DIY. The study of documents from three public hospital districts in DIY showed the trend of reporting incidents in the last three years still varied. Interviews of seven employees from

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the three hospitals still discerned problems with nurses' attitudes in reporting incidents, including even nurses who must be motivated to report incidents. Additionally, incident reports are often late, and there are still unreported incidents. In addition, officers receive reports from parties who are not directly involved. Clearly, the ethos of reporting incidents is essential as part of a patient safety culture.

A healthy patient safety culture can support the realization of safe health services. A constructive patient safety culture will influence efforts to improve actions that promote patient safety.⁴ However, a patient safety culture is correlated negatively with several incidents.⁵ A culture of openness and the ability to say what happened are very useful in ensuring patient safety.

Nevertheless, there are problems in practicing a patient safety culture. The cultural barrier to incident reporting is the "blaming culture".² Staff members are worried about responsibility for errors that occur individually. Other obstacles include fear of colleagues' reactions, lack of feedback, and fear of other consequences.^{2,4} This problem occurs in several public hospital districts in DIY. If incident reporting lacks feedback to the nurses that gave the reports, they are reluctant to report again. Nurses are also afraid to make reports fearing consequences or penalties, and officers willing to report tended to be the same person. Hence, this study purposes to analyze the relationship between patient safety culture and nurses' attitudes toward incident reporting. In addition, this work surveys other factors related to nurses' attitudes toward incident reporting, including age, years of experience, position, nurse grade, and self-efficacy.⁶⁻⁸

Method

Design, population, settings, and samples

This cross-sectional study used cluster sampling at three public hospital districts in DIY and continued with proportionate stratified random sampling on 400 nurses, including the head nurse, primary nurses/team leaders, and charge nurses. Inclusion criteria were active nurses and staff who attend patients.

Data collection

The instruments included the characteristics of respondents and three instruments with a Likert 4 scale translated into Indonesian and cleared for validity and reliability: the Hospital Survey on Patient Safety Culture (HSOPSC)⁹ with Alpha (0.772); Reporting of Clinical Adverse Event Scale (RoCAES)¹⁰ modified with Alpha (0.727); and General Self-Efficacy Scale (GSES)¹¹ adjusted with Alpha (0.671).

Data analysis

The obtained data were processed in three stages: (1) descriptive statistical information included age, years of nursing experience, job position, nurse grade, self-efficacy regarding incident reporting, patient safety culture, and nurses' attitudes toward incident reporting; (2) bivariate

analysis of age, years of nursing experience, self-efficacy related to incident reporting, patient safety culture, and nurses' attitudes toward incident reporting using parametric Pearson's tests, while positions and nurse grades with nurses' attitudes toward reporting incidents used a non-parametric Kruskal-Wallis test; and (3) linear regression analysis, used to discern individual characteristics related to nurses' attitudes toward incident reporting.

Ethical aspects

Research permits and ethics review information was obtained from the Dean and Ethics Committee of the Faculty of Nursing, Universitas Indonesia. Other approvals were obtained from the hospitals' directors and written consent from the respondents. The respondents received an explanation of anonymity, confidentiality principles, and the voluntary nature of their participation.

Results

The average score of nurses' attitudes toward incident reporting was (68.80 ± 4.32) , or 71.67%, of patient safety culture (124.81 ± 7.402) , or 74.29%. Most of the nurses with a self-efficacy concerning incident reporting of 74.27% (29.71 ± 3.54) were aged (38 ± 6.16) . They had (14.04 ± 4.69) years of nursing experience, an N2 grade (49.5%), and positions as charge nurses (81.3%).

The highest average sub-variable/composite value of nurses' attitudes toward incident reporting was the perceived benefits of reporting (76.2%), and the lowest was the observed criteria for identifying events that should be reported (64.47%). The average score of the highest patient safety culture composites (ranked 1) was teamwork (82.84%), and the lowest (ranked 12) was staffing (64.5%) (Table 1).

Age, self-efficacy, work period, and incident reporting attitude were weak and significant ($r=0.265$; $p=0.005$), ($r=0.367$; $p=0.005$), ($r=305$; $p=0.005$); patient safety culture and incident reporting attitude were strongly and significantly related ($r=0.838$; $p=0.005$). There were significant differences in nurses' attitudes toward incident reporting between nurses' groups at N0, N1, N2, and N3 ($p=0.005$), with the highest average ranking in the N3 grade group of 245.98. There was a significant difference in the average of nurses' attitudes toward incident reporting between groups of charge nurses, primary nurses/team leaders, and head nurses ($p=0.005$), with the highest average ranking in the head nurse group at 385.82 (Table 2).

Linear regression resulted in nurses' attitudes toward incident reporting = $6.720 + 1.219$ job position + 0.486 patient safety culture + 0.152 nurse grade - 0.013 years of nursing experience - 0.012 age ($R^2 = 0.892$) (Table 3).

Discussion

Nurses' attitudes towards incident reporting

Higher scores mean that nurses' attitude towards incident reporting was more proper.¹⁰ The lowest score was the

Table 1 The composite score of nurses' attitudes toward incident reporting and patient safety culture.

Questionnaire composites	Mean score (%)	Rank
<i>Nurses' attitude toward incident reporting</i>		
Perceived blame	2.86 (71.53)	4
Perceived criteria for identifying incidents	2.58 (64.47)	5
Perceptions of colleagues' expectations	2.99 (74.9)	3
Perceived benefits of reporting	3.05 (76.2)	1
Perceived clarity of reporting procedures	3.00 (75.09)	2
<i>Patient safety culture</i>		
Teamwork within units	3.31 (82.84)	1
Supervisor/manager expectations and actions promoting patient safety	2.98 (74.44)	6
Organizational learning: continuous improvement	3.16 (79)	2
Management support for patient safety	3.07 (76.6)	3
Overall perceptions of patient safety	2.82 (70.42)	11
Feedback and communication about error	3.06 (76.4)	4
Communication openness	2.93 (73)	9
The frequency of events reported	2.95 (73.69)	7
Teamwork across units	3.01 (75.2)	5
Staffing	2.58 (64.5)	12
Handoffs and transitions	2.94 (73.5)	8
Nonpunitive response to errors	2.91 (72.79)	10

Table 2 Correlation of nurses' characteristics, patient safety culture, and nurses' attitude toward incident reporting.

Independent variable	Dependent variable	<i>p</i>	<i>r</i>
<i>Patient safety culture</i>	Nurses' attitude toward incident reporting	0.005*	0.838
<i>Self-efficacy</i>		0.005*	0.367
<i>Age</i>		0.005*	0.265
<i>Years of nursing experience</i>		0.005*	0.305
		<i>n</i>	Mean rank
<i>Nursing grade</i>	0.005*		
N0		7	101.07
N1		48	153.71
N2		198	181.59
N3		147	245.98
<i>Job position</i>	0.005*		
Charge nurse		325	163.62
Primary nurse/team leader		53	349.71
Head nurse		22	385.82

* $p = 0.005$ (< 0.05).**Table 3** The Linear regression model of nurses' attitude toward incident reporting.

Variable	<i>B</i>	<i>P</i>	<i>R</i> ²
Patient safety culture	0.486	0.005	0.892
Age	-0.012	0.627	
Nursing grade	0.152	0.416	
Years of nursing experience	-0.013	0.727	
Job position	1.219	0.005	
Constant	6.720	0.005	

sub-criteria variable, the perceived criteria for identifying reported events—nurses must understand the requirements for incidents that must be communicated. The most important factor and effect regarding the willingness to report is the clarity of the reporting system: the clarity of reporting procedures and incident criteria.¹² Incident reporting systems could be more effective if standards for events considered incidents were stated explicitly.

Patient safety culture

Research related to the patient safety culture in Iran categorized values into five categories: very weak, weak, medium, strong, and very strong.¹³ Under this system, a score of 74.29% concerning a patient's safety culture falls into the strong group. A higher score means a stronger patient safety culture.⁹ In addition, the patient safety culture has a positive impact on patient safety behavior among the staff.¹³

Staffing had the lowest value in the patient safety culture, but management support for patient safety had the third-highest score. Organizational support is expected to improve staffing. Lack of staffing was significantly associated with patient mortality, and staffing was notable for promoting quality and safety.¹⁴ The hospital is obliged to ensure the adequacy of the number of staff who have the appropriate expertise and are trained and qualified to provide safe care.¹⁵

Relationship of patient safety culture with nurses' attitudes towards incident reporting

The patient safety culture has a significant effect on the attitude toward incident reporting.¹⁶ In addition, organizational culture expansion¹⁷ indirectly influences the performance of nurses in applying values that sequentially promote patient safety. The level of patient safety culture is significantly correlated with the level of error reporting.¹⁸

Workload as a staffing-related problem also affects incident reporting, as it takes time to complete incident reports and other documents. This, in turn, reduces the time for attending to other patients.¹⁹ The incident reporting procedure requires time that will increase a nurse's workload. Consequently, sufficient numbers of staff are required for immediate incident reporting.

Teamwork and support from colleagues within or across units are needed to support patient safety. Nurses who fear the loss of their reputations among coworkers reported fewer incidents than nurses who were not afraid.²⁰ Accordingly, peer support would greatly help nurses' willingness to report incidents, which may also relate to a fear of blame if no one was willing to support a nurse's self-report.

A non-punitive response to errors also affects attitudes towards incident reporting. Fear of penalties and the presence of blame culture only focuses on finding a victim to blame is a common cause for not reporting drug errors.²¹ Nurses are not assured of the confidentiality of incident reporting.²¹ Nurses who fear administrative sanctions report fewer incidents.²⁰ A supervisor/manager's support and actions are needed to promote patient safety, and they must provide confidentiality assurances to nurses who report incidents.

Relationship of age, years of nursing experience, nurse grade, job position, and self-efficacy to nurses' attitudes towards incident reporting. Age is weakly but significantly related to patient safety culture.²² Other studies found that the age of respondents did not affect the willingness to report medication errors.⁷ Personal experience also may influence the formation of a person's attitude.²³ The existence of a weak relationship between age and attitude toward reporting in this study can be due to factors concerning nurse experience that increase with age and years of nursing experience, which may affect the formation of nurses' attitudes.

Years of nursing experience are weakly and significantly related to nurses' attitudes toward incident reporting. There is a relationship between the years of nursing experience and incident reporting.⁶ Another study found no link between years of nursing experience and the willingness to report drug delivery errors.⁷ Besides being influenced by expertise, attitude formation can also be affected by organizational factors.²³ Experience increases with age, which will affect the determination of attitudes toward reporting incidents.

There was a difference in the incidence of patient safety reporting between nurse groups N0, N1, N2, and N3. Higher-grade nurses were associated with the willingness to report incidents concerning drug administration errors.⁷ Nurses with higher grades are expected to have higher knowledge, which can affect the attitudes and behavior that are more appropriate in reporting incidents. An increase in nurses' responsibilities followed the increasing grade of nurses.

There is a significant difference in the mean of nurses' attitude toward incident reporting between groups of charge nurses, primary nurses/team leaders, and head nurses. Nurses with higher positions were linked with the willingness to report drug administration errors.⁷ The procedure for reporting incidents in Indonesia begins with making incident reports and submitting them to direct superiors; generally, a nurse sends it to the head of room/ward. The supervisor checks the report and assigns a risk grade, followed by the investigation process and the next stage.²⁴ The head nurse, the primary nurse, or team leader is often a member of the patient safety team, and this can affect nurses' position-related attitude toward incident reporting. Nurses who have a responsibility as members of the patient safety team have known about and understood the incident reporting system. The knowledge, understanding, and accountability of nurses assigned to patient safety teams can influence attitudes towards incident reporting.

Moreover, a higher self-efficacy score means the nurse has greater self-efficacy.²⁵ Self-efficacy has an impact on reporting drug administration errors; this is related to an individual's ability to cope with challenging and stressful events.²⁶ Self-efficacy has a positive effect on self-reporting behavior. Nurses with high self-efficacy will not be afraid of the consequences of incident reporting, because nurses are aware that reporting is beneficial for learning and tend to have learned attitudes related to incidents. High self-efficacy increases understanding and control regarding the abilities and resources needed to report incidents.²⁷

Nurses' attitudes toward reporting incidents as a predictor

Job position, patient safety culture, nurse grade, years of experience, and age of nurses were variables that are jointly related to nurses' attitudes in reporting incidents. Nurses with higher positions are related to the willingness to report medication administration errors.⁷ The head nurse, primary nurse, or team leader is often also a member of the patient safety team, and this could affect the attitude of the nurse on incident reporting, according to his/her position. Reporting is the responsibility of each employee who first finds the event and those involved in the affair.²⁴ All nurses should maintain a proper attitude towards incident reporting, not just nurses with higher positions.

An increase in patient safety culture scores will improve nurses' attitudes in reporting incidents. The culture of patient safety as the development of organizational culture¹⁷ influences the performance of nurses in applying values that promote patient safety. The level of patient safety culture is positively and significantly correlated with the level of error reporting.¹⁸

Nurses with higher grades will increase the score of nurses' attitudes in reporting incidents. Nurses with higher degrees are expected to have higher knowledge. Higher-grade nurses are associated with a willingness to report incidents of medication administration errors.⁷ Higher knowledge and grade affect the attitudes and behaviors related to incident reporting.

Moreover, adding to the working period will reduce the score of nurses' attitudes toward incident reporting. Nurses who have experience in reporting medication administration errors are older than nurses who have never reported.⁶ Increased age may mean the working period or experience of nurses related to reporting incidents is also increased. In addition, personal experience can influence the formation of a person's attitude.²³ Various experiences lead to hesitancy in reporting incidents. Lack of feedback, follow-up, and prevention to avert recurrences of incidents will affect nurses negatively in their reporting of incidents.¹⁹ The absence of responses, communication, and discussion after a report might make nurses reluctant to report future incidents.²⁸ However, increasing age and work period do not guarantee that nurses have a better attitude in reporting incidents; nurses' personal experience influence this.

The patient safety culture has an important role concerning nurses' attitudes toward incident reporting. Consequently, efforts to strengthen patient safety culture could improve nurses' attitudes toward incident reporting. Strengthening the patient safety culture and improving nurses' attitudes toward incident reporting should be accomplished through a fortified leadership commitment to patient safety, improvement of nurses' staffing, incident reporting system training, the routine promulgation of incident analysis results, an appreciation and assurance of confidentiality for nurses reporting incidents and improved mutual support among nurses regarding incident reporting.

In the implementation stage, the researcher encountered a longer process to gain access to conduct the study in one of

the prearranged hospitals, which resulted in the conducting of research in only three of the four planned hospitals.

Conflict of interests

The authors declare no conflict of interest.

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