

RESEARCH ARTICLE

# Determinants of Patient Safety Culture Amongst Nurses at East Aceh Regional General Hospital

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## Abstract

Patient safety in hospitals involves the participation of all healthcare personnel, especially nurses. The behavior and competence of nurses are crucial in ensuring patient safety. Nurses play a vital role in implementing patient safety in hospitals by providing services and carrying out nursing interventions according to the established service standards (SOP) set by the hospital, as well as adhering to ethical principles while delivering nursing care. This study utilized a Cross-Sectional Study design. The target population consisted of 166 nurses, and the sample size was determined using a total sampling technique. Data collection was conducted using two types of questionnaires that had undergone validity and reliability testing. The data analysis involved descriptive statistical tests, Chi-Square, and Multiple Logistic Regression. The research results show that there is a correlation between patient safety and factors such as collaboration within the unit ( $p=0.050$ ), organizational learning and continuous improvement ( $p=0.000$ ), feedback and communication about errors ( $p=0.006$ ), and frequency of incident reporting ( $p=0.000$ ). However, factors like supervisor/manager expectations and promotional actions ( $p=0.285$ ), management support for patient safety ( $p=0.259$ ), overall perception of patient safety ( $p=0.376$ ), transparency in communication ( $p=1.000$ ), inter-unit cooperation ( $p=0.246$ ), staffing ( $p=1.000$ ), shift changes and patient transfers ( $p=0.128$ ), and non-punitive response to errors ( $p=0.262$ ) did not show a significant association with patient safety culture. The most important factor related to patient safety culture was organizational learning and continuous improvement ( $p=0.000$ ) with an odds ratio of 18.394 (95% CI: 1.227-275.664).

**Keywords:** Determinants, patient safety culture, nurse.

## 1. Introduction

Patient safety in hospitals involves the active participation of all healthcare professionals, particularly nurses. The behavior and competence of nurses are crucial in ensuring patient safety (1). Nurses play a significant role in actualizing patient safety within hospitals by providing nursing care services and adhering to the established service standards (SOP) set by the hospital, while upholding ethical principles during the delivery of nursing care (2). Additionally, nurses also play a role in preventing patient safety incidents in hospitals, given that they

are the most dominant healthcare professionals in Indonesia and have direct relationships with patients(3).

Patient safety goals are a requirement for implementation in all hospitals accredited by the National Standards for Hospital Accreditation. The purpose and objectives of Patient Safety Goals are to encourage hospitals to make specific improvements in patient safety. These goals highlight problematic areas in hospital services and provide evidence-based solutions from expert consensus to address these issues. A well-functioning system will have a positive

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impact on improving the quality of hospital services and patient safety (4).

The Patient Safety Committee of the Hospital (KKPRS) emphasizes that patient safety incidents in healthcare services provide valuable learning opportunities, particularly from the occurrence of errors. These incidents encompass situations or events that have the potential to cause preventable harm to patients. Patient safety incidents in hospitals are classified into various types, such as Potential Injury Events (KPC), Near Miss Events (KNC), No Harm Events (KTC), Unexpected Events (KTD) or adverse events, and sentinel events. Each category represents a different level of severity and serves as a basis for analysis, improvement, and prevention of similar incidents in the future (5).

Data indicates that a significant number of European Union Member States report incidents of medical and patient care errors ranging from approximately 8% to 12% in inpatient settings. Moreover, an alarming 18% of individuals acknowledge experiencing serious medical errors while in hospitals, and 11% have received incorrect prescriptions. These findings underscore the need for a systematic and comprehensive approach to patient safety, as evidence demonstrates that 50% to 70.2% of these medical errors can be prevented. Implementing such an approach holds great potential for improving patient safety and reducing preventable harm in healthcare settings (6).

From 2015 to 2019, the Patient Safety Committee of Hospitals (KPPRS) in Indonesia reported a total of 11,558 cases of patient safety incidents. During this period, there was a noticeable increase of approximately 7-12% in the types of incidents recorded. Additionally, the percentage of hospitals reporting patient safety incidents rose by 7% in 2019, reaching a total of 12% compared to the previous year's 5%. Tragically, these incidents resulted in 171 patient deaths in 2019 alone. The consequences of such occurrences have undermined public trust in healthcare services, leading to a concerning trend where hospitals tend to focus on reporting only minor or non-injury incidents while disregarding more severe cases (7).

The low reporting of patient safety incidents can be attributed to various factors. These include the fear of being blamed, inadequate commitment from management and relevant units, the absence of incentives for reporting incidents, uncertainty about what and when to report, incomplete awareness among

staff members regarding patient safety incidents, and insufficient training on patient safety for all hospital staff. Furthermore, other reasons for the low reporting of incidents include a lack of understanding among healthcare personnel about reporting patient safety incidents, suboptimal implementation of the incident reporting system, and apprehension about the potential consequences of reporting (8).

Several factors (dimensions) associated with patient safety culture include collaboration within the unit, supervisor/manager expectations and promotional actions, organizational learning and continuous improvement, management support for patient safety, overall perception of patient safety, feedback and communication about errors, transparency in communication, frequency of incident reporting, inter-unit collaboration, staffing, shift changes and patient transfers, and non-punitive response to errors(9).

## 2. Materials and Methods

*Study Design:* Cross Sectional study

*Study Location:* This study was conducted at Aceh Regional General Hospital (RSUD Aceh).

*Study Duration:* From March 27th to April 3rd, 2023.

*Sample size:* 166 Nurses

*Sample size Calculation:* The research sampling was conducted using the total sampling technique, involving all members of the population, which consisted of 166 nurses.

*Subjects & selection method:* A total of 166 nurses were obtained as the sample for the study

### 2.1 Procedure methodology

The researcher collected the data by personally distributing two types of questionnaires to the participants. Before administering the questionnaires, the researcher provided a thorough explanation of the research objectives, benefits, and procedures. Subsequently, the participants were asked to voluntarily participate in the study and were required to sign an informed consent form before proceeding to complete the questionnaires.

### 2.2 Statistical Analysis

Data analysis involved descriptive statistical tests to examine the characteristics of the respondents, including frequencies of age, length of service, gender, marital status, highest education level, employment status, job position, and work unit. Additionally, the frequencies and percentages of each determinant

factor of patient safety culture were analyzed. The relationship between the determinants of patient safety culture and patient safety culture itself was assessed using the Chi-Square test. Both research variables were measured on an ordinal scale, and the results were categorized. Multivariate analysis was conducted using multiple logistic regression, following the analysis stages outlined, including bivariate model selection with a  $p$ -value  $< 0.25$ . The analysis proceeded with the first-stage modeling, eliminating variables with a  $p$ -value  $> 0.05$ , and iterating this process up to five times. Ultimately, no variables with a  $p$ -value  $> 0.05$  were found, leading to the final conclusion.

### 3. Result

Characteristics of respondents are described in Table 1. It can be seen, the majority of respondents (61.4%) fell within the age range of 31-40 years. In terms of work experience, 33.1% reported having 6-10 years of service. The majority of respondents were female (61.4%) and married (82.5%). As for educational background, a significant proportion (63.9%) held a diploma in Nursing. In terms of employment status, the majority of respondents (62.7%) were contract employees. Regarding job positions, a substantial percentage (86.7%) worked as staff nurses. Lastly, the vast majority of respondents (91.6%) were assigned to the inpatient unit.

Description of patient safety culture factors is shown in Table 2. Based on the table 2, it can be observed that the majority of respondents perceive the factor of cooperation within the nursing unit to be in the good category (83.1%). The expectations of supervisors/managers and promotional actions are also perceived as

good (57.8%). Organizational learning and continuous improvement are considered sufficient (66.7%), while the support from management for patient safety is also rated as sufficient (59.6%). The overall perception of patient safety, feedback and communication about errors, transparency in communication, and reporting frequency are all categorized as sufficient (79.5%, 78.3%, 69.3%, and 65.7% respectively). Furthermore, inter-unit cooperation is seen as good (62.0%), staffing is perceived as sufficient (86.7%), shift changes and patient transfers are considered sufficient (65.1%), and a non-punitive response to errors is seen as sufficient (64.5%).

Classification of patient safety culture among nurses is described in Table 3. It can be seen that majority of nurses had good patient safety culture practice (60.2%). Results of further analysis using chi-square tests are summarized in Table 4. The results indicate that there is a significant relationship ( $p < 0.05$ ) between factors such as unit collaboration, organizational learning and continuous improvement, feedback and communication about errors, and frequency of incident reporting. On the other hand, factors like supervisor/manager expectations and promotional actions ( $p = 0.285$ ), management support for patient safety ( $p = 0.259$ ), overall perception of patient safety ( $p = 0.376$ ), communication openness ( $p = 1.000$ ), inter-unit collaboration ( $p = 0.246$ ), staffing ( $p = 1.000$ ), shift rotation and patient transfer ( $p = 0.128$ ), and non-punitive response to errors ( $p = 0.262$ ) did not show a significant relationship with patient safety culture among nurses in the regional general hospital in Aceh, as their  $p$ -values were above 0.05.

**Table 1.** Nurses' Demographic Characteristics (n=166)

Characteristics	Frequency (f)	Percentage (%)
Age		
21-30 years	43	25,9
31-40 years	102	61,4
41-50 years	21	12,7
Working Period		
1-5 years	45	27,1
6-10 years	55	33,1
11-15 years	42	25,3
16-20 years	24	14,5
Gender		
Male	64	38,6
Female	102	61,4
Marital Status		

Married	137	82,5
Single	29	17,5
Highest Education		
Diploma in Nursing	108	63,9
Bachelor's Degree in Nursing	8	4,8
Ners	52	31,3
Employment Status		
Civil Servant	28	16,9
Contract Employee	104	62,7
Service	34	20,5
Job Position		
Head of Ward	9	5,4
Deputy Head of ward	5	3,0
Tim Leader	8	4,8
Staff Nurse	114	86,7
Work Unit		
Inpatient Unit	152	91,6
Outpatient Unit	14	8,4

**Table 2.** Nurses' perception of patient safety culture factors

Variabel/ sub variabel	Frequency (f)	Percentage (%)
Collaboration within the unit		
Insufficient	2	1,2
Sufficient	26	15,7
Good	138	83,1
Supervisor/manager expectations and promotional actions		
Insufficient	1	0,6
Sufficient	69	41,6
Good	96	57,8
Organizational learning and continuous improvement		
Insufficient	5	3,0
Sufficient	109	66,7
Good	52	31,3
Support from management for patient safety		
Insufficient	4	2,4
Sufficient	99	59,6
Good	63	38,0
Overall perception of patient safety		
Insufficient	3	1,8
Sufficient	132	79,5
Good	31	18,7
Feedback and communication about errors		
Sufficient	130	78,3
Good	36	
Transparency of communication		
Insufficient	2	1,2
Sufficient	115	69,3
Good	36	29,3

Frequency of incidents reporting		
Insufficient	27	16,3
Sufficient	109	65,7
Good	30	18,1
Inter-unit collaboration		
Insufficient	3	1,8
Sufficient	60	36,1
Good	103	62,0
Staffing		
Insufficient	18	10,8
Sufficient	144	86,7
Good	4	2,4
Shift rotation and patient transfer		
Insufficient	20	22,9
Sufficient	108	61,5
Good	38	22,9
Non-punitive response to errors		
Insufficient	42	25,3
Sufficient	107	64,5
Good	17	10,0

**Table 3.** Classification of Patient safety culture

	Frequency	Percentage
Patient Safety Culture		
Good	100	60,2
Sufficient	66	39,8

**Table 4.** Bivariate Analysis

Factors of Patient Safety Culture	Patient Safety Culture						p-value
	Moderate		Good		Total		
	F	%	F	%	F	%	
Collaboration within unit							
Insufficient	22	78,6	6	21,4	28	100	0,050
Good	78	56,5	60	43,5	138	100	
Supervisor/manager expectations and promotional actions							
Insufficient	46	65,7	24	34,3	70	100	0,285
Good	54	56,3	42	43,8	96	100	
Organizational learning and continuous improvement							
Insufficient	84	73,7	30	26,3	114	100	0,000
Good	16	30,8	36	69,2	52	100	
Support from management for patient safety							
Insufficient	66	64,1	37	35,9	103	100	0,259
Good	34	54	29	46	63	100	
Overall perception of patient safety							
Insufficient	84	62,2	51	37,8	135	100	0,376
Good	16	51,6	15	48,4	31	100	
Feedback and communication about errors							
Sufficient	86	66,2	44	33,8	130	100	0,006

Good	14	38,9	22	31,1	36	100	
Transparency in communication							
Sufficient	70	59,8	47	40,2	117	100	1,000
Good	30	61,2	19	38,8	49	100	
Frequency of incident reporting							
Insufficient	22	81,5	5	18,5	27	100	0,000
Sufficient	70	64,2	39	35,8	109	100	
Good	8	26,7	22	73,3	30	100	
Inter-unit collaboration							
Insufficient	42	66,7	21	33,3	63	100	0,246
Good	58	56,3	45	47,3	103	100	
Staffing							
Sufficient	87	60,4	57	39,6	144	100	1,000
Good	13	59,1	9	40,9	22	100	
Shift rotation and patient transfer							
Insufficient	10	50	10	50	20	100	0,128
Sufficient	62	57,8	46	42,6	108	100	
Good	28	73,7	10	26,3	38	100	
Non-punitive response to errors							
Insufficient	29	69	13	31	42	100	0,262
Sufficient	63	58,9	44	41,1	107	100	
Good	8	47,1	9	52,9	17	100	

**Table 5.** *Multivariate Analysis*

Factors	P	OR
Collaboration within the unit (1)	0,999	401670260,512
Collaboration within the unit (2)	0,999	650850652,112
Organizational learning and continuous improvement (1)	0,701	1,593
Organizational learning and continuous improvement (2)	0,035	18,394
Feedback and communication about errors	0,132	2,340
Frequency of incident reporting (1)	0,165	0,293
Frequency of incident reporting (2)	0,702	0,704
Inter-unit collaboration (1)	0,309	0,221
Inter-unit collaboration (2)	0,529	2,709
Staffing (1)	0,412	0,482
Staffing (2)	0,999	0,000
Shift rotation and patient transfer (1)	0,198	0,307
Shift rotation and patient transfer (2)	0,001	0,018

Results of multivariate analysis are shown in Table 5. It can be seen that the factor most strongly associated with patient safety culture is organizational learning and continuous improvement, categorized as “good,” with an odds ratio of 18.394. This implies that having a strong organizational learning system significantly increases the likelihood of having a patient safety culture, with a substantial 18.3-fold increase compared to organizations with weaker learning systems.

## 4. Discussion

### 4.1 Collaboration within the Unit

The analysis of the collaboration factor within the unit reveals a p-value of 0.05, leading to the rejection of the null hypothesis and indicating a significant relationship between collaboration within the unit and patient safety culture at RSUD Aceh. This suggests that nurses who engage in effective collaboration within

the unit are more likely to exhibit a positive patient safety culture. A previous study (10) supports these findings, demonstrating a significant association between collaboration within the unit and patient safety culture. According to the study, team collaboration plays a crucial role in achieving desired objectives, such as establishing a work pattern that fosters a patient safety culture in the inpatient ward of RSUD Arifin Achmad in Riau Province.

Collaboration is a group of individuals with specific expertise who work together and interact to achieve common goals, requiring mutual commitment, trust, and respect (8). With strong teamwork, significant achievements can be easily attained. Therefore, teamwork must be built and maintained effectively.

#### **4.2 Supervisor / manager Expectations and Promotional Actions**

The analysis of supervisor / manager expectations and promotional actions revealed that the p-value is 0.285, which is greater than the significance level of 0.05. Therefore, the null hypothesis (Ho) is accepted, indicating that there is no significant association between supervisor / manager expectations and promotional actions with patient safety culture at RSUD Aceh. However, a contradictory finding was reported by (11), suggesting a significant relationship between supervisor / manager expectations and promotional actions with patient safety culture among nurses in RSUD Aceh. Supervisor/manager expectations and promotional actions are interpreted as supervisors / managers considering staff suggestions to enhance patient safety, recognizing and acknowledging staff who adhere to patient safety procedures, and addressing patient safety concerns rather than neglecting them (9).

#### **4.3 Organizational Learning and Continuous Improvement**

The analysis results of organizational learning and continuous improvement factors indicate that the p-value is 0.000, which is less than the significance level of 0.05. Therefore, the null hypothesis (Ho) is rejected, suggesting a significant association between organizational learning and continuous improvement with patient safety culture among nurses at RSUD Aceh. The descriptive analysis reveals that organizational learning and continuous improvement are categorized as sufficient for 66.7%, while 57.8% are categorized as good, and the remaining 5% fall under the insufficient category. In the bivariate analysis, it was found that out of 114

nurses with insufficient organizational learning and continuous improvement, 84 (73.7%) nurses have a sufficient patient safety culture. On the other hand, out of 52 nurses with good organizational learning and continuous improvement, 36 (69.2%) have a good patient safety culture. Based on these analysis results, it can be concluded that nurses with good organizational learning and continuous improvement tend to exhibit a good patient safety culture.

#### **4.4 Support from Management for Patient Safety**

The analysis results of management support for patient safety factor indicate that the p-value is 0.259, which is greater than the significance level of 0.05. Therefore, the null hypothesis (Ho) is accepted, suggesting no significant association between management support for patient safety and patient safety culture at RSUD Aceh. However, a study conducted by (12) presents contrasting findings, indicating a significant relationship between management support for patient safety and healthcare professionals' perception of patient safety culture. Descriptive analysis reveals that nurse's perception of management support for patient safety is categorized as sufficient for 59.6%, while good and insufficient support from management account for 31% and 3% respectively. In the bivariate analysis, it was found that out of 103 nurses with insufficient management support, 66 (64.1%) have a reasonably good patient safety culture.

#### **4.5 Overall Perception of Patient Safety**

The analysis of the factors related to the overall perception of patient safety indicates that the obtained p-value of 0.376 is greater than the significance level of 0.05. Therefore, the null hypothesis (Ho) is accepted, leading to the conclusion that there is no significant correlation between the overall perception of patient safety and the patient safety culture among nurses at RSUD Aceh. The descriptive analysis reveals that the overall perception of patient safety is categorized as "sufficient" with a percentage of 79.5%. However, in the bivariate analysis, among the 135 nurses with a lower perception of patient safety, 84 (62.2%) still exhibit a reasonably good patient safety culture. The overall perception of patient safety encompasses effective systems and procedures aimed at preventing errors, yet there is still a need for improvement in addressing patient safety concerns (13).

#### **4.6 Feedback and communication about errors**

The analysis of the feedback and communication about errors factor shows that the obtained p-value of 0.006 is less than the significance level of 0.05.

Therefore, the null hypothesis (Ho) is rejected, indicating a significant correlation between feedback and communication about errors and the patient safety culture among nurses at RSUD Aceh. The descriptive analysis reveals that feedback and communication about errors are categorized as “sufficient” with a percentage of 78.3%. Furthermore, the bivariate analysis indicates that among the 130 nurses with sufficient feedback and communication about errors, 86 (66.2%) exhibit a reasonably good patient safety culture. Feedback and communication about errors refer to the staff receiving information about errors, receiving feedback on changes made, and discussing ways to prevent errors (13).

#### 4.7 Transparency in Communication

The analysis of the transparency in communication factor indicates that the obtained p-value of 1.000 is greater than the significance level of 0.05. Therefore, the null hypothesis (Ho) is accepted, suggesting that there is no relationship between transparency in communication and patient safety culture among nurses at RSUD Aceh. However, a study conducted by Nurhidayati (14) found significant influence between communication and patient safety culture among nurses at RSU Islam Cawas Klaten. The descriptive analysis reveals that transparency in communication is categorized as “sufficient” with a percentage of 69.3%. Furthermore, the bivariate analysis indicates that among the 117 nurses with less transparency in communication, 70 (59.8%) exhibit a reasonably good patient safety culture.

#### 4.8 Frequency of Incident Reporting

The analysis of the factor regarding the frequency of incident reporting yielded a p-value of 0.000, which is lower than the significance level of 0.05. Consequently, the null hypothesis (Ho) is rejected, indicating a significant correlation between the frequency of incident reporting and the patient safety culture among nurses at RSUD Aceh. As stated by (15), reporting patient safety incidents can contribute to the improvement of the patient safety culture, ultimately preventing such incidents from occurring. In terms of descriptive analysis, the frequency of incident reporting falls within the “sufficient” category, accounting for 69.3% of cases. Furthermore, the bivariate analysis reveals that out of the 109 nurses with a sufficient frequency of incident reporting, 70 (64.2%) demonstrate a reasonably good patient safety culture. Similarly, among the 27 nurses with a lower frequency of incident reporting, 22

(81.5%) still exhibit a reasonably good patient safety culture. Moreover, out of the 30 nurses with a good frequency of incident reporting, 22 (73.3%) display a good patient safety culture. These findings suggest that nurses who report incidents with a sufficient frequency tend to have a reasonably good patient safety culture.

#### 4.9 Inter-Unit Collaboration

The analysis of the factor regarding inter-unit collaboration resulted in a p-value of 0.246, which is greater than the significance level of 0.05. Therefore, the null hypothesis (Ho) is accepted, indicating no significant relationship between inter-unit collaboration and the patient safety culture among nurses at RSUD Aceh. In terms of descriptive analysis, inter-unit collaboration is categorized as good, accounting for 62% of cases. Furthermore, in the bivariate analysis, it was found that out of the 103 nurses with good inter-unit collaboration, 58 (56.3%) demonstrate a good patient safety culture. On the other hand, among the 63 nurses with inadequate inter-unit collaboration, 42 (66.7%) still exhibit a reasonably good patient safety culture. These findings suggest that nurses with good inter-unit collaboration tend to have a good patient safety culture.

#### 4.10 Staffing

The analysis of the Staffing factor yielded a p-value of 1.000, which is greater than the significance level of 0.05. Therefore, the null hypothesis (Ho) is accepted, indicating no significant relationship between staffing and the patient safety culture among nurses at RSUD Aceh. In a study conducted by Ultraria et al. (2017), it was found that the patient safety culture related to the staffing factor received a positive response from 62.35% of the respondents, indicating that more than half of the respondents considered the staffing factor to be moderate. In terms of descriptive analysis, staffing is categorized as sufficient, accounting for 86.7% of cases. Furthermore, in the bivariate analysis, it was found that out of the 144 nurses with sufficient staffing, 87 (60.4%) exhibit a reasonably good patient safety culture. On the other hand, among the 22 nurses with good staffing, 13 (59.1%) also demonstrate a reasonably good patient safety culture. These findings suggest that nurses with sufficient staffing tend to have a reasonably good patient safety culture.

#### 4.11 Shift Rotation and Patient Transfer

The analysis of shift rotation and patient transfer showed a p-value of 0.128, which is greater than the significance level of 0.05. Therefore, the null



hypothesis (Ho) is accepted, indicating no significant relationship between nurses' shift rotation, patient transfer, and the patient safety culture among nurses at RSUD Aceh. According to (16), the success of the shift rotation and patient transfer processes depends on the healthcare provider's perception of the importance of transfer procedures and transitions. Descriptive analysis revealed that shift rotation and patient transfer are categorized as moderate or sufficient, accounting for 61.5% of cases. In the bivariate analysis, it was found that out of the 108 nurses with moderate shift rotation and patient transfer, 62 (42.6%) exhibit a reasonably good patient safety culture. It is important to note that transfers and transitions can influence the implementation of the patient safety culture 3,479 times.

#### 4.12 Non-Punitive Responses to Errors

The analysis of the non-punitive response to errors factor showed a p-value of 0.262, which is greater than the significance level of 0.05. Therefore, the null hypothesis (Ho) is accepted, indicating no significant relationship between the non-punitive response to errors and the patient safety culture among nurses at RSUD Aceh. Descriptive analysis revealed that the non-punitive response to errors is categorized as moderate, accounting for 64.5% of cases. Furthermore, the bivariate analysis showed that out of the 63 nurses with a moderate non-punitive response to errors, 63 (58.9%) exhibit a reasonably good patient safety culture. Similarly, out of the 42 nurses with a less-than-adequate non-punitive response to errors, 29 (69%) have a reasonably good patient safety culture. Additionally, out of the 17 nurses with a good non-punitive response to errors, 9 (52.9%) have a good patient safety culture. It can be inferred that nurses with a moderate non-punitive response to errors tend to have a reasonably good patient safety culture.

#### 4.13 Determinants Factors

The research findings indicate that the most influential factor associated with patient safety culture is organizational learning and continuous improvement ( $p=0.001$ ). In relation to organizational learning and continuous improvement (1), having a sufficient level of organizational learning is linked to a 1.5 times higher likelihood of having a positive patient safety culture compared to having inadequate learning. Likewise, for organizational learning and continuous improvement (2), having a good level of organizational learning increases the likelihood of having a positive patient safety culture by 18.3 times compared to having

insufficient learning. The study also demonstrates a significant impact of learning culture on patient safety culture ( $OR = 0.096$ ). As mentioned in reference (17), organizational learning and continuous improvement are rated as good (95.8%), indicating that almost all frontline nurses exhibit a positive patient safety culture when it comes to organizational learning and continuous improvement.

The researcher's analysis indicates that organizational learning and continuous improvement play a crucial role in shaping the culture of patient safety. This is attributed to the fact that nurses actively acquire knowledge from past incidents, enabling them to implement improvements moving forward. Organizational learning and continuous improvement involve a process wherein mistakes lead to positive changes, which are subsequently evaluated for their effectiveness (9).

### 5. Conclusion

Based on the findings of this study, there is a significant relationship observed between various factors and patient safety culture. These factors include intra-unit collaboration, organizational learning and continuous improvement, feedback and communication regarding errors, and the frequency of incident reporting. Additionally, other factors such as supervisor/manager expectations and promotion, management support for patient safety, overall perceptions of patient safety, transparency in communication, inter-unit collaboration, staffing, shift rotation and patient transfer, and non-punitive response to errors were found to influence patient safety culture.

Among these factors, organizational learning and continuous improvement emerged as the most influential determinant in shaping patient safety culture. It signifies that organizations that prioritize learning from past incidents and continuously seek improvement foster a stronger culture of patient safety. It is important to recognize and address these various factors in order to enhance patient safety culture within healthcare organizations. These findings emphasize the significance of promoting organizational learning and continuous improvement initiatives as a means to cultivate a culture that prioritizes patient safety.

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