



The Impact of Patient Safety Culture on Nurses' Work Performance at Datu Beru Takengon Regional Hospital

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Abstract

Nurse performance is a critical issue that requires serious attention, particularly in relation to the implementation of a patient safety culture. Patient safety culture is not only a normative concept but also has a direct impact on the effectiveness and efficiency of hospital operations. This study aims to analyze the effect of implementing a patient safety culture on the performance of nurses at Datu Beru Takengon Regional Hospital. This research

is a survey study. The sample was determined using the Slovin formula, resulting in 190 nurses selected through simple random sampling. Data were collected using the Patient Safety Culture Questionnaire from the SOPS Hospital Survey Version 2.0 developed by the AHRQ (Agency for Healthcare Research and Quality), along with a validated and reliable nurse performance questionnaire. The data were analyzed using a simple linear regression test. The results showed that the implementation of patient safety culture was mostly in the "sufficient" category (54.3%), and nurse performance was also mostly in the "sufficient" category (53.7%). The analysis revealed that the implementation of a patient safety culture had a significant effect on nurse performance, with a p-value of <0.001. These findings indicate that implementing a patient safety culture significantly improves nurse performance. It is essential for hospitals to actively foster and implement a strong patient safety culture in the work environment through regular training, policy development, and continuous supervision.

keywords : Patient safety culture, nurse performance

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Introduction

Patient safety is a system designed to enhance the quality and safety of healthcare services by identifying and managing risks, as well as reporting and preventing incidents that may harm patients. This system is a global priority recognized by the World Health Organization (WHO) through the *Global Patient Safety Action Plan 2021–2030*, which emphasizes that no one should be harmed by healthcare services (World Health Organization, 2021). In Indonesia, the Ministry of Health underscores the importance of patient safety through technical guidelines encompassing all systemic elements, from reporting to corrective actions (Ministry of Health of the Republic of Indonesia, 2023).

Globally, around 10% of patients in healthcare facilities experience preventable incidents, often resulting in serious consequences such as disability or death (World Health Organization, 2021). In the United States, adverse events in hospitals are reported to be alarmingly frequent, ranking as the third leading cause of death after heart disease and cancer (Rodziewicz et al., 2024). Similarly, in Indonesia, the National Committee on Patient Safety recorded over 7,000 reported patient safety incidents in 2019, including those resulting in death, severe injury, and minor injury (Ministry of Health of the Republic of Indonesia, 2023).

Patient safety culture refers to a set of organizational values, beliefs, and norms that support safe work practices. According to the *Agency for Healthcare Research and Quality* (AHRQ) via its *Patient Safety Culture Survey 2.0*, this culture includes ten dimensions, such as teamwork, open communication, incident reporting, and management support (Sorra et al., 2021). AHRQ's latest report revealed strong results in teamwork and leadership support (above 80%), though issues such as workload and work pace remain ongoing challenges (AHRQ, 2022).

Nurses play a central role in ensuring patient safety through the application of safe and evidence-based nursing practices. WHO emphasizes that the competence and accountability of nurses are key to preventing adverse events during care delivery (World Health Organization, 2021). Nurse performance is not only a reflection of service quality but also a critical indicator of progress toward patient safety targets in hospitals (Rodziewicz et al., 2024).

The *Joint Commission International* (JCI) outlines six *International Patient Safety Goals* (IPSGs) as standards for hospital accreditation. These include correct patient identification, effective staff communication, safe medication use, accurate surgical procedures, infection prevention, and fall prevention (Joint Commission International, 2023). These goals have also been adopted as national quality and accreditation benchmarks by Indonesian hospitals (Ministry of Health of the Republic of Indonesia, 2023).

Despite the availability of patient safety policies and guidelines, challenges persist in implementation. AHRQ (2022) reported low compliance in areas such as incident reporting and



workload management. Local research confirms that many hospitals in Indonesia have not yet fully implemented a comprehensive patient safety system—particularly regarding reporting culture and ongoing safety training for healthcare workers (Ministry of Health of the Republic of Indonesia, 2023).

Datu Beru Takengon Regional General Hospital (RSUD) is a Type B healthcare facility with full accreditation status. Located on Jalan Qurrata Aini, Bebesen District, Central Aceh Regency, the hospital was founded in 1939 and serves as a regional referral center committed to improving public health service quality.

As a public healthcare institution, RSUD Datu Beru also faces patient safety challenges. Data from the past year show that approximately 70% of reported incidents were due to human error, including misinformation, non-compliance with procedures, and failure to uphold safety standards. These findings underscore the urgent need to strengthen a culture of patient safety—particularly in incident reporting and enhancing healthcare workers' awareness of safety in clinical practice.

A preliminary survey conducted in November 2024 involving 30 inpatient nurses revealed that low nurse performance is a significant issue directly impacting patient safety. About 40% of nurses were found to have low performance, indicated by poor adherence to standard operating procedures (SOPs), weak team coordination, and inconsistent implementation of safe nursing practices. Additionally, 10% of nurses stated they did not feel the presence of a patient safety culture in their daily work, indicating weak internalization of safety values in workplace attitudes and behaviors.

While 50% of nurses acknowledged that patient safety culture positively influenced their performance, this impact was not evenly distributed and was insufficient to significantly reduce incident rates. Furthermore, the inconsistent application of safety principles among nursing staff keeps the risk of incidents high, compromising the quality of hospital services.

Given these conditions, it can be concluded that suboptimal nurse performance is a critical issue—particularly in connection with the implementation of patient safety culture. Moreover, the number of adverse events (KTD) at RSUD Datu Beru still falls short of the zero-incident standard outlined in the Indonesian Ministry of Health's Decree No. 129 of 2008. Therefore, this study aims to examine the effect of implementing a patient safety culture on nurse performance at Datu Beru Regional General Hospital Takengon, as part of efforts to enhance nursing service quality and reduce incident rates.

Methods



The type of research used in this study is survey research. Survey research is a method that involves selecting a number of samples from a larger population using a structured questionnaire based on a Likert scale. This research was conducted on healthcare workers, specifically nurses at Datu Beru Takengon Regional Hospital, located on Jalan Qurrata Aini, Kebayakan, Bebesen District, Central Aceh Regency. The research period began in November 2024 and continued until completion.

The study population consisted of all inpatient nurses at Datu Beru Takengon Regional Hospital, totaling 360 individuals. The sampling technique employed was systematic random sampling, in which sample members are systematically selected from a population list. The sample size was determined using the Slovin formula, yielding a total of 190 respondents.

The independent variable in this study is *Patient Safety Culture*, while the dependent variable is *Nurse Performance*, measured based on *Patient Safety Goals*. Data were collected using a checklist-type questionnaire. The data analysis was performed using a simple linear regression statistical test.

Results

Demographic Characteristics at Datu Beru Takengon Regional General Hospital

The demographic frequency distribution of nurses at Datu Beru Takengon Regional General Hospital includes age, gender, education level, and length of service. Out of a total of 190 respondents, 120 nurses (63.2%) were aged ≤ 30 years, while 70 nurses (36.8%) were aged > 30 years. In terms of gender, 39 respondents (20.5%) were male and 151 respondents (79.5%) were female.

Regarding educational background, 133 respondents (70.0%) held a Diploma III (D3) in Nursing, 17 respondents (8.9%) held a Bachelor's degree (S1), and 40 respondents (21.1%) had completed professional nursing education. In terms of length of service, 109 respondents (57.4%) had worked for ≤ 3 years, while 81 respondents (42.6%) had worked for > 3 years.

Table 1. Frequency Distribution of Demographic Characteristics of Nurses at Datu Beru Takengon Regional General Hospital, 2025

Variables	n	%
Age		
≤ 30 years	120	63.2
> 30 years	70	36.8
Gender		
Man	39	20.5
Woman	151	79.5



Variables	n	%
Education		
D3	133	70.0
S1	17	8.9
Profession	40	21.1
Length of work		
≤ 3 years	109	57.4
> 3 years	81	42.6

Implementation of Patient Safety Culture at Datu Beru Takengon Regional General Hospital

The categorization of patient safety culture implementation at Datu Beru Takengon Regional General Hospital shows that, out of a total of 190 respondents, 55 respondents (28.9%) rated it as good, 104 respondents (54.7%) as sufficient, and 31 respondents (16.3%) as poor.

Table 2. Distribution of Patient Safety Culture Implementation and Nurse Performance Categories at Datu Beru Takengon Regional General Hospital, 2025

Variables	n	%
Patient Safety Culture		
Good	55	28.9
Enough	104	54.7
Not enough	31	16.3

Nurse Performance at Datu Beru Takengon Regional General Hospital

The categorization of nurse performance at Datu Beru Takengon Regional General Hospital shows that, out of a total of 190 respondents, 66 respondents (34.7%) were in the good category, 102 respondents (53.7%) in the sufficient category, and 22 respondents (11.6%) in the poor category.

Table 3. Distribution of Nurse Performance at Datu Beru Takengon Regional General Hospital, 2025

Variables	n	%
Nurse Performance		
Good	66	34.7
Enough	102	53.7
Not enough	22	11.6



Cross Tabulation Between Independent and Dependent Variables

Based on the table, there is a clear relationship between the level of implementation of patient safety culture and nurse performance at Datu Beru Takengon Regional General Hospital. In the group with good implementation of patient safety culture, the majority of nurses demonstrated good performance, with 52 nurses (94.5%) in this category, while 3 nurses (5.5%) showed sufficient performance, and none showed poor performance.

In the sufficient category of patient safety culture implementation, most nurses showed sufficient performance, totaling 88 nurses (84.6%), while 14 nurses (13.5%) performed well, and 2 nurses (1.9%) demonstrated poor performance.

In contrast, in the group with poor implementation of patient safety culture, no nurses demonstrated good performance. A total of 20 nurses (64.5%) had poor performance, and 11 nurses (35.5%) showed sufficient performance.

These results indicate that better implementation of patient safety culture in hospitals is associated with higher nurse performance. Conversely, a poorly implemented safety culture negatively impacts nurse performance.

Table 4. Cross Tabulation of Patient Safety Culture Implementation and Nurse Performance at Datu Beru Takengon Regional General Hospital, 2025

Variables	Nurse Performance							
	Good		Enough		Not enough		Total	
	n	%	n	%	n	%	n	%
Patient Safety Culture								
Good	52	94.5	3	5.5	0	0.0	55	100
Enough	14	13.5	88	84.6	2	1.9	104	100
Not enough	0	0.0	11	35.5	20	64.5	31	100

The Influence of Patient Safety Culture Implementation on Nurse Performance at Datu Beru Takengon Regional General Hospital

Data analysis was conducted using a simple linear regression statistical test to determine the effect of patient safety culture on nurse performance, and multiple linear regression to assess the influence of the sub-variables of patient safety culture on nurse performance. Before performing the regression analysis, classical assumption tests were conducted. If the assumptions are met, regression analysis can be carried out.

Simple regression analysis is based on the causal or functional relationship between one independent variable and one dependent variable. The regression coefficient is used to determine whether the independent variable in the regression equation has a significant individual effect on



the dependent variable. The simple linear regression analysis of the independent variable—patient safety culture (X)—on the dependent variable—nurse performance (Y)—is presented as follows:

Table 5. *Simple Linear Regression Analysis Test*

Model	Variables	R	R ²	Coefficient (B)	95%CI		p value
					Lower	Upper	
1	Constants			21,219	16.160	26,279	
	Patient Safety Culture	.943	.888	.944	.895	.992	<0.001

Based on the analysis results, the simple linear regression equation can be seen as follows:

$$Y = 21,219 + 0.944 X_1$$

Based on the equation above, the results of the simple linear regression statistical test can be interpreted as follows:

1. The constant obtained is 21.219, which indicates that if the independent variable has a value of zero, then the nurse's performance (Y) is 21.219.
2. The regression coefficient for the patient safety culture variable is 0.944, which means that for every 1-unit increase in the safety culture variable, nurse performance increases by 0.944.

A significance value of <0.001 indicates that the p-value is less than 0.05, which means that the implementation of patient safety culture has a significant influence on nurse performance at Datu Beru Takengon Regional General Hospital.

Discussion

Implementation of Patient Safety Culture at Datu Beru Takengon Regional General Hospital

Patient safety culture is a critical component of the healthcare system, aimed at minimizing risks and incidents that may harm patients. Nurses play a strategic role as the frontline providers of care and are key in applying patient safety principles. Optimal nurse performance is significantly influenced by the extent to which patient safety culture is implemented within the work environment. The results of the multiple linear regression analysis indicate that most variables positively contribute to nurse performance, with an R² value of 0.900. This means that 90% of the variation in nurse performance can be explained by sub-variables of patient safety culture.



Research by Anggraeni, Ahsan, and Azzuhri (2016) found that most respondents had a positive perception of patient safety culture across all studied variables. Collectively, these variables significantly influenced attitudes toward incident reporting. However, only the teamwork and open communication variables had a significant individual effect, whereas organizational learning, continuous improvement, and non-punitive responses to errors did not.

Nurses' contributions to patient safety include adherence to service standards and SOPs, the application of ethical principles in care, patient and family education, interdisciplinary collaboration, effective communication, proactive handling of safety incidents, and accurate documentation of nursing actions.

Several studies support the positive relationship between the implementation of a patient safety culture and improved nurse performance. A safety-oriented work environment promotes nurses' adherence to procedures, incident reporting, and engagement in efforts to prevent medical errors. This is reinforced by findings from Wahyuda et al. (2024), which demonstrated a direct link between patient safety culture and individual motivation to report incidents.

Syabanasyah and Solehudin (2024) reported that nurses' knowledge and compliance with patient safety culture in inpatient wards are interrelated. However, good knowledge does not automatically translate to high compliance, as external factors such as organizational policies, workload, and institutional culture also play roles. This aligns with findings by Sipayung (2020), who highlighted the importance of leadership support, resource availability, and work environment in implementing a safety culture.

Furthermore, Ginianta (2024) found that clinical competence positively and significantly affects patient safety culture, with a coefficient of 0.094. Nurses with higher clinical competence tend to show greater commitment to safety principles. This is reflected in their proficiency in nursing skills, efforts to maintain service quality, risk management, interpersonal communication, and accurate documentation. Competent nurses also respond quickly to patient needs, including providing necessary equipment and contacting the attending physician when issues arise.

Nurse Performance at Datu Beru Takengon Regional General Hospital

Nurse performance is closely associated with the frequency and severity of patient safety incidents. Optimal performance—demonstrated through knowledge, clinical competence, and professional behavior—significantly reduces safety incidents. In contrast, poor performance increases the risk of such events.

Nurses play a vital role in preventing and minimizing incidents that endanger patient safety. Factors such as enhanced knowledge, positive safety attitudes, ongoing training, and a supportive work environment are essential to strengthening nurse performance. Thus, healthcare facilities



must commit to developing nursing capacity through training and cultivating a workplace culture that prioritizes patient safety.

Kusumaningrum (2022) found that accuracy during the handover process among nurses has a negative correlation with safety incidents—the more accurate the handover, the lower the risk of incidents. Additionally, nurses' knowledge of safety practices is crucial. Well-informed nurses are better able to identify risks and take preventive measures to avoid incidents.

Research by Sutriyati, Sumartono, Irdan, and Sulaiman (2020) revealed that nurses with high work motivation were 33 times more likely to demonstrate good performance than those with low motivation. At Sekayu Regional Hospital, Musi Banyuasin Regency, most nurses exhibited strong motivation and ability, evidenced by their punctuality, enthusiastic service, and responsible attitudes. Nurse performance is a reflection of professional accomplishments in delivering nursing care.

The Influence of Patient Safety Culture Implementation on Nurse Performance at Datu Beru Takengon Regional General Hospital

This study confirms a significant influence of patient safety culture on nurse performance at Datu Beru Takengon Regional General Hospital, supported by a p-value of <0.001 . Nurse performance reflects professional responsibilities that encompass intellectual, technical, interpersonal, and ethical competencies. Nurses are expected to perform these responsibilities optimally under all circumstances to meet professional and institutional goals.

Human resource quality is a fundamental factor in achieving optimal performance. Even the most well-designed plans will fail without competent and dedicated nurses. Therefore, nursing outcomes should contribute meaningfully to service quality and institutional development in both the short and long term (Irwanda & Rahmawati, 2020).

Patient safety culture is essential in the healthcare system, serving to reduce risk and prevent harm. Nurses, as key providers, are instrumental in embedding this culture into daily practice. As this study demonstrates, the degree to which safety culture is implemented directly affects nurse performance.

These findings reinforce the view that cultivating a patient safety culture positively impacts nurse performance. A supportive environment promotes adherence to safety protocols, active reporting of incidents, and participation in efforts to prevent medical errors. This aligns with Wahyuda et al. (2024), who found that patient safety culture strongly correlates with individual motivation and attitude toward reporting.

However, a study by Harlinisari et al. (2021) at Bakti Mulia Hospital found no significant relationship between patient safety culture and nurse performance ($p = 0.139 > 0.05$), despite high



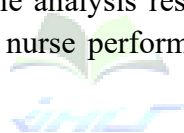
levels of culture and performance among respondents. This suggests that enhancing safety culture remains critical for achieving consistent performance improvements.

Based on this study, it can be concluded that patient safety culture is a foundational element in building a supportive work environment and improving nurse performance. Most nurses in this study believed safety culture was well implemented in their hospital, which aligned with their high performance levels. This affirms that safety culture is embedded in their daily nursing practice.

Furthermore, patient safety culture is closely related to incident rates: the stronger the culture, the lower the likelihood of incidents. Effective communication and adherence to nursing ethics are crucial to preventing malpractice and ensuring patient safety (Saputri, 2022).

Conclusion

Based on the results of the study, the implementation of patient safety culture at Datu Beru Takengon Regional General Hospital was predominantly in the sufficient category, accounting for 54.3%. Similarly, nurse performance at the same hospital was also mainly in the sufficient category, with a percentage of 53.7%. The analysis results indicated a significant influence of patient safety culture implementation on nurse performance at Datu Beru Takengon Regional General Hospital.





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