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Analysis Of Patient Safety Culture And Its Impact On Patient Safety Performance (A Study on Nurses' Perceptions of Patient Safety Culture at Fatmawati Central General Hospital, Jakarta)

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ABSTRACT

This study aims to analyze the influence of patient safety culture on patient safety performance at Fatmawati Central General Hospital Jakarta. Patient safety culture is examined through three key dimensions: safety culture at the management level, safety culture at the unit level, and the outcome of safety culture. The research employs a mixed methods approach using a sequential explanatory model, which combines quantitative and qualitative analysis. The quantitative data were collected through a survey involving 83 nurses selected using proportional random sampling. Data analysis was conducted using multiple linear regression with the help of SPSS version 17. In the qualitative phase, in-depth interviews were conducted with selected informants to deepen the understanding of the quantitative findings. The results of the study show that all three independent variables have a significant positive effect on patient safety performance, with significance values below 0.05. The outcome dimension shows the strongest influence, indicating that incident reporting and safety awareness are crucial to improving performance. The coefficient of determination (R^2) is 0.424, meaning that 42.4% of the variation in patient safety performance is explained by the model. In conclusion, strengthening patient safety culture—through leadership support, unit-level collaboration, and outcome monitoring—plays a vital role in enhancing patient safety and service quality in hospital environments.

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INTRODUCTION

Hospital services, which are equipped with advanced technology and involve complex diagnostic and therapeutic procedures, present a significant risk of causing harm to patients. Given this complexity, the hospital industry can be categorized as a High Reliability Organization (HRO). A High Reliability Organization is defined as an organization that successfully operates within complex systems and challenging environments while maintaining a low rate of failure. A classic example of an HRO is the aviation industry, which has successfully reduced accident rates after implementing passenger safety programs over

several decades. In the aviation industry, accidents occur only once in every three million flights. In comparison, medical incidents in hospitals occur in 2 to 16 out of every 100 patients. This means that being on an airplane is 100,000 times safer than being in a hospital (Cahyono, 2008).

The key difference between the hospital industry and the aviation industry is that the aviation sector has transformed itself into a learning organization by redesigning systems and establishing a strong safety culture as the foundation for service delivery. In contrast, hospitals have been slower to adopt such changes. The current paradigm in healthcare services must be shifted. Every medical injury or adverse event (AE) should be viewed as a system failure. The systems approach is based on the premise that humans have limitations and are prone to error, and mistakes can occur even within well-managed organizations. This approach assumes that while we cannot change human nature, we can modify the conditions in which people work. When an error occurs, the focus should not be on assigning blame, but rather on analyzing how and why the system's safety defenses failed.

Correspondingly, the issue of patient safety has gained prominence, particularly following the publication of the Institute of Medicine's landmark report in 1999, To Err is Human (Vincent, Charles, 2001). Hospitals, as modern healthcare providers, are highly complex organizations characterized by capital intensity, technology density, labor intensity, multidisciplinary professionals, complex systems, high-quality standards, and inherent risks. Therefore, it is not surprising that adverse events frequently occur, often resulting in patient injuries or even death.

According to the Institute of Medicine (IOM) report in 1999, To Err is Human: Building a Safer Health System (Kohn, 2000), it was estimated that 44,000 to 98,000 deaths occur annually in the United States due to preventable medical errors. This figure is nearly four times higher than the number of deaths from traffic accidents. The report shocked the healthcare community worldwide. In fact, even in ancient times, Hippocrates—the father of modern medicine—expressed the principle "Primum non nocere," which means "First, do no harm."

Although subsequent tracking indicated that most disabilities caused by adverse events lasted no more than six months, 13.6% resulted in death, and 2.6% led to permanent disability. Drug-related complications were the most commonly reported (19%), followed by surgical wound infections (14%), and complications due to technical issues during surgery (13%) (Brennan et al., 1991). These findings were further supported by a study conducted in Utah and Colorado in 1992, which reported that adverse events occurred in 2.9% of inpatients. This study found a higher rate of clinical negligence (29.2%) and that nearly 53% of adverse events were preventable (Thomas et al., 1999). Similarly, Dubois (1988) conducted a study on inpatients with myocardial infarction or postoperative complications. Among 182 deaths related to pneumonia, myocardial infarction, and cerebrovascular disorders, approximately 27% were deemed preventable.

The most extensive study on adverse events was conducted by the Harvard Medical Practice Study, which involved more than 30,000 randomly selected patients from 51 hospitals in New York in 1984 (Brennan et al., 1991). Adverse events—manifested by

prolonged hospital stays or disabilities upon discharge—occurred in 3.7% of inpatients. Further analysis showed that more than 58% of these events were preventable, while 27.6% were attributed to clinical negligence.

In healthcare delivery, errors can occur in diagnosis, treatment, prevention, and other system components. These errors may result in harm or may not cause any harm to patients. Safety is the most fundamental principle of healthcare delivery and the most critical aspect of quality management.

According to the Regulation of the Minister of Health of the Republic of Indonesia Number 1691/MENKES/PER/VIII/2011, patient safety is defined as a system in which hospitals provide safer care, which includes risk assessment, identification and management of patient-related risks, incident reporting and analysis, learning from incidents and their follow-ups, as well as implementing solutions to minimize risks and prevent injuries caused by errors—whether from performing or failing to perform a necessary action. A well-designed and properly implemented safety system is expected to improve patient safety performance. The better the system implemented in a hospital, the better the resulting patient safety performance. This means a lower likelihood of adverse events and reduced risk of patient harm (DHC, 2008).

One of the most significant challenges in patient safety performance is creating a safety culture, which serves as the foundation for patient safety programs. It must be acknowledged that change does not occur instantly. Experience has shown how difficult it is for individuals or organizations to change because change is inherently painful—it involves moving from a comfort zone into a discomfort zone. Change will only happen when the strength of the driving force exceeds the resistance to change. Competition, medicolegal demands, and market opportunities should be used as motivation to strengthen these driving forces. Strong leadership, competition among doctors, the increasing number of practicing physicians, and the risk of medicolegal claims against physicians can all serve as forces to weaken resistance (Cahyono, 2008).

Westat (2004), in a study for the Agency for Healthcare Research and Quality (AHRQ), stated that patient safety culture consists of three important dimensions: the management-level safety culture, the unit-level safety culture, and the patient safety culture outcomes. This study aims to examine the influence of patient safety culture on patient safety performance. The management-level patient safety culture refers to policies and standard procedures designed with patient safety in mind. The unit-level patient safety culture includes non-technical skills such as leadership, decision-making, and responsiveness to situations. Meanwhile, the outcomes of patient safety culture involve a well-established and consistent reporting system, as well as the development of a reporting culture to identify the magnitude of safety issues and efforts to resolve them.

The World Health Organization (WHO) itself established the World Alliance for Patient Safety (WAPS) in 2004. Indonesia began its patient safety movement in 2005 through the formation of the Hospital Patient Safety Committee (Komite Keselamatan Pasien Rumah Sakit – KKPRS) by the Association of Indonesian Hospitals (PERSI), which declared that patient

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safety is a fundamental principle of patient care and a critical component of quality management. The Hospital Patient Safety Movement (Keselamatan Pasien Rumah Sakit – KKP-RS) was officially launched at the PERSI National Seminar on August 21, 2005, in Jakarta. In its development, the Hospital Accreditation Committee (Komite Akreditasi Rumah Sakit – KARS) under the Ministry of Health has also established Hospital Patient Safety Standards as part of the Hospital Accreditation Standard Instruments. Hospital accreditation has become a mandatory requirement for all hospitals as mandated by Law No. 44 of 2009 concerning Hospitals.

Fatmawati Central General Hospital (RSUP Fatmawati) was founded by Mrs. Fatmawati Soekarno on October 30, 1953. As a Type A general hospital, it operates as a Technical Implementation Unit (UPT) under the Ministry of Health and applies a Public Service Agency (BLU) financial service pattern. On January 28, 2008, RSUP Fatmawati received Full Accreditation for 16 Service Areas for the second time. Through the Plenary Session of its Medical Committee, RSUP Fatmawati officially adopted patient safety as part of its clinical care standards starting in 2005.

Physically, the development of RSUP Fatmawati is directed toward becoming a hospital with a capacity of 700 beds, with a well-organized service layout. Its architecture follows a modern tropical design, facing two main road axes: Jl. TB Simatupang and Jl. RS Fatmawati, Cilandak, South Jakarta. The medical service coverage projected for the year 2010 was as follows: Outpatient services reaching 445,104 patients, Emergency services reaching 32,550 patients, Inpatient services reaching 26,909 patients, Medical Rehabilitation reaching 169,261 patients, Orthopedics reaching 9,513 patients, and a Bed Occupancy Rate (BOR) of 77.82% (RSUP Fatmawati Profile, 2010). This condition has drawn the attention of the researcher to conduct a deeper study on the Analysis of Patient Safety Culture and Its Relationship with Patient Safety Performance at RSUP Fatmawati, Jakarta.

METHODS

This study employed a mixed methods approach using a sequential explanatory model, wherein data collection and analysis were first conducted quantitatively, followed by qualitative exploration to deepen and strengthen the initial findings. The quantitative approach adopted a cross-sectional design, observing the research variables at a single point in time, while the qualitative approach aimed to explore the respondents' perceptions of patient safety culture through in-depth interviews.

The research was conducted at Fatmawati Central General Hospital (RSUP Fatmawati) Jakarta, with the population consisting of all nurses in the inpatient care units (IRNA), totaling 459 individuals. The sample size was determined using the Slovin formula, with a 10% margin of error, resulting in 83 respondents. Sampling was carried out using proportional random sampling to ensure representative distribution across all IRNA units.

Primary quantitative data were collected using a survey questionnaire adapted from the Hospital Survey on Patient Safety Culture developed by the Agency for Healthcare Research and Quality (AHRQ, 2004), with slight modifications including open-ended questions.

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Meanwhile, qualitative data were gathered through in-depth interviews with informants selected based on their knowledge and experience in patient safety, and audio recording tools were used to document the interviews. Secondary data were obtained from literature, hospital documentation, direct observations, and other relevant sources to support the primary data. Quantitative data processing was performed using SPSS version 17, involving validity and reliability tests, classical assumption tests (normality, multicollinearity, and heteroscedasticity), multiple linear regression analysis, and t-tests to examine partial effects among variables.

For the qualitative analysis, data were examined using the interactive analysis model proposed by Miles and Huberman (1992), which includes three main components: data reduction, data display, and conclusion drawing/verification. The validity of qualitative data was maintained through source triangulation, and its quality was ensured by considering the aspects of credibility, transferability, dependability, and confirmability.

RESULTS AND DISCUSSION

Description of Research Object

Fatmawati Central General Hospital, formerly known as *Ibu Soekarno Hospital*, is located in Cilandak Barat, South Jakarta. The hospital stands on a vast 44-hectare area and was initially planned to serve as a sanatorium for children suffering from pulmonary diseases. The location was specifically chosen because it was situated outside the central city and offered clean, fresh air conducive to respiratory health. The hospital was established under the initiative of the *Ibu Soekarno Foundation* and constructed by PT Ujung Kulon.

The original layout of the hospital included a main building, a hall, a kitchen, a laundry facility, and housing for nurses. The nurses' dormitories were divided into three flats, each consisting of 20 residential units. In addition, the hospital compound also featured a midwifery education building that was under the management of *BKIA* (Biro Kesejahteraan Ibu dan Anak), which operated under the Ministry of Health. Over time, the hospital site began to develop into a more integrated healthcare facility. By 1958, the development process had advanced sufficiently, although a large portion of the land was still undeveloped. At the end of that year, the hospital was officially handed over to the Ministry of Health of the Republic of Indonesia. This transition occurred during the tenure of Health Minister Prof. Dr. Satrio, marking the start of the hospital's transformation into a national public health institution.

After its handover, the hospital began to be occupied by medical personnel from several institutions, such as LAKAD (the Army Medical Corps), BKIA under the Ministry of Health, and staff from the Central Army Hospital (RSPAD). Nurses were transferred from Bandung to support the operational needs of the hospital. Their arrival significantly contributed to the early organization and delivery of patient care at the facility.

The evolving hospital infrastructure and growing medical personnel base allowed Fatmawati Hospital to expand its services and increase its role in public healthcare. The commitment to providing comprehensive health services enabled the hospital to support not only patient treatment but also education and training for healthcare professionals. The

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presence of midwifery training, for example, indicated its early engagement in health education.

Fatmawati Hospital eventually transitioned into a Type A General Hospital, the highest classification for hospitals in Indonesia. This classification reflects its comprehensive range of medical services, its advanced facilities, and its capability to serve as a referral hospital for complex cases across the region. As a Type A hospital, it is required to offer specialized and subspecialized medical care across various disciplines.

The hospital's service coverage and physical development continued to progress. RSUP Fatmawati was officially accredited for full service across 16 areas of care on January 28, 2008, marking a major milestone in its operational excellence. This accreditation reflects the hospital's dedication to service quality, including its commitment to implementing patient safety standards and practices. Given its historical background, strategic location, and institutional capacity, Fatmawati Central General Hospital plays a pivotal role in Indonesia's public health system. Its transformation from a sanatorium into a national referral hospital demonstrates its ability to adapt, grow, and consistently strive to meet the demands of high-quality patient care in line with evolving health challenges.

Respondent Characteristics

The characteristics of respondents in this study covered several key aspects, including years of service in the hospital, years of service in the current unit, weekly working hours, and length of service in their professional role. A total of 83 respondents, all of whom were nurses at Fatmawati Central General Hospital, participated in the study.

In terms of years of service in the hospital, the majority of respondents (45.8%) had been working for 1 to 5 years, followed by 20.5% who had worked for 16 to 20 years. Additionally, 12% of respondents had over 21 years of experience, indicating that most had substantial work experience in the nursing field. Regarding tenure in their current unit, 42.6% of respondents had served for 1 to 5 years, while 24.3% had worked for less than a year. Only 6% had served more than 21 years in the same unit, showing a diverse range of experience levels across hospital departments. In terms of weekly working hours, the majority (78.3%) reported working more than 40 hours per week. Only 4.8% worked fewer than 20 hours. This highlights the high workload and time commitment commonly experienced by nurses.

When categorized by years of professional experience, most respondents (41%) had been practicing for 1 to 5 years, followed by 24.1% with 16 to 20 years of experience. Additionally, 10.8% had been in the profession for over 21 years. These data suggest that the majority of respondents possessed adequate professional background to understand and apply patient safety culture effectively.

Validity Test

Table 1. Results of Validity Test for the Patient Safety Culture Variable at the Management Level

Question No.	Calculated r Value	Sig. (α)	Conclusion
1	0,574	0,008	Valid
2	0,649	0,002	Valid

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Question No.	Calculated r Value	Sig. (α)	Conclusion
3	0,524	0,018	Valid
4	0,580	0,007	Valid
5	0,580	0,007	Valid
6	0,800	0,000	Valid
7	0,605	0,005	Valid
8	0,642	0,002	Valid
9	0,583	0,007	Valid
10	0,453	0,045	Valid
11	0,477	0,034	Valid

Table 2. Results of Validity Test for the Patient Safety Culture Variable at the Unit Level

Question No.	Calculated r Value	Sig. (α	Conclusion
1	0,863	0,000	Valid
2	0,671	0,001	Valid
3	0,510	0,022	Valid
4	0,709	0,000	Valid
5	0,570	0,009	Valid
6	0,807	0,000	Valid
7	0,851	0,000	Valid
8	0,662	0,001	Valid
9	0,797	0,000	Valid
10	0,630	0,003	Valid
11	0,818	0,000	Valid
12	0,761	0,000	Valid
13	0.746	0.000	Valid
14	0.538	0.014	Valid
15	0.581	0.007	Valid
16	0.778	0.000	Valid
17	0.723	0.000	Valid
18	0.506	0.023	Valid
19	0.598	0.005	Valid
20	0.561	0.010	Valid
21	0.531	0.016	Valid
22	0.586	0.007	Valid
23	0.651	0.002	Valid
24	0.549	0.012	Valid

Table 3. Results of Validity Test for the Outcome Variable of Patient Safety Culture

Question No.	Calculated r Value	Sig. (α)	Conclusion
1	0,562	0,010	Valid

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Question No.	Calculated r Value	Sig. (α)	Conclusion
2	0,565	0,009	Valid
3	0,469	0,037	Valid
4	0,502	0,024	Valid
5	0,494	0,027	Valid
6	0,619	0,004	Valid
7	0,779	0,000	Valid

Table 4. Results of Validity Test for the Patient Safety Performance Variable

Question No.	Calculated r Value	Sig. (α	Conclusion
1	0,481	0,032	Valid
2	0,546	0,013	Valid
3	0,563	0,010	Valid
4	0,57	0,009	Valid
5	0,548	0,012	Valid
6	0,479	0,032	Valid
7	0,569	0,009	Valid
8	0,674	0,012	Valid
9	0,599	0,032	Valid
10	0,482	0,009	Valid
11	0,694	0,001	Valid
12	0,535	0,015	Valid
13	0,694	0,001	Valid
14	0,694	0,001	Valid
15	0,671	0,001	Valid
16	0,541	0,014	Valid
17	0,678	0,001	Valid
18	0,706	0,001	Valid
19	0,734	0,001	Valid
20	0,824	0,001	Valid

Based on the table above, the calculated r-values for all questionnaire items in this study are higher than the r-table value (0.195). In addition, the significance values for all items are below α = 0.05. Therefore, it can be concluded that all questionnaire items in this study are valid.

Reliability Test

Table 5. Results of Reliability Test

No	Variable	Alpha (α)	r table	Description
1	Patient Safety Culture at the Management Level (X1)	0.801	0.195	Reliable
2	Patient Safety Culture at the Unit Level (X2)	0.939	0.195	Reliable

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No	Variable	Alpha (α)	r table	Description
3	Outcome of Patient Safety Culture (X3)	0.634	0.195	Reliable
4	Patient Safety Performance (Y)	0.895	0.195	Reliable

Based on the results shown in Table 5, all variables in this study meet the reliability criteria, as indicated by Cronbach's Alpha values greater than 0.6 and correlation coefficients exceeding the r table value of 0.195. The Patient Safety Culture at the Management Level (X1) has an Alpha of 0.801, the Unit Level (X2) shows a higher Alpha of 0.939, and the Outcome of Patient Safety Culture (X3) records an Alpha of 0.634—all of which indicate acceptable to excellent reliability. Meanwhile, the Patient Safety Performance variable (Y) demonstrates strong reliability with an Alpha value of 0.895. These results confirm that the instruments used in the study are internally consistent and reliable for further analysis.

Description of Research Variables

This study examines four key variables related to patient safety culture and performance at Fatmawati Central General Hospital. The first variable is Patient Safety Culture at the Management Level (X1). This variable represents the hospital's policy and managerial support for patient safety practices. Based on the frequency distribution, the majority of respondents (78.05%) rated this variable in the medium category, indicating that managerial support is perceived as moderate. This includes dimensions such as hospital management's commitment to safety, inter-unit teamwork, and transitions in patient care.

The second variable is Patient Safety Culture at the Unit Level (X2). This variable reflects the actual implementation of patient safety practices at the operational level, encompassing non-technical skills such as leadership, communication, teamwork within units, feedback, openness to reporting incidents, and staff placement. The results show that 86.58% of respondents perceived this culture as moderate, suggesting that patient safety practices are generally implemented but still have room for improvement. The third variable is the Outcome of Patient Safety Culture (X3), which captures the results of the safety culture implementation, such as the general perception of safety and the frequency of incident reporting. According to the data, 85.36% of respondents assessed the outcome as moderate. This reflects that while systems for reporting and safety awareness exist, they may not yet be fully optimized across the institution.

The final variable is Patient Safety Performance (Y), which represents the effectiveness of safety culture in reducing adverse events and improving overall clinical outcomes. Based on the analysis, 53.66% of respondents rated this variable as high, while 46.34% rated it as moderate. This indicates that patient safety performance is generally positive, driven by the implementation of safety indicators in surgical, non-surgical, and maternal-child services.

Classical Assumption Test

Normality Test

Table 6. Normality Test Results

Variable	Z Score (Kolmogorov-Smirnov)	p-2 tailed (Significance)
Regression Residual	0.662	0.756

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Based on Table 6, the results of the normality test show that the Kolmogorov-Smirnov Z value is 0.662 and the significance value is approximately 0.773. Since the significance value is greater than the alpha level of 0.05, it can be concluded that the data distribution used in this study is normal.

Multicollinearity Test

Table 7. Multicollinearity Test Results

Model	Collinearity Statistics	VIF	Description
Patient safety culture (management level) X_1	0.796	1.156	No multicollinearity
Patient safety culture (unit level) X_2	0.925	1.081	No multicollinearity
Outcome of patient safety culture X_3	0.751	1.331	No multicollinearity

Based on the test results above, it is known that the tolerance values are greater than 0.10 and the VIF values are below 10. Therefore, it can be concluded that there is no indication of multicollinearity among the independent variables.

Heteroscedasticity Test

Table 8. Heteroscedasticity Test Results

No	Variable	P 2-tailed	Description
1	Patient safety culture (management level) (X_1)	0.854	No heteroscedasticity
2	Patient safety culture (unit level) (X_2)	0.438	No heteroscedasticity
3	*Outcome* of patient safety culture (X_3)	0.091	No heteroscedasticity

Based on the table above, it can be seen that the p-values are greater than 0.05. Therefore, it can be interpreted that the research model does not contain heteroscedasticity, and thus can be used for regression analysis that is free from bias (best linear unbiased estimated).

Multiple Linear Regression Analysis

Table 8. Results of Multiple Linear Regression Analysis

No	Variable	Regression Coefficient	t Calculated	t Table	Significance
1	Constant	35.733	7.114	1.664	0.000
2	Patient Safety Culture – Management	0.299	3.305	1.664	0.006
3	Patient Safety Culture – Unit Level	0.118	2.967	1.664	0.014
4	Outcome of Patient Safety Culture	0.557	3.534	1.664	0.001
	R^2	0.424			

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The multiple linear regression analysis presented in Table 8 reveals that all three independent variables—Patient Safety Culture at the Management Level (X_1), at the Unit Level (X_2), and the Outcome of Patient Safety Culture (X_3)—exert a statistically significant and positive influence on the dependent variable, namely Patient Safety Performance (Y).

The regression equation includes a constant coefficient of 35.733, indicating that, in the absence of contributions from the independent variables, the baseline value of patient safety performance is 35.733. This suggests that there are inherent baseline conditions or factors supporting safety performance beyond the three variables observed. The coefficient for Patient Safety Culture at the Management Level (X_1) is 0.299, with a t-statistic of 3.305 and a p-value of 0.006, which is significantly lower than the standard alpha level of 0.05. This result confirms that management-level initiatives—such as safety policies, leadership commitment, and interdepartmental collaboration—are positively associated with enhanced patient safety performance. It underscores the pivotal role of top-level governance in embedding a safety-oriented culture throughout the institution.

The Unit-Level Safety Culture (X_2) yields a regression coefficient of 0.118, supported by a t-value of 2.967 and a p-value of 0.014, which also falls below the threshold of 0.05. Although the magnitude of this effect is smaller compared to the management level, the significance remains evident. This suggests that operational aspects—such as intra-unit teamwork, responsiveness to incidents, communication openness, and frontline staff involvement—meaningfully contribute to the overall safety outcomes within hospital settings. Notably, the Outcome of Patient Safety Culture (X_3) demonstrates the most substantial impact among the predictors, with a coefficient of 0.557, a t-value of 3.534, and a highly significant p-value of 0.001. This finding highlights the importance of measurable safety outcomes—such as incident reporting frequency and staff perceptions of safety—as key indicators and drivers of overall safety performance. It implies that when the outcomes of safety culture are perceived as positive and actionable, the likelihood of achieving higher performance levels in patient safety increases substantially.

The coefficient of determination (R^2) is reported at 0.424, which indicates that approximately 42.4% of the variance in patient safety performance is explained collectively by the three independent variables. This proportion demonstrates a moderate-to-strong explanatory power of the model, signifying that safety culture across different organizational levels plays a meaningful role in shaping safety outcomes. The remaining 57.6% of the variance is likely attributed to other unobserved variables such as individual competencies, technological support systems, institutional workload, or external regulatory pressures.

The findings of this regression analysis emphasize that a strong and structured patient safety culture—reinforced by both management and unit-level practices, and reflected in tangible outcomes—serves as a critical determinant of patient safety performance. These results provide empirical support for targeted interventions and policy reinforcement aimed at institutionalizing patient safety as a core value, particularly in high-reliability healthcare organizations such as Fatmawati Central General Hospital.

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Qualitative Test

The qualitative findings of this study reveal that the patient safety culture implemented at Fatmawati Central General Hospital has had a significant impact on improving patient safety performance. Patient safety culture at the management level serves as a crucial foundation for the improvement process, marked by the strong commitment of hospital leadership in providing continuous training. This was emphasized by Informant 1, who stated, "I am often involved in patient safety culture training organized by the hospital." Managerial commitment is also demonstrated through in-house training, the issuance of commitment pins, and the application of universal protocols such as sign-in, time-out, and hand hygiene.

From a policy perspective, the hospital's management provides supporting infrastructure and facilities for patient safety, including beds with side rails, personal protective equipment (PPE), and educational materials such as patient safety posters. Interdepartmental collaboration is also essential in reducing adverse events (AEs). As Informant 4 explained, "Teamwork has been well established, and evaluation results are communicated to all working units." In addition, patient handovers are conducted in a structured manner through procedures such as sign-in and sign-out, involving written documentation by both the handing-over and receiving parties.

At the unit level, the patient safety culture is embodied through open communication among team members, an incident reporting system, and clear and equitable task assignments. Informant 3 mentioned, "No one feels superior to others, we support each other." This indicates a collaborative relationship among staff, free from rigid hierarchies. Shift-to-shift communication is facilitated through a communication book that records patient updates and key concerns.

A significant practice adopted in the hospital is the non-blaming culture, which encourages staff to report incidents without fear of punishment or blame. "We guarantee that no one will be scapegoated for reporting adverse events," stated Informant 4 firmly. This approach motivates nurses and other healthcare workers to report incidents openly. Furthermore, staffing decisions are based on competency, and workloads are distributed fairly to ensure optimal care delivery and minimize patient safety risks.

Every reported incident is not only followed up but also analyzed comprehensively using methods such as Root Cause Analysis (RCA), fishbone diagrams, and severity grading. Informant 3 noted, "Each incident is reported, the root cause is always investigated, and there is no culture of blame." This process shows that reporting is not merely administrative but a core component of organizational learning.

In terms of the outcome dimension of patient safety culture, there has been a noticeable increase in risk awareness and a commitment to incident reporting. Since the implementation of the incident reporting system, reporting frequency rose significantly, as staff previously lacked understanding of what qualified as reportable incidents. The most commonly reported cases involved patient falls and medication errors, including near misses, which are also submitted as part of the organization's learning process.

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Incident reporting occurs two to three times per month and is submitted anonymously to the Hospital Quality and Patient Safety Committee, with further reporting to PERSI. These reports are not used merely as statistical data but serve as a basis for monitoring and evaluating service quality. The reporting system has become institutionalized, as expressed by Informant 4: "The safety culture is always up to date and positively impacts medical services."

The positive effects of the safety culture are also observed systemically, including a more supportive work environment, equal collaboration between doctors and nurses, and the active involvement of all service lines in maintaining quality and safety. The learning culture that has emerged from incident reporting continuously drives the organization toward self-improvement.

In conclusion, the structured development of patient safety culture—across management policies, unit-level implementation, and safety outcomes—plays a vital role in shaping a responsive, high-quality, and safe healthcare delivery system at Fatmawati Central General Hospital. This study affirms that patient safety is not only a matter of systems and procedures but is also deeply rooted in collective behaviors shaped by a strong culture and committed leadership.

Discussion

The findings of this study demonstrate that patient safety culture plays a critical role in improving patient safety performance at Fatmawati Central General Hospital. Through both quantitative and qualitative analysis, it was evident that the dimensions of safety culture—particularly at the management and unit levels, as well as the outcome dimension—have a statistically and practically significant influence on patient safety outcomes. These findings support previous research which asserts that fostering a strong culture of safety can reduce adverse events and improve the quality of care (Westat, 2004; Reason, 1991).

At the management level, the hospital's leadership commitment is reflected through the development and enforcement of safety policies, implementation of structured protocols such as sign-in and time-out procedures, and ongoing training programs. These efforts align with the framework proposed by the Agency for Healthcare Research and Quality (AHRQ), which emphasizes the importance of top-level leadership in setting a tone for safety culture throughout the institution. The regression results confirmed that patient safety culture at the management level has a significant effect on safety performance, a finding further strengthened by the informants' testimonies highlighting managerial involvement in safety campaigns and staff development.

The unit-level dimension of safety culture also showed a significant influence on patient safety performance. This component includes team communication, responsiveness to safety issues, and non-technical skills such as decision-making and leadership within nursing units. Informants reported a high level of team cohesiveness and open communication among colleagues, which facilitated the immediate handling of patient safety incidents. These findings reinforce existing literature that suggests operational-level teamwork is essential for identifying, managing, and preventing adverse events (Vincent, 2001).

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The outcome dimension of safety culture—comprising incident reporting rates and general safety perceptions—demonstrated the strongest influence on performance among all variables tested. This suggests that the maturity of a hospital's reporting system and its staff's willingness to engage in that system are critical markers of a successful safety culture. The increase in incident reporting, including near-misses, indicates a shift from a culture of blame to a culture of learning. As reported by informants, adverse events are no longer hidden but are seen as opportunities for systemic evaluation and improvement.

From a theoretical standpoint, the study's results are consistent with Reason's "Swiss Cheese Model" of system failure, which emphasizes the importance of layered defenses and the need for constant vigilance. Each element of safety culture—whether managerial oversight, unit-level teamwork, or outcomes—serves as a potential defense layer against patient harm. The findings also support Gibson's theory of performance, in which environmental and organizational factors directly influence employee behavior and, consequently, performance outcomes.

The integration of qualitative findings enriches the understanding of how safety culture is implemented in real-world clinical settings. For instance, the practice of providing feedback to staff after incident reporting, conducting root cause analyses (RCAs), and maintaining open communication channels confirms that safety culture is both structural and behavioral in nature. The absence of punitive measures when errors occur further contributes to a psychologically safe environment, encouraging continuous reporting and improvement.

Furthermore, the role of professional competence and fair workload distribution emerged as indirect yet essential elements supporting patient safety. Informants highlighted that well-distributed shift assignments and adequate staffing ratios help reduce fatigue and ensure that safety procedures are followed consistently. These organizational conditions, though not directly measured in the regression model, were found to be instrumental in sustaining safety culture practices.

The implications of this study extend to hospital policy and accreditation processes. The results suggest that efforts to build a safety culture must not be limited to formulating policies but must also involve consistent implementation, staff empowerment, and periodic evaluation. The findings provide practical input for the development of safety programs, particularly in hospitals seeking to meet national and international accreditation standards such as SNARS or JCI.

Despite the robust findings, the study acknowledges certain limitations. The research was conducted in a single hospital setting, which may limit the generalizability of results to other institutions with different organizational structures or patient populations. Future research is encouraged to replicate this study in multiple settings and to include additional variables such as safety climate, employee engagement, and leadership styles for a more comprehensive understanding.

In conclusion, this study provides strong empirical and narrative evidence that patient safety culture—across all its dimensions—is a pivotal determinant of patient safety performance. Hospitals that prioritize safety through strong leadership, engaged staff, open

communication, and structured reporting systems are more likely to achieve sustainable improvements in care quality and patient outcomes. As such, nurturing a resilient safety culture should be a strategic priority for healthcare organizations striving to become high-reliability institutions.

CONCLUSION

Based on the research conducted at Fatmawati Central General Hospital Jakarta, it can be concluded that patient safety culture has a significant influence on patient safety performance. The three dimensions of safety culture examined in this study—namely safety culture at the management level, at the unit level, and the outcome of patient safety culture—collectively contribute positively to improving the quality of hospital safety services. The safety culture at the management level is reflected in the hospital leadership's commitment to providing training, implementing safety policies, and establishing an open reporting system. Meanwhile, the safety culture at the unit level is demonstrated through staff collaboration, effective communication, and clear task distribution. Both aspects play an essential role in creating a work environment that supports consistent application of patient safety practices. The outcome dimension, such as increased incident reporting frequency and heightened risk awareness, serves as a key indicator of the successful implementation of a comprehensive safety culture. Quantitative analysis showed that all three independent variables had significance values below 0.05, indicating a statistically meaningful influence on patient safety performance. The R^2 value of 0.424 suggests that 42.4% of the variation in patient safety performance can be explained by these three variables, while the remaining variation is influenced by other factors outside this research model. Therefore, it can be concluded that strengthening patient safety culture—through managerial policy support, unit-level practice, and measurable outcomes—is key to achieving optimal and sustainable patient safety performance in hospital settings.

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