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RESEARCH ARTICLE

Patient Safety Culture and Reported Incident Counts: An Exploratory Unit-Level Analysis

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ABSTRACT

Introduction: Reported patient-safety incident counts are often interpreted as markers of poor clinical performance, although they may also vary with reporting practices and safety culture. This study examined associations between unit-level Patient Safety Culture (PSC) dimensions and respondent-reported incident counts in a tertiary referral hospital.

Methods: This cross-sectional study included 176 healthcare workers in 18 clinical units. PSC responses from a questionnaire based on the 42-item Hospital Survey on Patient Safety Culture version 1.0 were aggregated as unit-level means for 12 dimensions. The outcome (I4) was the raw unit-level count of unexpected events, near misses, and potential hazard events. The 12 reported Spearman coefficients were treated as exploratory. Two-sided p-values and approximate 95% confidence intervals were recalculated from each reported coefficient and N = 18, with Holm adjustment for multiplicity.

Results: The 12 correlations with I4 were positive (rho = 0.509–0.891). The largest coefficients were observed for Management Support for Patient Safety (rho = 0.891), Organizational Learning-Continuous Improvement (rho = 0.820), and Staffing (rho = 0.803). Approximate nominal p-values ranged from <0.001 to 0.031; Holm-adjusted values were 0.031 or smaller. Non-harm categories comprised 72.16% of recorded reports, a descriptive composition that does not by itself establish reporting visibility.

Conclusion: Higher unit-level PSC mean scores covaried with larger raw incident counts. This pattern is compatible with the reporting-paradox perspective, but it does not establish causation, reporting visibility, organisational maturity, or resilience. Longitudinal analyses using exposure-standardised rates and complementary evidence are needed.

Keywords: Patient Safety; Safety Culture; Incident Reporting Systems; Organizational Learning; Hospitals

INTRODUCTION

Patient Safety Culture (PSC) comprises shared values, norms, and practices that shape how healthcare personnel recognise risk, communicate about error, and learn from unsafe events. It can support hazard detection and organisational learning (1,2). In low- and middle-income settings, including Indonesia, reporting may be constrained by blame, weak feedback, and variable managerial engagement (3,4).

Reported incident counts are sometimes interpreted as evidence of poor performance. The reporting-paradox perspective offers another possibility: units with supportive safety cultures may record more events because staff are more willing or able to report hazards and near misses (5,6). Psychological safety and a just-culture environment may support such behaviour (7,8). Nevertheless, a raw count conflates opportunities for incidents, reporting propensity, and system capture; by itself, it cannot measure harm, psychological safety, reporting visibility, organisational maturity, or resilience (9).

Evidence linking PSC perceptions with unit-level reported incident counts remains limited in Indonesian and other resource-constrained hospital settings. Prior studies have commonly described staff perceptions or safety culture without aligning all 12 PSC dimensions with incident counts for the same clinical units (10,11). This leaves a specific unit-level evidence gap because supervision, workload, teamwork, and communication can vary within a hospital.

Several organisational conditions provide plausible explanations for reporting behaviour. Management support may legitimize reporting through clear procedures, resources, and fair responses (12,13). Organisational learning concerns the conversion of incident information into feedback and preventive change (14,15). Staffing and workload may also affect the time and attention available for reporting (9,16). These mechanisms were not directly measured in the present study.

International studies and reviews describe associations between supportive safety environments and greater disclosure of adverse or near-harm events (17-19). Related evidence on psychological safety, reporting barriers, emergency-department culture, and workforce stress further shows that recorded counts can reflect multiple organisational and occupational conditions (20-23). The reporting paradox is therefore used here as an interpretive framework, not as a mechanism established by the data.

The health-promotion relevance lies in an organisational preventive pathway: safety culture may shape whether frontline staff communicate risk; submitted reports can supply material for review; and supervisors, safety teams, and hospital managers can translate feedback into training, workflow redesign, or resource decisions. These actions are intended to prevent recurrence, although the present study did not measure the pathway or its effect on harm.

Indonesia's Ministry of Health Regulation Number 11 of 2017 emphasizes patient-safety governance, incident reporting, learning, and prevention of recurrence (24). Local evidence is still needed because formal policy does not determine how individual units perceive safety or generate routine reports.

Accordingly, this exploratory study examined associations between 12 unit-level PSC mean scores and raw reported patient safety incident counts across 18 clinical units in an East Kalimantan tertiary hospital. Its contextual contribution is the alignment of PSC perceptions and respondent-reported incident counts at unit level; it does not claim causal effects or establish a safety-system indicator.

METHODS

Study Design and Setting

This study used a quantitative cross-sectional correlational design to examine unit-level associations between PSC dimensions and reported patient safety incident counts. The design supports estimation of contemporaneous associations but not temporal or causal inference.

The study was conducted in a tertiary referral hospital in East Kalimantan Province, Indonesia. Eighteen inpatient and outpatient clinical units with both PSC and incident-reporting data were included. The clinical unit was the analytical level because supervisory routines, communication, and reporting practices can vary across team-based microsystems within one hospital.

Population and Sample

The respondent pool comprised healthcare workers assigned to the 18 participating clinical units. Quota targets (total n = 176) were allocated proportionally to the number of eligible staff in each unit. Within units, available and consenting staff were recruited using accidental (convenience) sampling until the quotas were met. All 176 persons invited completed the survey (100% among those invited); this figure does not represent coverage of all eligible staff. Unit-specific numbers invited and responding, and unit-level response rates, were not retained. No a priori sample-size calculation for the 18-unit analysis was documented. Consequently, selection bias and the precision of individual unit means cannot be fully assessed.

Individual responses were averaged within each clinical unit for every PSC dimension so that the predictors and respondent-reported incident outcome were analysed at the same level (N = 18). Respondent counts per unit and item-level data required for within-unit agreement (for example, rWG) or intraclass correlation coefficients were unavailable. The aggregates are therefore interpreted as unit-level average perceptions, not as statistically verified shared culture.

Research Variables and Operational Definitions

PSC was assessed with a 42-item Indonesian-language questionnaire based on the Hospital Survey on Patient Safety Culture (HSOPSC) version 1.0. Its 12 dimensions and item counts were Teamwork Within Units, 4 items; Supervisor/Manager

Expectations and Actions Promoting Patient Safety, 4 items; Organizational Learning-Continuous Improvement, 3 items; Management Support for Patient Safety, 3 items; Overall Perceptions of Patient Safety, 4 items; Feedback and Communication About Error, 3 items; Communication Openness, 3 items; Frequency of Events Reported, 3 items; Teamwork Across Units, 4 items; Staffing, 4 items; Handoffs and Transitions, 4 items; and Nonpunitive Response to Error, 3 items (25). Documentation identifying the exact Indonesian translation or cultural-adaptation procedure used in the 2018 survey was not retained, and no separate study-specific psychometric testing was conducted in this sample; equivalence to the original English instrument therefore cannot be assumed.

Items used five-point agreement or frequency response options. Negatively worded items were reverse-coded, and the archived analysis used the mean of available item scores within each dimension on the 1-5 scale; this differs from AHRQ's percent-positive method (25). Higher means indicated more positive perceptions. No dimension-score values were missing in the retained analysis file, but item-level missing-data rules, internal consistency, and construct validity could not be recalculated. A later Indonesian adaptation found supportive psychometric evidence for 41 retained items across 12 dimensions (26), and other studies support the HSOPSC structure in different settings (27,28); these findings do not validate the specific adaptation used here.

The dependent variable was I4, the raw number of patient safety incidents that respondents reported knowing about in their respective clinical units. It summed three categories: Unexpected Events, Near Misses, and Potential Hazard Events. In the retained aggregate data, the categories were treated as mutually exclusive and each reported incident contributed to one primary category and one clinical unit. I4 represents respondent-reported incidents, not the underlying incidence of patient harm.

Comparable unit-level exposure denominators—such as admissions, bed-days, procedures, visits, or staffing hours-were unavailable; an exposure-standardised rate and sensitivity analysis could not be produced. Accordingly, I4 may partly capture unit size, workload, service activity, or patient acuity, and all interpretations are restricted to raw reported counts.

Data Collection Procedures

Data were collected through respondent questionnaires from August to December 2018. PSC data were obtained through an anonymous staff survey in the participating units and summarised as mean unit-level dimension scores. The same respondents also reported patient safety incidents they knew about in their respective clinical units. The archived data did not retain respondent counts by unit or item-level survey responses.

Both PSC responses and incident-count information were collected during the same August–December 2018 period. Individual incident occurrence dates could not be independently verified. The retained dataset contained aggregate unit-category counts derived from respondents' questionnaire answers rather than records extracted from the hospital's administrative incident-reporting system. Record-level duplicate checking and other cleaning procedures therefore could not be reconstructed. No additional reclassification was performed for this analysis.

Because both PSC perceptions and incident-count information were obtained from respondent questionnaires during the same period, the analysis may be affected by shared-source measurement and reporting recall. The incident counts may also reflect differences in respondents' awareness of events, classification practices, and opportunities for incidents across units.

Data Analysis Techniques

Descriptive statistics summarised respondent characteristics and recorded incident categories. Counts and percentages used 176 as the respondent denominator; no demographic values were imputed.

Spearman's rank correlation coefficient described the direction and strength of association between each unit-level PSC mean and I4. A rank-based measure was chosen for the small 18-unit sample and because linearity and normality were not assumed. The analysis was exploratory. Underlying unit rows were not retained in the archived analytic output, so scatterplots, monotonicity checks, influential-unit diagnostics, and the effect of tied ranks could not be evaluated from the retained data.

The 12 reported rho coefficients were retained. To obtain inference appropriate to N = 18, two-sided approximate p-values were recalculated from each reported rho and N = 18 using t = rho × sqrt[(N - 2)/(1 - rho^2)] with 16 degrees of freedom. Approximate 95% confidence intervals used Fisher's z transformation, and the 12 p-values were adjusted with Holm's step-down procedure. Calculations were performed in Python 3.12.13 with SciPy 1.17.0. Because the computations used rounded retained coefficients rather than the underlying unit rows, the p-values and intervals are approximate, and the rho coefficients could not be independently recomputed.

Frequency of Events Reported was distinguished from I4 before interpretation. The survey dimension captures staff perceptions of how often specified events are reported, whereas I4 is the raw number of incidents respondents reported knowing about in their clinical units. Their conceptual and measurement overlap means the correlation is not independent confirmation of reporting visibility. Reporting was guided by the STROBE checklist for cross-sectional studies.

Ethical Approval

This study was reviewed and approved by the *Komite Etik Penelitian Kesehatan* RSUD A. Wahab Sjahranie Samarinda (Health Research Ethics Committee, A. Wahab Sjahranie Regional Public Hospital), approval No. 130/KEPK-AWS/VII/2018, on 25 July 2018. Written informed consent was obtained from all participants before data collection.

RESULTS

Respondent and Unit Characteristics

The study included 176 healthcare professionals from 18 clinical units. Most were female (64.77%), aged 25–45 years (78.98%), educated to Bachelor's degree level (72.73%), and had less than 10 years of service (80.68%) (Table 1).

Table 1. Demographic Characteristics of Respondents (n = 176)

Variables	N	%
Gender		
Male	62	35.23
Female	114	64.77
Age (years)		
<25	16	9.09
25-35	68	38.64
36-45	71	40.34
>45	21	11.93
Education		
Associate Degree of Nursing	48	27.27
Bachelor's degree	128	72.73
Length of service (years)		
<5	75	42.61
5-10	67	38.07
>10	34	19.32

Source: Primary data.

Distribution of Patient Safety Incidents

Across the 18 units, 27,492 incidents were recorded: 7,654 Unexpected Events (27.84%), 9,842 Near Misses (35.80%), and 9,996 Potential Hazard Events (36.36%) (Table 2). Near Misses and Potential Hazard Events together comprised 72.16% of reports. This composition is descriptive and may reflect the underlying event mix, classification practices, or local reporting rules; it is not direct evidence of reporting visibility.

Table 2. Distribution of Reported Patient Safety Incidents by Type

Incident Type	Total Count	Mean Count per Unit*	% of Total
Unexpected Events	7,654	425.22	27.84
Near Misses	9,842	546.78	35.80
Potential Hazard Events	9,996	555.33	36.36
Grand Total	**27,492**	**1,527.33**	**100.00**

*Mean count per unit is the total count divided by 18 units.

Correlation Between PSC Dimensions and Reported Incident Counts

The 12 retained Spearman coefficients were positive (rho = 0.509–0.891). With N = 18 and the stated approximate procedure, nominal two-sided p values ranged from <0.001 to 0.031, and Holm-adjusted values were 0.031 or smaller (Table 3). Several confidence intervals were wide, underscoring the uncertainty of estimates from 18 units.

The largest coefficient was for Management Support for Patient Safety (rho = 0.891), followed by Organizational Learning-Continuous Improvement (rho = 0.820) and Staffing (rho = 0.803). Frequency of Events Reported had the smallest coefficient (rho = 0.509) and was interpreted cautiously because of its conceptual overlap with I4.

Table 3. Spearman Correlations Between Unit-Level PSC Dimensions and the Overall Reported Incident Count (I4)

PSC Dimension	Spearman rho with I4	Approx. 95% CI	Approx. p-value	Holm-adjusted approximate p-value
Management Support for Patient Safety	0.891	0.726 to 0.959	<0.001	<0.001
Organizational Learning-Continuous Improvement	0.820	0.572 to 0.931	<0.001	<0.001
Staffing	0.803	0.538 to 0.924	<0.001	<0.001
Supervisor/Manager Expectations	0.785	0.502 to 0.916	<0.001	0.001
Communication Openness	0.718	0.378 to 0.887	0.001	0.006
Overall Perceptions of Patient Safety	0.701	0.348 to 0.880	0.001	0.008
Teamwork Across Units	0.697	0.341 to 0.878	0.001	0.008
Handoffs and Transitions	0.672	0.299 to 0.867	0.002	0.011
Feedback and Communication About Error	0.655	0.271 to 0.859	0.003	0.013
Teamwork Within Units	0.612	0.203 to 0.839	0.007	0.021
Nonpunitive Response to Error	0.605	0.192 to 0.836	0.008	0.021
Frequency of Events Reported	0.509	0.055 to 0.788	0.031	0.031

Note: PSC = Patient Safety Culture; I4 = raw unit-level reported patient safety incident count. p values and 95% confidence intervals are approximate because they were derived from rounded retained rho coefficients and N = 18 using the t approximation and Fisher's z transformation, respectively. Holm adjustment was applied to the 12 approximate p-values.

DISCUSSION

The retained analysis showed positive unit-level correlations between PSC means and raw respondent-reported incident counts. This pattern is compatible with the reporting-paradox perspective, under which supportive environments may facilitate disclosure (5,6), but it does not show why counts differed. Unit size, workload, patient acuity, event opportunities, respondents' awareness, classification, and reporting behaviour are plausible alternative explanations.

Near misses and potential hazard events formed most recorded reports. Although prior literature describes the preventive value of learning from pre-harm conditions (17,19), this composition cannot independently demonstrate visibility. Stronger evidence would require exposure denominators, audits of unreported events, qualitative data on reporting decisions, and longitudinal evidence that cultural change precedes changes in reporting.

The health-promotion implication is an organisational prevention pathway rather than an observed effect. Frontline staff identify risks; supervisors support non-punitive communication; safety teams review patterns; and managers can respond through feedback, training, workflow redesign, or resource allocation. Evidence from safety-culture interventions supports the relevance of multilevel action (29), but this study did not test whether these steps reduced harm.

Management Support for Patient Safety had the largest coefficient, identifying leadership-related perceptions as an important correlate of raw counts. Prior studies propose that fair responses, resources, and visible follow-up may affect reporting (12,30,31). Those mechanisms were not measured here and should not be inferred from coefficient rank alone. The finding is nevertheless relevant to Indonesia's policy emphasis on reporting, learning, and recurrence prevention (24).

Organizational Learning-Continuous Improvement was also strongly correlated with I4. Reporting has preventive value only when incident information informs feedback, discussion, system redesign, or procedural change (2,14,15). The analysis did not assess whether units completed this learning cycle, so the result supports the dimension's relevance without demonstrating a mechanism.

Staffing was among the larger correlations. Sufficient staffing may provide time and cognitive capacity for documentation and improvement work (32,33). Conversely, larger or busier units may have more staff, more opportunities for incidents, and more reports. Without exposure denominators, these explanations cannot be separated.

Frequency of Events Reported requires separate interpretation. Its items ask staff how often types of events are reported; I4 represents the number of incidents respondents reported knowing about in their clinical units. Their correlation may reflect alignment between perceived reporting norms and reported incident awareness, common respondent processes, or conceptual overlap. It is not independent evidence that I4 measures reporting visibility.

For practice, unit dashboards should pair incident counts with admissions, bed-days, visits, procedures, or staffing hours and document classification quality and follow-up actions. Combining counts with PSC data can prompt inquiry, but neither source should be treated as a stand-alone performance score. This approach reduces the risk of penalizing units that report openly or rewarding apparent safety created by silence.

Strengths and Limitations

A strength of this study is the alignment of PSC and incident-count information at the clinical-unit level. Several limitations qualify the findings. The single-hospital, cross-sectional design precludes causal and temporal inference. Raw counts could not be standardised for unit exposure. Although both data-collection activities occurred from August to December 2018, individual incident occurrence dates could not be independently verified. Both PSC perceptions and incident counts were obtained from respondent questionnaires, introducing potential shared-source measurement and recall bias. The outcome captures incidents known and reported by respondents rather than all incidents or patient harm.

Eligibility and sampling frames, unit-specific respondent counts and response rates, item-level survey data, aggregation statistics, and study-specific instrument validity were not retained. The underlying 18 unit rows were also unavailable for independent recomputation of rho, scatterplots, influence and tie diagnostics, or sensitivity analyses; inferential quantities are approximate and based on rounded coefficients. Future multi-site longitudinal studies should preserve these data, use exposure-standardised rates, verify within-unit agreement, and examine reporting decisions and feedback qualitatively.

CONCLUSION

Across 18 clinical units, higher PSC mean scores covaried with larger raw reported incident counts; the largest coefficients involved Management Support for Patient Safety, Organizational Learning-Continuous Improvement, and Staffing. The associations are compatible with, but do not establish, the reporting-paradox explanation. Incident counts cannot by themselves indicate reporting visibility, maturity, resilience, or care quality and should be interpreted with exposure denominators, measurement quality, and documented feedback.

DECLARATIONS

Author contributions: Hilda Hilda: Conceptualization, Methodology, Investigation, Project administration, Writing – original draft; Hesti Prawita Widiastuti: Investigation, Data curation, Writing – review & editing; Arsyawina Arsyawina: Investigation, Data curation, Writing – review & editing; Rizky Setiadi: Formal analysis, Validation, Writing – review & editing; Parellangi Parellangi: Investigation, Resources, Writing – review & editing; Rahmat Bakhtiar: Methodology, Supervision, Validation, Writing – review & editing. All authors approved the final manuscript and accept accountability for their contributions and the integrity of the work.

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REFERENCES

1. O'Hara JK, Ramsey L, Partridge R, Redford C, McHugh S, Louch G, et al. The Learn Together programme (part A): co-designing an approach to support patient and family involvement and engagement in patient safety incident investigations. Front Health Serv. 2025; 5:1529035. doi: https://doi.org/10.3389/frhs.2025.1529035
2. Wahl K, Stenmarker M, Ros A. Experience of learning from everyday work in daily safety huddles: a multi-method study. BMC Health Serv Res. 2022; 22:1101. doi: https://doi.org/10.1186/s12913-022-08462-9
3. Tasker A, Jones J, Brake S. How effectively has a Just Culture been adopted? A qualitative study to analyse the attitudes and behaviours of clinicians and managers to clinical incident management within an NHS hospital trust and identify enablers and barriers to achieving a Just Culture. BMJ Open Qual. 2023;12(1):e002049. doi: https://doi.org/10.1136/bmjoq-2022-002049
4. Skoogh A, Baath C, Hall-Lord M. Healthcare professionals' perceptions of patient safety culture and teamwork in intrapartum care: a cross-sectional study. BMC Health Serv Res. 2022;22(1):820. doi: https://doi.org/10.1186/s12913-022-08145-5
5. Reader T, Gillespie A. Stakeholders in safety: patient reports on unsafe clinical behaviors distinguish hospital mortality rates. J Appl Psychol. 2021;106(3):439-51. doi: https://doi.org/10.1037/apl0000507
6. Biquet JM, Schopper D, Sprumont D, Michel P. A call for the application of patient safety culture in medical humanitarian action: a literature review. J Patient Saf. 2021;17(8):e1732-7. doi: https://doi.org/10.1097/PTS.0000000000000638
7. Han N, Jeong S, Lee M, Kim H. Impacts of Just Culture on perioperative nurses' attitudes and behaviors with regard to patient safety incident reporting: cross-sectional nationwide survey. Asian Nurs Res. 2024;18(4):323-30. doi: https://doi.org/10.1016/j.anr.2024.09.001
8. Draganovic S, Offermanns G. Overview of patient safety culture in Bosnia and Herzegovina with improvement recommendations for hospitals. J Patient Saf. 2022;18(8):760-9. doi: https://doi.org/10.1097/PTS.0000000000000990
9. de Souza Joao Luiz MV, Rossi-Varallo FR, Melgarejo CRV, Nadai TR, Mastroianni PC. Traditional lectures actually improve the body of knowledge, skills, and attitudes of health care professional for health incident reporting system. Hosp Pharm. 2021;56(5):436-43. doi: https://doi.org/10.1177/0018578720918553
10. Lin Q, Zhang D, Or CK. Assessing and comparing perceptions of patient safety culture among 4579 health care staff in 13 general and specialized hospitals: a cross-sectional study. J Patient Saf. 2025;21(7):467-79. doi: https://doi.org/10.1097/PTS.0000000000001377
11. Beyene Shashamo B, Endashaw Yesera G, Girma Abate M, Estifanos Madebo W, Ena Digesa L, Chonka Choramo T. Patient safety culture and associated factors among nurses working at public hospitals in Gamo Zone, Southern Ethiopia. BMC Health Serv Res. 2023;23(1):670. doi: https://doi.org/10.1186/s12913-023-09671-6
12. Marum SV, Verhoeven D, de Rooy D. The barriers and enhancers to trust in a Just Culture in hospital settings: a systematic review. J Patient Saf. 2022;18(7):e1067-75. doi: https://doi.org/10.1097/PTS.0000000000001012
13. Beecham E, Brady G, Iqbal S, Fatima Q, Arshad S, Bondaronek P, et al. Systematic review of patient safety incident reporting practices in maternity care. BMJ Open Qual. 2025;14(4):e003432. doi: https://doi.org/10.1136/bmjoq-2025-003432
14. Aouicha W, Tlili MA, Sahli J, Mtiraoui A, Ajmi T, Latiri HS, et al. Patient safety culture as perceived by operating room professionals: a mixed-methods study. BMC Health Serv Res. 2022; 22:799. doi: https://doi.org/10.1186/s12913-022-08175-z
15. Huang H, Xiao L, Chen Z, Cao S, Zheng S, Zhao Q, et al. A national study of patient safety culture and patient safety goal in Chinese hospitals. J Patient Saf. 2022;18(8):e1167-73. doi: https://doi.org/10.1097/PTS.0000000000001045
16. Murray JS, Lee J, Larson S, Range A, Scott DE, Clifford J. Requirements for implementing a Just Culture within healthcare organisations: an integrative review. BMJ Open Qual. 2023;12(2):e002237. doi: https://doi.org/10.1136/bmjoq-2022-002237
17. Falcone ML, Stee SKV, Tokac U, Fish AF. Adverse event reporting priorities: an integrative review. J Patient Saf. 2022;18(4):e727-40. doi: https://doi.org/10.1097/PTS.0000000000000945
18. Tlili MA, Aouicha W, Sahli J, Cheikh AB, Mtiraoui A, Ajmi T, et al. Assessing patient safety culture in 15 intensive care units: a mixed-methods study. BMC Health Serv Res. 2022;22(1):274. doi: https://doi.org/10.1186/s12913-022-07665-4
19. Koike D, Ito M, Horiguchi A, Yatsuya H, Ota A. Implementation strategies for the patient safety reporting system using Consolidated Framework for Implementation Research: a retrospective mixed-method analysis. BMC Health Serv Res. 2022;22(1):409. doi: https://doi.org/10.1186/s12913-022-07822-9
20. Vu V, Buleon C, Le TA, Lua CCP, Martin F, Minehart RD, et al. Changing minds, saving lives: how training psychological safety transforms healthcare. BMJ Open Qual. 2025;14(2):e003186. doi: https://doi.org/10.1136/bmjoq-2024-003186
21. Afaya A, Konlan KD, Kim HO. Improving patient safety through identifying barriers to reporting medication administration errors among nurses: an integrative review. BMC Health Serv Res. 2021;21(1):1156. doi: https://doi.org/10.1186/s12913-021-07187-5
22. Kim MJ, Woo MWJ. Healthcare workers' perceptions of patient safety culture in emergency departments: a scoping review. BMJ Open. 2025;15(6):e097086. doi: https://doi.org/10.1136/bmjopen-2024-097086
23. Mathew M, John A, Ramachandran R. Nurse stress and patient safety in the ICU: physician-led observational mixed-methods study. BMJ Open Qual. 2025;14(2):e003109. doi: https://doi.org/10.1136/bmjoq-2024-003109
24. Kementerian Kesehatan Republik Indonesia. Peraturan Menteri Kesehatan Nomor 11 Tahun 2017 tentang Keselamatan Pasien. Jakarta: Kementerian Kesehatan Republik Indonesia; 2017. Available from: https://jdih.kemkes.go.id/documents/peraturan-menteri-kesehatan-nomor-11-tahun-2017

25. Famolaro T, Yount N, Hare R, Thornton S, Meadows K, Fan L, et al. Hospital Survey on Patient Safety Culture: 2018 User Database Report. Rockville (MD): Agency for Healthcare Research and Quality; 2018. AHRQ Publication No. 18-0025-EF. Available from: https://www.ahrq.gov/sites/default/files/wysiwyg/sops/quality-patient-safety/patientsafetyculture/2018hospitalsopsreport.pdf
26. Tambajong MGK. Adaptasi linguistik dan kultural serta validasi kuesioner Hospital Survey on Patient Safety Culture versi Indonesia [master's thesis]. Yogyakarta: Universitas Gadjah Mada; 2020. Available from: https://etd.repository.ugm.ac.id/penelitian/detail/194333
27. Falcone ML, Tokac U, Fish AF, Stee SKV, Werner KB. Factor structure and construct validity of a Hospital Survey on Patient Safety Culture using exploratory factor analysis. J Patient Saf. 2023;19(5):323-30. doi: https://doi.org/10.1097/PTS.0000000000001126
28. Lee SE, Havaei F, Astivia OLO, Shin JA. Psychometric evaluation of the Korean version of Hospital Survey on Patient Safety Culture. J Patient Saf. 2022;18(1):26-32. doi: https://doi.org/10.1097/PTS.0000000000000792
29. Finn M, Walsh A, Rafter N, Mellon L, Chong HY, Naji A, et al. Effect of interventions to improve safety culture on healthcare workers in hospital settings: a systematic review of the international literature. BMJ Open Qual. 2024;13(2):e002506. doi: https://doi.org/10.1136/bmjoq-2023-002506
30. Seljemo C, Viksveen P, Ree E. The role of transformational leadership, job demands and job resources for patient safety culture in Norwegian nursing homes: a cross-sectional study. BMC Health Serv Res. 2020; 20:799. doi: https://doi.org/10.1186/s12913-020-05671-y
31. Silverglow A, Wijk H, Liden E, Johansson L. Patient safety culture in home care settings in Sweden: a cross-sectional survey among home care professionals. BMC Health Serv Res. 2023; 23:998. doi: https://doi.org/10.1186/s12913-023-10010-y
32. Ellis LA, Churruca K, Tran Y, Long JC, Pomare C, Braithwaite J. An empirical application of broken windows and related theories in healthcare: examining disorder, patient safety, staff outcomes, and collective efficacy in hospitals. BMC Health Serv Res. 2020;20(1):1123. doi: https://doi.org/10.1186/s12913-020-05974-0
33. Vikan M, Haugen AS, Bjornnes AK, Valeberg BT, Tveter Deilkas EC, Danielsen SO. The association between patient safety culture and adverse events: a scoping review. BMC Health Serv Res. 2023; 23:300. doi: https://doi.org/10.1186/s12913-023-09332-8

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