

BARRIERS AND ENABLERS OF A REPORTING CULTURE: A SYSTEMATIC REVIEW OF PATIENT SAFETY INCIDENT REPORTING BY HOSPITAL HEALTHCARE WORKERS

Cyrilla Ayu Pamela^{1*}, Trihaningsih Puji Astuti¹, Vira Amelia¹

¹*Bhakti Mulia College of Health Sciences, Kediri, Indonesia*

Corresponding author: cyrillaapamela@gmail.com

ABSTRACT

Background: Patient safety incidents remain common in hospitals and directly affect healthcare quality. Incident reporting is a key strategy for improving service quality and promoting safety culture. An effective reporting culture requires reducing barriers and strengthening enabling factors so healthcare workers feel safe to report incidents.

Purpose: This systematic review aimed to synthesize current evidence on the barriers and enabling factors influencing patient safety incident reporting culture among healthcare professionals in hospital settings.

Methods: A systematic review was conducted through a comprehensive search of ScienceDirect, ProQuest, PubMed, and Google Scholar using the terms: (“patient safety” OR “adverse event”) AND (“incident reporting” OR “error reporting”) AND (“barriers” OR “enablers”) AND (“healthcare workers”) AND (“hospital” OR “healthcare”). Eligible articles were published in English between 2021 and 2026, available as full text, and focused on barriers, facilitators, or determinants of patient safety incident reporting among healthcare workers in hospital settings. Study selection followed the PRISMA guidelines. Methodological quality was critically appraised using the appropriate Joanna Briggs Institute critical appraisal tools according to study design. Each study was scored, categorized by risk of bias, and assessed for inclusion in the final synthesis. A total of 619 records were identified, and 15 studies were included in the final synthesis after duplicate removal, title and abstract screening, full-text assessment, and methodological appraisal.

Results: The main barriers to reporting were fear of blame or punitive consequences, limited feedback, low awareness, inadequate training, lack of time, and complex reporting mechanisms. Supportive factors included leadership support, a non-punitive or just culture, simple and anonymous reporting systems, regular training, effective communication, and transparent feedback mechanisms.

Conclusion: Patient safety incident reporting culture is influenced by individual, organizational, and system-related factors. Sustainable improvement requires strong leadership, non-punitive policies, simplified reporting processes, continuous education, and structured feedback systems to encourage reporting and support safer care.

Keywords: Barriers; Enablers; Healthcare Workers; Incident Reporting; Patient Safety

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BACKGROUND

Patient safety incidents (PSIs) represent a persistent global challenge. The World Health Organization estimates that approximately 134 million adverse events occur annually in hospitals, resulting in 2.6 million deaths which were a substantial proportion of which are preventable (Dhingra-Kumar et al., 2020; Schwendimann et al., 2018). In high-income countries alone, nearly one in ten hospitalized patients experiences an adverse event, contributing to increased mortality, prolonged hospital stays, and higher healthcare costs.

PSIs are broadly defined as events or circumstances that result in, or risk resulting in, unnecessary harm to patients (Kumah, 2025). Their occurrence is typically driven by failures across multiple levels: flawed healthcare processes, organizational and systemic deficiencies, and human factors such as poor communication, inadequate teamwork, excessive workload, and insufficient training which all compounded by the growing complexity of care environments (Garcia et al., 2019; Jachan et al., 2021; Thibaut et al., 2019). Incident reporting is a cornerstone of patient safety improvement. By enabling organizations to identify risks, analyze contributing factors, and implement corrective actions, reporting systems transform individual incidents into opportunities for system-wide learning (Dhingra-Kumar et al., 2020; Yoon & Lee, 2022). Their effectiveness, however, depends fundamentally on healthcare workers' willingness to report.

Underreporting remains a critical obstacle. Cultural barriers, particularly fear of blame, punishment, legal repercussions, or professional stigma, consistently discourage healthcare workers from reporting incidents and near misses (Dhingra-Kumar et al., 2020; Fekadu et al., 2025; Halperin & Bronshtein, 2019; Yoon & Lee, 2022). Organizations that respond punitively to errors tend to report fewer incidents, as workers perceive reporting as personally risky rather than constructively purposeful (Brown et al., 2026; Kakemam et al., 2021; Murray et al., 2023). Beyond culture, practical barriers also impede reporting: insufficient knowledge of procedures, inadequate training, time constraints, heavy workloads, complex reporting systems, and a lack of meaningful feedback that erodes trust in the reporting process (Abu Alrub et al., 2022; Alhassan et al., 2022; Varallo et al., 2018).

Conversely, several factors promote reporting. A non-punitive organizational culture, leadership commitment, psychological safety, and open communication create an environment where workers can report without fear (Brown et al., 2026; Murray et al., 2023; Sinaga & Kusumaningsih, 2024). User-friendly reporting systems, targeted education, and timely, visible responses to reported incidents further reinforce reporting behavior and strengthen patient safety culture (Abu Alrub et al., 2022; Pramesona et al., 2025; Tlili et al., 2024). Hospitals have implemented various measures to address these barriers, including the introduction of non-punitive reporting policies, simplified electronic reporting systems, and staff training programs aimed at improving safety awareness (Abu Alrub et al., 2022). However, the outcomes of these efforts have not yet been optimal, as underreporting and inconsistent reporting culture continue to be observed across diverse healthcare settings, suggesting that existing interventions have not fully addressed the underlying barriers.

Despite this growing body of evidence, prior systematic reviews on this topic have remained narrow in scope. Existing reviews have largely focused on a single professional group, such as nurses, often drawing on a small number of studies, or have been confined

to specific clinical areas such as maternity care, limiting the generalizability of their findings across the broader hospital workforce (Beecham et al., 2025; Mohamed & Hamed, 2022; Xu et al., 2025). Moreover, several reviews have concentrated primarily on barriers, with comparatively less attention given to enablers that could inform actionable strategies. This review addresses these gaps by synthesizing evidence from 15 studies spanning multiple professional groups including nurses, physicians, surgeons, and allied health professionals across diverse countries and healthcare settings, while explicitly examining both barriers and enablers of patient safety incident reporting. By doing so, this study provides a more comprehensive and current synthesis to inform targeted strategies for strengthening reporting culture in hospital settings.

OBJECTIVE

This systematic review aimed to synthesize current evidence on the barriers and enabling factors influencing patient safety incident reporting culture among healthcare professionals in hospital settings.

METHODS

Design and Review Framework

This study adopted a systematic review design to identify and synthesize evidence on the barriers and enabling factors influencing patient safety incident reporting culture among healthcare workers in hospital settings. The review was conducted in accordance with the PRISMA guidelines to ensure transparent reporting of the search, screening, eligibility assessment, critical appraisal, and synthesis processes. The review protocol was not prospectively registered in PROSPERO; therefore, this limitation is acknowledged in the Methods section.

The review question was developed using the Population-Exposure-Outcome (PEO) framework. The population was healthcare workers working in hospital settings, including nurses, physicians, surgeons, allied health professionals, pharmacists, and other hospital staff. The exposure or phenomenon of interest was patient safety incident reporting culture, including incident reporting systems, reporting behavior, and organizational conditions related to reporting. The outcomes were barriers and enabling factors influencing incident reporting. Based on this framework, the review question was: “What are the barriers and enabling factors influencing patient safety incident reporting culture among healthcare workers in hospital settings?”

The review involved the following stages: formulation of the review question using the PEO framework, development of database-specific search strategies, systematic literature searching, duplicate removal, title and abstract screening, full-text eligibility assessment, methodological quality appraisal using Joanna Briggs Institute critical appraisal tools, data extraction, and narrative synthesis of findings.

Table 1. Review Framework Based on the PICO Approach

PICO component	Description
Population	Healthcare workers in hospital settings, including nurses, physicians, surgeons, pharmacists, allied health professionals, and other hospital staff
Intervention / Interest	Patient safety incident reporting culture, including incident reporting behavior, incident reporting systems, and organizational conditions that influence reporting
Comparator	Not applicable, because this review did not compare interventions or exposure groups, but synthesized evidence on barriers and enabling factors related to reporting culture
Outcome	Barriers and enabling factors influencing patient safety incident reporting among healthcare workers in hospital settings

Search Methods

The literature search was conducted in January 2026 using ScienceDirect, PubMed, ProQuest, and Google Scholar. The search was restricted to studies published from 2021 to 2026, written in English, and accessible in full-text form.

The search strategy used combinations of keywords and Boolean operators as follows: ("patient safety" OR "adverse event") AND ("incident reporting" OR "error reporting") AND ("barriers" OR "enablers") AND ("healthcare workers") AND ("hospital" OR "healthcare").

The inclusion criteria comprised: (i) original research articles; and (ii) studies published between 2021 and 2026; (iii) English-language publications; (iv) full-text availability; and (v) studies addressing barriers, facilitators, or determinants influencing patient safety incident reporting among healthcare professionals working in hospitals.

The exclusion criteria were: (i) studies without analyzable data related to reporting barriers or facilitators; (ii) studies reporting only incident frequencies without examining reporting behavior; (iii) studies focusing on unrelated patient safety issues; and (iv) studies conducted outside hospital settings or not involving healthcare workers.

Search Outcome

The initial search identified 619 records: ScienceDirect (n = 61), PubMed (n = 1), ProQuest (n = 287), and Google Scholar (n = 270). After removal of 38 duplicate records, the remaining articles were subjected to title and abstract screening. At this stage, 108 records were excluded because they were not aligned with the objectives of the review. Full-text assessment was then performed on 87 articles. Following application of the eligibility criteria, 72 articles were excluded, resulting in 15 studies for inclusion in the final review. The study selection procedure is illustrated in Figure 1 through the PRISMA flow diagram.

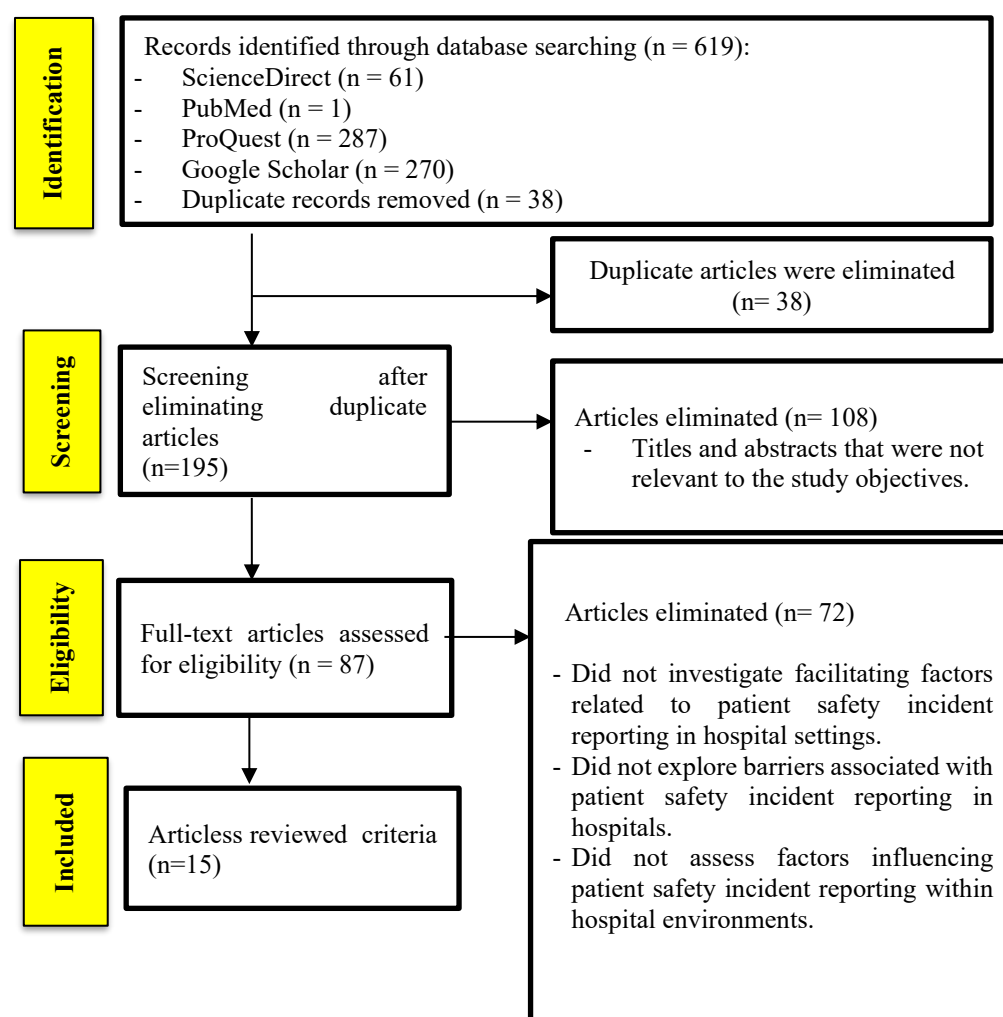


Figure 1. Study Selection Diagram

Quality Appraisal

The methodological quality of the included studies was assessed using the Joanna Briggs Institute critical appraisal tools appropriate to each study design, including checklists for analytical cross-sectional studies, qualitative studies, and case series or retrospective descriptive studies. Each article was assessed based on methodological relevance, clarity of objectives, appropriateness of study design, sampling strategy, data collection methods, validity of measurement, clarity of analysis, and consistency between findings and conclusions.

Each appraisal item was rated as “Yes,” “No,” “Unclear,” or “Not applicable.” Items rated “Yes” were assigned a score of 1, while items rated “No” or “Unclear” were assigned a score of 0. Items rated “Not applicable” were excluded from the denominator. The total score for each study was converted into a percentage and categorized as follows: low risk of bias/high methodological quality ($\geq 70\%$), moderate risk of bias/moderate methodological quality (50–69%), and high risk of bias/low methodological quality ($< 50\%$).

Studies categorized as high risk of bias were considered for exclusion if their methodological limitations were likely to compromise the validity of the findings. The quality appraisal results, including the checklist used, JBI score, percentage score, risk-of-bias category, and inclusion decision, are presented in Table 2.

Data Abstraction

Data were collected using a standardized data extraction form. The information obtained included author(s), year of publication, country, study setting, and sample characteristics, research design, and principal findings related to barriers and enabling factors in incident reporting culture.

Data Analysis/ Synthesis

A narrative synthesis approach was applied to summarize findings across heterogeneous study designs. Extracted results were grouped into recurrent themes, including organizational factors, individual factors, leadership influences, reporting system characteristics, and educational factors. These themes were then synthesized to identify common barriers and enabling factors affecting patient safety incident reporting culture in hospitals.

RESULTS

The article search was conducted using the keywords (“patient safety” OR “adverse event”) AND (“incident reporting” OR “error reporting”) AND (“barriers” OR “enablers”) AND (“healthcare workers”) AND (“hospital” OR “healthcare”). A total of 619 relevant articles were identified from four databases: ScienceDirect (n=61), PubMed (n=1), ProQuest (n=287), and Google Scholar (n=270). Subsequently, the articles were reviewed following the guidelines illustrated in the flow diagram above, resulting in 15 relevant articles. Table 1 provides a summary of the findings from the studies included in this review.

Table 2. Study Characteristics (n=15)

No	Author & Year	Sample	Research Design	Data Analysis Method	Findings
1.	(Shemsu et al., 2024)	345 healthcare workers in general hospitals in the Hadiya zone (August 1–30, 2021)	Quantitative cross-sectional	Descriptive statistics; logistic regression	Factors related to patient safety incident reporting include open communication, team feedback, and management support.

No	Author & Year	Sample	Research Design	Data Analysis Method	Findings
2.	(Yoon & Lee, 2022)	303 nurses in eight military hospitals under the Armed Forces Medical Command	Descriptive correlational cross-sectional	Correlation analysis; structural equation modeling	Factors influencing reporting include organizational culture, safety climate, and knowledge of patient safety.
3.	(Kaya et al., 2023)	Incident data	Quantitative study	Supervised machine learning analysis	A compassionate workplace culture, experiences of violence and harassment, and workload pressure were identified as significant predictors of incident reporting.
4.	(Gluschkoff et al., 2021)	Incident reporting survey data	Logistic regression model	Logistic regression analysis	The most common reason for not reporting incidents is the perception that no harm was caused. Reporting is associated with organizational justice.
5.	(Pedersen et al., 2024)	Healthcare workers	Prospective qualitative study	Thematic analysis	Barriers include perceived risk of identification, negative attitudes toward errors, lack of feedback, and lack of change following reports.
6.	(Almansour, 2023)	Surgeons, physicians, nurses, allied health professionals, pharmacists, and quality staff	Qualitative semi-structured interviews	Thematic analysis	Barriers include fear, lack of knowledge, lack of leadership support, workload, reporting systems, and lack of motivation.
7.	(Olagundoye et al., 2022)	10 staff members (consultants, registrars, midwives) involved in incidents	Qualitative study	Thematic analysis	Factors reducing incidents include timely investigation feedback, strong leadership visibility, and structured staff support.

No	Author & Year	Sample	Research Design	Data Analysis Method	Findings
8.	(Sheikht aheri et al., 2024)	249 nurses from 14 hospitals	Cross-sectional study	Descriptive and inferential statistics	Nurses showed positive attitudes toward PSRS; key factors include management support and performance expectancy.
9.	(Gqaleni & Mkhize, 2024)	Healthcare professionals in specialized care units	Descriptive exploratory qualitative	Content analysis (Tesch's method)	Barriers include ineffective reporting systems, lack of support, inadequate training, and poor human resources.
10.	(Pramesona et al., 2023)	15 clinical nurses selected using purposive sampling	Qualitative case study	Thematic analysis	Low reporting is caused by lack of understanding, a culture of blame, fear of legal repercussions, insufficient training, inadequate facilities, and limited feedback, and absence of reward/punishment systems.
11.	(Gradišnik et al., 2024)	Nursing students	Retrospective descriptive qualitative study	Qualitative content analysis	Contributing factors include communication failure, fast-paced environments, supervision, and personal factors.
12.	(Hyvämäki et al., 2023)	Inter-organizational health information	Descriptive qualitative study	Qualitative content analysis	Poor documentation and information use are caused by healthcare worker and organizational factors, including technical issues.
13.	(Suuronen et al., 2023)	HaiPro data search using dental-related keywords	Retrospective study	Descriptive statistical analysis	Main reasons for not reporting incidents include lack of communication and lack of information.
14.	(El-Sayed et al., 2025)	240 critical care nurses	Cross-sectional study	Correlation and regression analysis	Supporting factors for a reporting culture include leadership development to promote an open and supportive reporting

No	Author & Year	Sample	Research Design	Data Analysis Method	Findings
15.	(Tolobisa et al., 2026)	Nurses	Qualitative exploratory descriptive design	Thematic analysis	culture while increasing transparency and accountability. Reporting is influenced by fear of punishment, insufficient training and education, as well as fear of litigation.

Quality Appraisal Results

Based on the JBI critical appraisal, all 15 included studies met the minimum methodological quality threshold for narrative synthesis. The appraisal scores ranged from 70.0% to 90.0%, indicating that all included studies were categorized as having low risk of bias. No study was excluded solely on the basis of methodological quality. However, several methodological limitations were identified, particularly incomplete reporting of strategies to address confounding factors in cross-sectional studies and limited reflexivity reporting in qualitative studies. Therefore, the appraisal results were used to support cautious interpretation of the synthesized findings.

Table 3. Summary of JBI Critical Appraisal Results of Included Studies

No.	Author & Year	Study Design	JBI Checklist Used	Score	Quality	Risk of Bias
1.	(Shemsu et al., 2024)	Cross-sectional study	JBI Analytical Cross-Sectional Checklist	7/8	87.5	Low
2.	(Yoon & Lee, 2022)	Descriptive correlational cross-sectional study	JBI Analytical Cross-Sectional Checklist	7/8	87.5	Low
3.	(Kaya et al., 2023)	Quantitative observational study	JBI Analytical Cross-Sectional Checklist	7/8	87.5	Low
4.	(Gluschoff et al., 2021)	Observational study with logistic regression analysis	JBI Analytical Cross-Sectional Checklist	7/8	87.5	Low
5.	(Pedersen et al., 2024)	Qualitative study	JBI Analytical Cross-Sectional Checklist	9/10	90.0	Low

No.	Author & Year	Study Design	JBI Checklist Used	Score	Quality	Risk of Bias
6.	(Almansour, 2023)	Qualitative semi-structured interview study	JBI Analytical Cross-Sectional Checklist	8/10	80.0	Low
7.	(Olagundoye et al., 2022)	Qualitative study	JBI Analytical Cross-Sectional Checklist	9/10	90.0	Low
8.	(Sheikhtaheri et al., 2024)	Cross-sectional study	JBI Analytical Cross-Sectional Checklist	7/8	87.5	Low
9.	(Gqaleni & Mkhize, 2024)	Descriptive exploratory qualitative study	JBI Analytical Cross-Sectional Checklist	9/10	90.0	Low
10.	(Pramesona et al., 2023)	Qualitative case study	JBI Analytical Cross-Sectional Checklist	9/10	90.0	Low
11.	(Gradišnik et al., 2024)	Retrospective descriptive qualitative study	JBI Analytical Cross-Sectional Checklist	8/10	80.0	Low
12.	(Hyvämäki et al., 2023)	Descriptive register-based qualitative study	JBI Analytical Cross-Sectional Checklist	7/10	70.0	Low
13.	(Suuronen et al., 2023)	Retrospective descriptive study	JBI Analytical Cross-Sectional Checklist	7/10	70.0	Low
14.	(El-Sayed et al., 2025)	Cross-sectional study	JBI Analytical Cross-Sectional Checklist	7/8	87.5	Low
15.	(Tolobisa et al., 2026)	Qualitative exploratory descriptive study	JBI Analytical Cross-Sectional Checklist	8/10	80.0	Low

Note. JBI = Joanna Briggs Institute. Scores were calculated by assigning 1 point for each item rated “Yes” and 0 points for items rated “No” or “Unclear.” Items rated “Not applicable” were excluded from the denominator. Studies with scores $\geq 70\%$, 50–69%, and $< 50\%$ were categorized as low, moderate, and high risk of bias, respectively.

DISCUSSION

The findings of this review suggest that the culture of patient safety incident reporting is influenced by both enabling and inhibiting factors, which can be categorized into internal and external factors. Internal factors refer to individual characteristics such as knowledge, attitudes, perceptions, and experiences, whereas external factors relate to organizational culture, leadership, management support, and reporting systems.

The included studies were conducted across diverse country and healthcare contexts, including Ethiopia, South Korea, England, Finland, Iran, South Africa, Indonesia, Slovenia, and other hospital or healthcare settings. This geographical variation suggests that patient safety incident reporting culture may be influenced not only by individual and organizational factors, but also by broader institutional and health-system contexts. For example, studies from England and Finland emphasized organizational justice, compassionate workplace culture, workload pressure, communication problems, feedback mechanisms, and whether reporting resulted in visible system improvement (Gluschkoff et al., 2021; Kaya et al., 2023; Suuronen et al., 2023). In contrast, studies from Ethiopia, Indonesia, Iran, and South Africa more frequently highlighted barriers related to limited knowledge of reporting procedures, inadequate training, fear of blame or punishment, weak management support, ineffective reporting systems, insufficient feedback, limited facilities, and human resource constraints (Gqaleni & Mkhize, 2024; Pramesona et al., 2023; Sheikhtaheri et al., 2024; Shemsu et al., 2024). A study from South Korea also showed that organizational culture, safety climate, and knowledge of patient safety were important determinants of reporting behavior, suggesting that structured or hierarchical healthcare environments may require strong organizational support to promote reporting (Yoon & Lee, 2022). These findings indicate that strategies to improve reporting culture should be adapted to the local organizational and country context. In settings where reporting systems are relatively established, interventions may focus on strengthening trust, feedback loops, psychological safety, and organizational learning. In settings where reporting barriers are related to limited resources, training, or unclear procedures, priority should be given to strengthening reporting infrastructure, staff education, non-punitive policies, leadership commitment, and accessible reporting mechanisms.

Among the enabling factors, several internal factors were identified. Healthcare professionals who possess adequate knowledge of patient safety, positive attitudes toward reporting systems, and a strong understanding of the importance of incident reporting are more likely to engage in reporting activities (Sheikhtaheri et al., 2024; Yoon & Lee, 2022). Reporting behavior is also influenced by individual factors and perceptions of organizational fairness, as healthcare professionals who perceive reporting systems as fair and beneficial are more likely to report incidents (Gluschkoff et al., 2021; Gradišnik et al.,

2024). These findings emphasize the importance of staff understanding and positive workplace experiences in promoting reporting behaviors.

External enabling factors were more frequently reported across the reviewed studies. Open communication, team feedback, management support, and a positive safety climate were consistently associated with stronger reporting cultures (Shemsu et al., 2024; Yoon & Lee, 2022). A strong patient safety incident reporting culture is supported by open, supportive, and non-punitive leadership. El-Sayed et al. (2025) found that leadership coaching behaviors are strongly associated with reporting culture, particularly through effective communication, learning from errors, and providing constructive feedback to nurses. Similarly, healthcare professionals require management support in the form of training, resource availability, a positive work environment, and recognition for reporting incidents to sustain reporting practices (El-Sayed et al., 2025; Tolobisa et al., 2026). A compassionate workplace culture and visible leadership have also been shown to encourage reporting by creating psychological safety among healthcare workers (Kaya et al., 2023; Olagundoye et al., 2022).

Another important external enabling factor is the implementation of effective Incident Reporting Systems (IRS). Structured reporting systems facilitate the reporting process and contribute to increased reporting rates, particularly during the early stages of implementation. In addition, prompt communication and responses during investigations, visible leadership involvement, and organized support systems for healthcare professionals help maintain trust in organizational processes and encourage continued engagement in incident reporting (Olagundoye et al., 2022). These organizational supports are particularly important because healthcare professionals who experience positive work environments are more likely to provide high-quality care, report incidents consistently, and actively participate in reporting and investigative processes.

Despite these facilitating factors, several barriers continue to hinder reporting behavior. Internal barriers include poor understanding of incident categories and reporting procedures, negative attitudes toward errors, fear of reporting, and the perception that incidents resulting in no patient harm do not require reporting (Gluschkoff et al., 2021; Pramesona et al., 2023). Additional barriers include perceived risk of identification, fear of legal consequences, and lack of motivation, all of which may reduce healthcare professionals' willingness to report incidents (Almansour, 2024; Pedersen et al., 2024). These findings indicate that inadequate knowledge and unfavorable perceptions remain important obstacles to developing a strong reporting culture.

External barriers were predominantly related to organizational and system-level issues. Studies identified blame culture, lack of leadership support, inadequate training and socialization, ineffective reporting systems, insufficient facilities, absence of feedback mechanisms, poor communication, inadequate human resources, workload pressures, and fear of punishment as major barriers to incident reporting (Almansour, 2024; Gqaleni & Mkhize, 2024; Pramesona et al., 2023; Tolobisa et al., 2026). Communication failures and fast-paced working environments further contribute to underreporting by limiting opportunities for reflection and reporting (Gradišnik et al., 2024). Moreover, incident reporting and investigation processes are often perceived as stressful experiences when

organizations fail to provide structured responses and staff support systems, resulting in reduced trust in leadership and organizational processes (Olagundoye et al., 2022). The absence of feedback and minimal observable changes following incident reports may further discourage future reporting (Pedersen et al., 2024).

The interaction between these internal and external factors has important implications for healthcare organizations. Poorly managed reporting and investigation processes may reduce trust in organizational systems and discourage engagement with reporting mechanisms. This is particularly concerning because incidents can substantially affect the emotional, physical, and psychological well-being of healthcare professionals (Olagundoye et al., 2022). Staff who lack trust in organizational systems are less likely to report incidents, accept investigation findings, or implement recommended actions, thereby limiting opportunities for organizational learning and patient safety improvement (Boamah et al., 2018; Firth-Cozens, 2004; Okello & Gilson, 2015; Winsvold Prang & Jelsness-Jørgensen, 2014). Consequently, strengthening patient safety incident reporting culture requires interventions that address both internal and external factors. Educational initiatives can improve knowledge and attitudes toward reporting, while supportive leadership, effective reporting systems, timely feedback, and structured staff support mechanisms can foster trust, transparency, and continuous learning within healthcare organizations.

CONCLUSION

Patient safety incidents remain a critical issue in healthcare delivery, as they contribute to increased morbidity, mortality, and financial burden for both hospitals and patients. Findings from a systematic review indicate that underreporting of incidents is influenced by multiple barriers, including limited understanding among healthcare professionals regarding reporting procedures, fear of punishment or legal consequences, lack of feedback, high workload, and insufficient organizational support. These conditions may reduce staff trust in risk management systems and diminish their engagement in incident reporting and investigation processes. Furthermore, adverse incidents can have emotional, physical, and psychological impacts on healthcare professionals. Conversely, a robust culture of patient safety incident reporting is more likely to emerge in settings characterised by open, supportive, and non-punitive leadership. Leadership that fosters effective communication, encourages learning from mistakes, and provides constructive feedback has been associated with a stronger reporting culture. Management support through training, adequate resource provision, a positive work environment, and recognition of staff who report incidents also plays a crucial role in sustaining reporting practices.

For nurses and other healthcare professionals, efforts should focus on improving knowledge and awareness of incident reporting procedures, actively participating in reporting activities, and fostering open communication regarding patient safety issues. Continuous education and training programs may strengthen reporting competencies and encourage learning from incidents. For hospital management and healthcare leaders, strategies should focus on establishing a non-punitive reporting culture, providing timely feedback on reported incidents, ensuring adequate staffing and resources, implementing

accessible and user-friendly reporting systems, and promoting supportive leadership practices. Hospital management should also provide psychological support and recognition for staff involved in reporting and investigation processes to maintain trust in organizational systems. By addressing both individual and organizational factors, healthcare institutions can strengthen patient safety incident reporting culture, promote organizational learning, prevent the recurrence of similar incidents, and ultimately improve the quality and safety of healthcare services.

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CONFLICTS OF INTEREST

The authors declare that there are no conflicts of interest related to this study.

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Supplementary Table 1. Item-by-item JBI Critical Appraisal Results

Supplementary Table 1A. JBI Analytical Cross-Sectional Checklist

Item	Appraisal question
Q1	Were the criteria for inclusion in the sample clearly defined?
Q2	Were the study subjects and setting described in detail?
Q3	Was the exposure measured in a valid and reliable way?
Q4	Were objective, standard criteria used for measurement of the condition?
Q5	Were confounding factors identified?
Q6	Were strategies to deal with confounding factors stated?
Q7	Were the outcomes measured in a valid and reliable way?
Q8	Was appropriate statistical analysis used?

Note. Y = Yes; N = No; U = Unclear; NA = Not applicable.

Supplementary Table 1B. JBI Qualitative Research Checklist

Item	Appraisal question
Q1	Is there congruity between the stated philosophical perspective and the research methodology?
Q2	Is there congruity between the research methodology and the research question or objectives?
Q3	Is there congruity between the research methodology and the methods used to collect data?
Q4	Is there congruity between the research methodology and the representation and analysis of data?
Q5	Is there congruity between the research methodology and the interpretation of results?
Q6	Is there a statement locating the researcher culturally or theoretically?
Q7	Is the influence of the researcher on the research, and vice versa, addressed?
Q8	Are participants and their voices adequately represented?
Q9	Is the research ethical according to current criteria or, for recent studies, is there evidence of ethical approval?
Q10	Do the conclusions drawn in the research report flow from the analysis or interpretation of the data?

Note. Y = Yes; N = No; U = Unclear; NA = Not applicable.

Supplementary Table 1C. JBI Case Series Checklist

Item	Appraisal question
Q1	Were there clear criteria for inclusion in the case series?
Q2	Was the condition measured in a standard, reliable way for all participants included in the case series?
Q3	Were valid methods used for identification of the condition for all participants included in the case series?
Q4	Did the case series have consecutive inclusion of participants?

Q5	Did the case series have complete inclusion of participants?
Q6	Was there clear reporting of the demographics of the participants in the study?
Q7	Was there clear reporting of clinical information of the participants?
Q8	Were the outcomes or follow-up results of cases clearly reported?
Q9	Was there clear reporting of the presenting site(s) or clinic(s) demographic information?
Q10	Was statistical analysis appropriate?

Note. Y = Yes; N = No; U = Unclear; NA = Not applicable.