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Patient Safety Culture in Hospital Settings for Quality Improvement: A Cross-Sectional Assessment

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Abstract

Background: Patient safety culture is a critical component of healthcare quality and plays an essential role in reducing medical errors. Understanding healthcare professionals' perceptions of patient safety is important for identifying strengths and areas requiring improvement within hospital systems.
Objective: This study aimed to assess patient safety culture among hospital staff in a single private hospital to support quality improvement initiatives.
Methods: A quantitative cross-sectional study was conducted among 217 hospital staff working in both clinical and non-clinical units in a single private hospital. Data were collected using the Hospital Survey on Patient Safety Culture. Data were analysed using descriptive statistics to calculate frequencies, percentages, and percent positive responses for each dimension.
Results: The findings showed moderate variation across patient safety culture dimensions. The highest positive response was observed in response to error (73.5%), followed by handoffs and information exchange (68.7%). Other dimensions, including communication about error (64%), staffing and work pace (63.5%), communication openness (63%), teamwork (62%), and overall patient safety rating (62%), also reflected moderate perceptions. However, reporting patient safety events had the lowest positive response (43%), indicating a potential gap in incident reporting practices.
Conclusion: Overall, patient safety culture in this setting demonstrates moderate positive perceptions across several dimensions. However, the relatively low score in incident reporting suggests that this area may require further attention. These findings highlight the need for continued evaluation of reporting practices to better understand underlying barriers and support ongoing quality improvement efforts.

Keywords: Cross-sectional study; hospital; patient safety culture; patient safety reporting; quality improvement

INTRODUCTION

Patient safety has become a global priority in healthcare systems as preventable harm continues to occur during healthcare delivery. The World Health Organization highlights that unsafe care remains a major contributor to morbidity and mortality worldwide, particularly in hospital settings where complex clinical processes and multidisciplinary interactions increase the risk of adverse events. Strengthening patient safety is therefore considered a fundamental strategy for improving healthcare quality and achieving sustainable health system performance (1).

A key component in improving patient safety is the development of a strong patient safety culture within healthcare organizations. Patient safety culture refers to the shared values, beliefs, and behavioural norms related to safety practices among healthcare professionals. A positive safety culture promotes open communication, teamwork, learning from errors, and non-punitive responses to incident reporting, enabling organizations to identify system weaknesses and implement preventive strategies (2).

Hospitals operate as complex sociotechnical systems where safety outcomes are influenced by organizational and human factors such as staffing, communication, leadership, and workload. Previous studies have shown that weak safety culture is associated with underreporting of incidents, limited organizational learning, and suboptimal patient outcomes, whereas stronger safety culture is linked to improved reporting practices and teamwork (3).

Although patient safety culture has been widely studied using instruments such as the Hospital Survey on Patient Safety Culture (HSOPSC), existing research has largely focused on large or public hospitals, with less attention given to smaller or private hospital settings. In such settings, differences in organizational structure, resource availability, and management systems may shape distinct safety culture dynamics that are not fully captured in broader studies (4–6). This represents a critical gap, as understanding safety culture in these contexts is essential for developing context-specific quality improvement strategies.

In addition, while many studies report descriptive scores of patient safety culture, there remains limited discussion on how these scores translate into practical implications for healthcare organizations. Interpreting safety culture scores in relation to operational practices, such as incident reporting, communication processes, and teamwork—can provide more meaningful insights for quality improvement efforts (7–9).

Therefore, this study aims to assess patient safety culture among hospital staff in a single private hospital, with a particular focus on identifying dimension-specific strengths and areas requiring improvement. By examining how safety culture scores reflect practical aspects of daily clinical and organizational processes, this study seeks to provide a more contextually grounded understanding of patient safety culture to support targeted and sustainable quality improvement initiatives (10).

METHODS

Study Design

This study employed a quantitative cross-sectional design to assess healthcare workers' perceptions of patient safety culture at a single point in time. This design was appropriate for describing the current state of safety culture within the hospital setting without establishing causal relationships or evaluating the effectiveness of specific interventions. The findings are therefore interpreted as descriptive insights into existing perceptions rather than evidence for determining improvement strategies.

Setting

The study was conducted in a single private hospital in Banda Aceh, Indonesia. The hospital provides general medical and nursing services with both clinical and non-clinical units, representing a typical mid-level healthcare facility in the region. However, the findings should be interpreted within this specific institutional context and may not be generalizable to other hospital settings.

Participants

Participants included healthcare workers from various professional backgrounds, including medical doctors, specialist physicians, nurses, other healthcare professionals, and non-clinical staff. Inclusion criteria required participants to have worked in the hospital for at least one year and to provide informed consent. The inclusion of

both clinical and non-clinical staff was intended to capture a broader organizational perspective on patient safety culture, as safety practices are influenced not only by direct patient care but also by administrative and support systems. However, the heterogeneity of roles may influence how safety culture is perceived and should be considered when interpreting the findings.

A total of 217 respondents participated in this study. Participants were recruited using a convenience sampling technique, where eligible staff available during the study period were invited to participate voluntarily. This sampling approach may introduce selection bias, as participation depended on availability and willingness, and therefore represents a methodological limitation of the study.

Instrument

Data were collected using the Hospital Survey on Patient Safety Culture (HSOPSC) version 2.0 developed by the Agency for Healthcare Research and Quality (AHRQ). This instrument measures multiple dimensions of patient safety culture, including teamwork, staffing and work pace, communication openness, response to error, communication about error, organizational learning, management support for patient safety, and handoffs and information exchange.

Responses were recorded using a five-point Likert scale ranging from strongly disagree to strongly agree or from never to always. Negatively worded items were reverse-coded prior to analysis. In this study, the internal consistency of the instrument was assessed, with Cronbach's alpha values ranging from 0.72 to 0.88 across dimensions, indicating acceptable reliability for the current sample. Percent positive response rates were calculated following AHRQ guidelines by combining the proportion of positive responses (e.g., "agree/strongly agree" or "most of the time/always") for each item within a dimension. Higher percentages indicate stronger perceived safety culture, while lower percentages suggest areas requiring further attention.

Data Collection

Data collection was conducted over a four-week period using a self-administered questionnaire distributed in both printed and electronic formats. Participants were approached through unit coordinators and informed about the study objectives prior to participation. To minimize response bias and encourage honest responses, anonymity was ensured, and no identifying information was collected. Participation was voluntary, and no incentives were provided. However, the use of mixed-mode survey distribution may have influenced response patterns and is acknowledged as a potential limitation.

Data Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics, including frequencies and percentages, were used to summarize respondent characteristics and patient safety culture dimensions. Percent positive response rates were calculated for each dimension to describe the strength of safety culture within the hospital. Given the descriptive nature of the study, no inferential statistical tests were performed, and no assumptions regarding statistical significance were made. The analysis focused on identifying patterns of strengths and areas that may warrant further exploration rather than establishing causal relationships.

RESULTS

Demographic Characteristics

The demographic characteristics of respondents are presented in Table 1. A total of 217 respondents participated in this study, representing both clinical and non-clinical staff within the hospital. The largest proportion of respondents were nurses, reflecting their central role in direct patient care and their continuous involvement in patient safety practices. In terms of age distribution, most respondents were in the 31–40 and 41–50 year groups, indicating a predominantly mature and experienced workforce. Female respondents constituted a higher proportion than males, which is consistent with the workforce composition in nursing-dominated healthcare settings.

Regarding professional experience, the majority of participants had more than five years of work experience, suggesting adequate exposure to hospital systems and patient safety practices. In addition, respondents were drawn from various units, including inpatient, outpatient, emergency, and supporting units, providing a broad organizational perspective on patient safety culture. The inclusion of both clinical and non-

clinical staff allows for a more comprehensive understanding of safety culture at the organizational level. However, differences in roles, responsibilities, and work environments may influence how patient safety culture is perceived across groups.

Patient Safety Culture in Hospital

Table 2 presents the results of patient safety culture dimensions based on the percent positive response among 217 respondents. Overall, the findings indicate moderate variation across the measured dimensions. The highest positive response was observed in response to error (73.5%), suggesting that staff generally perceive appropriate responses to errors within the hospital. This was followed by handoffs and information exchange (68.7%), indicating relatively effective communication during patient transfers and information sharing. Several other dimensions showed moderate positive responses, including communication about error (64%), staffing and work pace (63.5%), communication openness (63%), teamwork (62%), and the overall rating on patient safety in the hospital (62%). Additionally, supervisor, manager, or clinical leader support for patient safety (61.3%) and hospital management support for patient safety (60%) also demonstrated moderate levels of positive perception among staff. Meanwhile, organizational learning—continuous improvement showed a slightly lower score (58%), followed by number of events reported (56%). The lowest positive response was found in reporting patient safety events (43%), indicating that incident reporting practices may still require improvement. Overall, these results suggest that while several aspects of patient safety culture are perceived positively, certain areas, particularly event reporting, remain challenges that need further attention within the hospital.

Table 1. The Demographic Characteristics (n=217)

Characteristics	2026	%
Age (years)		
21-30	52	24
31-40	81	37.3
41-50	60	27.6
>50	24	11.1
Gender		
Male	78	35.9
Female	139	64.1
Unit		
Inpatient	85	39.2
Outpatient	52	24
Emergency	30	13.8
Supporting unit	50	23
Profession		
Medical practitioners	6	2,9
Specialist practitioners	33	15,2
Nurses	88	40,5
Other healthcare professionals	31	14,1
Non-clinical staff	59	27,4

Data based on primary data collected in this study.

Table 2. Patient Safety Culture in Hospital (n=217)

Item Results Average Percent Positive Response	%
Teamwork	62
Supervisor, manager, or clinical leader support for patient safety	61,3
Communication openness	63
Reporting patient safety events	43
Communication about error	64
Organizational learning continuous improvement	58
Hospital management support for patient safety	60
Handoffs and information exchange	68,7
Response to error	73,5
Staffing and work pace	63,5
Number of events reported	56
Overall rating on patient safety in the hospital	62

Data based on primary data collected in this study.

DISCUSSION

The findings of this study indicate that most dimensions of patient safety culture fall within the moderate category, with no dimension reaching a strong level. While this suggests that basic elements of safety culture are present, it also indicates that there remains substantial room for improvement across multiple areas. In a hospital setting where patient safety is a critical priority, moderate scores should not necessarily be interpreted as satisfactory but rather as signals of areas that require further strengthening (1,2).

The highest score was observed in the dimension of *response to error* (73.5%), indicating that staff generally perceive organizational responses to errors as relatively supportive and non-punitive. This finding may reflect the presence of policies or attitudes that emphasize learning from errors rather than assigning blame. However, this positive perception needs to be interpreted cautiously, as it does not necessarily reflect actual practices but rather staff perceptions at a single point in time (2,3).

A notable and important finding in this study is the inconsistency between the relatively high perception of *response to error* and the low score for *reporting patient safety events* (43%). Conceptually, a supportive response to errors should encourage reporting behavior (3,4). However, the results suggest that this relationship may not be fully realized in practice. This discrepancy may indicate that while staff perceive error responses as acceptable, other unmeasured factors may still influence their willingness to report incidents. These factors could include concerns about blame, lack of feedback, limited awareness of reporting procedures, or organizational norms that were not directly assessed in this study (4,5,10-12). As the present study used a descriptive cross-sectional design, it cannot determine the underlying reasons for this gap, but the finding highlights an area that warrants further investigation.

In addition, several dimensions such as teamwork, communication openness, and staffing and work pace were rated at moderate levels. While these results indicate the presence of collaborative practices and communication processes, they also suggest that these aspects may not yet be consistently strong across the organization. Given the central role of teamwork and communication in preventing adverse events, moderate scores in these domains may reflect potential vulnerabilities in care coordination and information sharing (7–9).

Leadership support for patient safety also demonstrated moderate levels, suggesting that while safety may be recognized as an organizational priority, there may be variability in how this commitment is perceived or implemented across different levels of the hospital. Similarly, organizational learning showed moderate results, indicating that processes for continuous improvement may exist but may not yet be fully optimized or consistently experienced by staff (13-17).

Overall, the findings of this study highlight a pattern in which multiple dimensions of patient safety culture are present but not yet strongly embedded. The results should therefore be interpreted as a descriptive overview of current perceptions rather than evidence for specific improvement strategies. In particular, the observed gap between perceived response to error and actual reporting behavior represents a critical area that requires deeper exploration to better understand the underlying organizational dynamics influencing patient safety culture (18-20).

Implications

The findings suggest that hospitals should prioritize strengthening incident reporting systems by promoting a non-punitive culture, improving feedback mechanisms, and enhancing staff awareness (7–9). From a research perspective, future studies should use analytical or longitudinal designs to examine determinants of patient safety culture and explore subgroup differences across professions and units to inform targeted quality improvement strategies.

Limitations

This study has several limitations. First, the cross-sectional design limits causal interpretation of patient safety culture perceptions. Second, the use of convenience sampling in a single private hospital may reduce generalizability to other settings. Third, data were self-reported, which may introduce response and social desirability bias. Finally, the descriptive analysis did not explore relationships between variables, limiting deeper understanding of factors influencing safety culture.

CONCLUSION

This study aimed to assess patient safety culture among hospital staff using a cross-sectional approach to describe strengths and areas requiring attention within a single private hospital setting. Understanding healthcare professionals' perceptions of patient safety culture provides important insight into how safety principles are experienced in daily practice.

The findings indicate that most dimensions of patient safety culture fall within the moderate category, with relatively higher scores observed in response to error and handoffs and information exchange. These results suggest that some aspects of organizational response and communication processes are perceived positively by staff. However, the lowest score was found in the reporting of patient safety events, indicating that reporting practices remain a key area of concern.

The contrast between relatively positive perceptions of response to error and low reporting behavior highlights a potential gap between perceived organizational support and actual reporting practices. As this study is descriptive in nature, it does not identify the underlying causes of this gap. Therefore, further investigation is needed to explore the barriers influencing incident reporting, including organizational, cultural, and system-related factors. Overall, the findings provide a descriptive overview of patient safety culture in this setting and highlight the importance of strengthening reporting practices as part of broader efforts to improve patient safety and healthcare quality

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Author Contributions

B.A.H. conceptualized and designed the study, conducted data collection, performed data analysis, and drafted the manuscript. R.G.G.G. contributed to methodological development, data interpretation, and critical revision of the manuscript. Both authors reviewed and approved the final version of the manuscript

Conflict of Interest

The authors declare that there are no financial, personal, or professional relationships that could be perceived as influencing the research reported in this paper. The authors confirm that the study was conducted independently and without any conflict of interest.

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