Patient Safety Culture: Current Status and Associated Fators Among Healthcare Workers at Kien An Hospital – Hai Phong, Vietnam - A Cross-Sectional Study

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Article

Patient Safety Culture: Current Status and Associated Fators Among Healthcare Workers at Kien An Hospital – Hai Phong, Vietnam - A Cross-Sectional Study

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Abstract

Objective: Patient safety culture (PSC) is a critical determinant of healthcare quality. This study aimed to assess the current status of PSC among healthcare workers at Kien An Hospital, Hai Phong, Vietnam, and identify associated factors. ***Methods***: A cross-sectional survey was conducted using the 12dimension hospital survey on patient safety culture (HSOPSC). A total of 324 healthcare professionals (physicians, nurses, and allied healthcare staff) participated. Data were analyzed using descriptive statistics and multivariable logistic regression. ***Results:*** The overall positive response rate across the 12 HSOPSC dimensions was 81.5%. The highest positive response rate was observed in the "Teamwork within units" dimension (98.5%), whereas the lowest was in "Non-punitive response to error" dimension (55.6%). Statistical analysis of PSC revealed significant differences between physicians and nurses in two dimensions: "Feedback and communication about error" with OR = 1.92 (95% CI: 1.66–2.52; $p < 0.05$) and "Overall perceptions of patient safety." With OR = 0.12 (95% CI: 0.16–0.89; $p < 0.01$). ***Conclusion:*** Healthcare workers at Kien An Hospital report a relatively high level of positive PSC perception. Interventions should prioritize improving the non-punitive response to error system to foster a culture of reporting and learning.

Keywords: patient safety culture; healthcare staff; hospital; physicians; nurses

1. Introduction

Patient safety is a crucial determinant of high-quality healthcare. Preventable medical incidents pose a sighnicant threat to both patieng well-being and the integrity of the healthcare system. According to the Vietnamese Ministry of Health, from 2019 to August 2022, 540 out of 1,539 hospitals (35%) had implemented medical incident reporting systems. These systmes documented 96,815 incidents nationwide, a significant proportion of which were potentially preventable [1]. As the healthcare sector rigorously strives for quality improvement and error reduction, the imperative of fostering a robust Patient Safey Culture (PSC) has become increasingly recognized and prioritized globally.

Patient safety within healthcare organizations garnered considerable attention following the seminal 1999 Institute of Medicine's report, "To Err is Human: Building a Safer Health System" [2]. Nieva and Sorra considered PSC as the product of individual and group values, attitudes, perceptions, competencies, and patterns of behavior that determine the commitment to, and the proficiency of, an organization's health and safety management. A truly mature safety culture is

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characterized by organizational openness and fairness toward staff following adverse events, a demonstrate willingness to learn from mistakes, and a clear focus on identifying and correcting system failures rather than assigning individual blame [3].

Patieng safety culture fundamentally refers to how safety is managed and perceived in the workplace reflecting the shared attitudes, beliefs, perceptions, and values of employees regarding safety [4]. The World Health Organization (WHO) defines patient safety as the reduction of unnecessary risk and harm associated with healthcare to an acceptable minimum. PSC is a complex framework encompassing multiple dimensions that collectively influence a wide range of discretionary behaviors related to patient safety [3]. According to Agency for Healthcare Reserch and Quality (AHRQ) [5], PSC involves understanding the values, beliefs, and norms about what is important within an organization, as well as recognizing which attitudes and behaviors related to patient safety are supported, rewarded, and expected. Measuring patient safety culture is widely regarded as the crucial first step toward enhancing the quality of healthcare delivery. Therefore, healthcare providers are increasingly urged to make PSC a top priority in their organizational practices [6].

The study utilized the Hospital survey on Patient Safety Culture (HSOPSC), a validated instrument initially developed by AHRQ in the United States and widely applied across numerouscountries [5]. This comprehensive instrument is designed to measure 12 dimensions of PSC categorized across different organizational levels, including 7 dimensions at the unit level focus on teamwork, communication, and management support within the clinic unit; 3 dimensions at the hospital level addressing hospital-wide teamwork, staffing, and organizational learning; and 2 outcome dimensions capturing the overall perception of safety and the frequency of reported events [7]. The HSOPSC tool has been previously translated, subjected to reliability validation, and successfully utilized in assessing PSC across various hospitals settings throughout Vietnam [8].

This study specifically focuses on evaluating the status of PSC in a Vietnamese hospital setting. The main objectives of this research are (1) to assess the current status of PSC among healthcare workers at Kien An Hospital, Hai Phong, Vietnam; (2) to analyze demographic and professional factors independently associated with PSC scores. The findings are expected to furnish healthcare organizations and policy makers in Vietnam with evidence-based insights into the current state of PSC, thereby facilliating targeted improvement in quality and safety within Vietnamese hospitals.

2. Materials and Methods

2.1. Study Design and Setting

This was a cross-sectional study conducted at Kien An Hospital, Hai Phong, Vietnam.

2.2. Study Population and Sampling

The study population included all eligible healthcare professionals working across clinical and non-clinical departments of the hospital, specifically physicians, nurses, midwives, technicians, and pharmacists. The minimum required sample size was determined based on the number of healthcare workers (HCPs) following the AHRQ's recommendation, which suggests a minimum of 250 respondents for hospitals with 501–699 employees [7].

Inclusion criteria: Employed full-time; At least 6 months of experience, and voluntarily participation.

Exclusion criteria: Healthcare workers who declined to participate in the study, and those who were attending training courses, on business trips, or on maternity leave during the data collection period.

Sampling procedure and participants: Initially, simple random sampling was planned, targeting 250 participants selected from a complete list of eligible healthcare workers using Microsoft Excel. However, to maximize the statistical power and coverage the target population, the research team

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subsequently invited all eligible healthcare workers to participate in the study. Ultimately 324 healthcare professionals who met all inclusion criteria successfully completed the survey.

To ensure the privacy and minimize self-report bias (STROBE 8), the survey was conducted under strict confidentiality protocols and was completely anonymously. In addition, to maintain confidentiality, participants were instructed to place their completed questionnaires in sealed envelopes. The study coordinators were responsible for collecting these seal envelopes andtransfering them directly to the research team for data entry and analysis.

2.3. Measurement Instrument and Internal Consistency

The PSC was measured using the HSOPS–VN 2015, ain instrument officially recognized by AHRQ for use in Vietnam [9].

The HSOPS-VN instrument consists of 42 items designed to measure 12 dimensions of PSC, utilizing a 5-point Likert scale based on either agreement (from "Strong disagree" to "Strongly agree") or frequency (from "Never" to Always).

Internal Consistency: According to Fleming [10], the reliability of the AHRQ data, as measured by Cronbach's α, ranges from 0.63 to 0.84. In the present study, the Cronbach's α values for the 12 dimensions ranged from 0.62 to 0.82. While this demonstrates acceptable internal consistency, the slightly lower values than compared to the AHRQ reference datat suggest that a marginally lower internal consistency of responses within this specific cohort.

Scoring Method and Dimensions: The primary outcome of each dimension was reported as the percentage of positive response (PPR).. Responses were scored as follows:

Positive Responses (Scores 4–5):

For positively worded items, "Strongly agree/Always" and "Agree/Often" were scored as positive.

For negatively worded items (reverse-scored), "Strongly disagree/Never" and "Disagree/Rarely" were scored as positive.

Non-Positive Responses (Scores 1–3):

For positively worded items, "Neutral/Sometimes," "Strongly disagree/Never," and "Disagree/Rarely" were considered non-positive.

For negatively worded items (reverse-scored), "Neutral/Sometimes," "Strongly agree/Always," and "Agree/Often" were considered non-positive.

The survey dimensions were structured as follows:

(A) Seven Unit-Level Dimensions of PSC: Supervisor/Manager Expectations and Actions Promoting Patient Safety (4 items); Organizational Learning – Continuous Improvement (3 items); Teamwork Within Units (4 items); Communication Openness (3 items); Feedback and Communication About Error (3 items); Non-Punitive Response to Error (3 items); Staffing (4 items)

(B) Three Hospital-Level Dimensions of PSC: Hospital Management Support for Patient Safety (3 items); Teamwork Across Hospital Units (4 items); Hospital Handoffs and Transitions (4 items)

(C) Two Outcome Dimensions: Overall Perceptions of Patient Safety (4 items); Frequency of Event Reporting (3 items)

2.4. Data Analysis

Data analysis was performed using SPSS version 20.0 (IBM Corp., Armonk, NY, USA). Initially, descriptive statistics were used to summarize participant demographic characteristics and calculate the PPR for each HSOPSC dimension. For comparative analysis, independent samples t-tests were utilized to compare the study's PSC score with the AHRQ benchmark data, and to examine differences in the mean positive response rates between key professional groups (physicians vs. nurses). Finally, multivariate logistic regression analysis was employed to identify demographic and professional factors independently associated with the overall positive perception of PSC (using dichotomous dependent variable derived from the overall average PRR).

Ethical Considerations:

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This study was conducted after receiving approval from the Biomedical Research Ethics Committee of Kien An Hospital, Hai Phong, Vietnam, on April 25, 2025, under Decision No. 364/QD-BVKA.

3. Results

A total of 324 healthcare workers successfully completed the survey, with a distinct female predominance, accounting for 78.1% of the cohort, while males made up 21.9%. The study population was relatively young, with the largest proportion (53.4%) falling in to the 30 to <40 years age group. In the terms of professional background, the majority of respondents were nurses (58.6%), and an overwhelming 87.0% worked in clinical departments. Reflecting substantial experience, 62.3% of the healthcare workers reported havingbeen employed for more than 10 years. Regarding workload and patient engagement, most respondents (81.5%) worked ≤ 40 hours per week, and high percentage (90.1%) confirmed having direct contact with patients. Extended demographic and professional characteristics are detailed in Table 1.

Table 1. Personal characteristics of the study participants.

No	Characteristics		Frequency (N = 324)	Percentage (%)
1	Gender	Male	71	21.9%
		Female	253	78.1%
2	Age group	< 30 years	40	12.3%
		30 - < 40 years	173	53.4%
		40 - < 50 years	77	23.8%
		≥ 50 years	34	10.5%
3	Working department	Clinical	282	87.0%
		Paraclinical	42	13.0%
4	Professional title	Physician	78	24.1%
		Nurse	190	58.6%
		Technician	31	9.6%
		Midwife	19	5.9%
		Others	6	1.9%
5	Years of experience	≤ 5 years	34	10.5%
		6 – 10 years	88	27.2%
		> 10 years	202	62.3%
6	Weekly working hours	≤ 40 hours	264	81.5%
		> 40 - < 60 hours	48	14.8%
		≥ 60 hours	12	3.7%
7	Direct patient contact	Yes	292	90.1%
		No	32	9.9%

The analysis of positive responses among healthcare workers across the 12 dimensions of PSC,measured by the HSOPSC-VN2015 instrument, revealed a wide range of perception. The highest positive response was observed in “Teamwork within units” at 98.5%, indicating a strong consensus on internal team collaboration. Conversely, the dimension with the lowest positive response was “Non-punitive response to errors” at 55.6%, suggesting a perceived or punitive environment regarding to error reporting Detailed positive response percentages for all the 12 dimensions of PSC are presented in Table 2.

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Table 2. Current Status of PSC at Kien An Hospital, Hai Phong, Vietnam.

No	Patient safety culture dimensions	Number of positive responses (N=324)	Positive response rate (%)	Mean	SD	Cronbach's α	Average positive response rate
1	Teamwork within units					0.79	98.5%
A1	Staff within units support each other	317	97.8%	4.41	0.67		
A3	When workload increases, staff cooperate to complete tasks	318	98.1%	4.26	0.56		
A4	People in the unit treat each other with respect	319	98.5%	4.29	0.55		
A11	Units in the department help each other accomplish tasks	317	97.8%	4.17	0.52		
2	Supervisor/manager expectations and actions promoting patient safety					0.67	95.2%
B1	Supervisor praises staff for following safety procedures	319	98.5%	4.22	0.49		
B2	Supervisor seriously considers staff suggestions for safety improvement	320	98.8%	4.21	0.46		
B3	When workload is high, supervisor asks staff to work faster even if safety steps are skipped	293	90.4%	4.05	0.79		
B4	Supervisor ignores safety problems even if mistakes recur	301	92.9%	4.16	0.74		
3	Organizational learning - continuous improvement					0.68	94.7%
A6	The unit actively takes actions to improve patient safety	310	95.7%	4.17	0.63		
A9	Errors have led to positive changes in the unit	298	92.0%	4.04	0.63		
A13	The unit evaluates the effectiveness of safety improvements	312	96.3%	4.07	0.37		
4	Feedback and communication about error	0.74	89.0%				
C1	Staff receive feedback on changes made based on incident reports	276	85.2%	3.97	0.59		
C3	Staff are informed about errors occurring in the unit/hospital	298	92.0%	4.16	0.57		
C5	The unit discusses ways to prevent recurrence of errors	291	89.8%	4.11	0.56		
5	Communication openness					0.64	60.1%
C2	Staff feel free to speak up about problems affecting patient care	264	81.5%	3.97	0.72		
C4	Staff feel free to question decisions or actions of superiors	149	46.0%	3.21	1.13		
C6	Staff are afraid to ask questions when something seems wrong	171	52.8%	3.58	1.00		
6	Staffing					0.62	73.1%
A2	The unit has enough staff to handle the workload	283	87.3%	3.91	0.79		

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A5	Staff work longer hours than scheduled to ensure good patient care	223	68.8%	3.57	0.96		
A7	The unit relies too much on temporary staff	165	50.9%	3.18	1.11		
A14	Staff often work under pressure to get things done quickly	276	85.2%	3.95	0.90		
7	Non-punitive response to error					0.66	55.6%
A8	Staff feel blamed when errors occur	166	51.2%	3.29	1.00		
A12	When an event occurs, the individual is blamed rather than the problem being analyzed	238	73.5%	3.66	1.01		
A16	Staff worry that their mistakes are kept in their personnel file	136	42.0%	3.00	1.07		
8	Hospital management support for patient safety					0.76	89.5%
F1	Hospital management provides a climate that promotes patient safety	320	98.8%	4.19	0.43		
F8	Hospital management shows that patient safety is a top priority	315	97.2%	4.21	0.55		
F9	Hospital management only pays attention to patient safety after serious incidents	235	72.5%	3.95	1.21		
9	Teamwork across units					0.66	91.0%
F2	Hospital units coordinate well with each other	319	98.5%	4.14	0.41		
F4	There is good cooperation between related departments	314	96.9%	4.14	0.42		
F6	Staff feel uncomfortable working with staff from other departments	227	70.1%	3.57	1.13		
F10	Departments work well together to ensure the best patient care	319	98.5%	4.19	0.44		
10	Handoffs and transitions					0.72	80.9%
F3	Important information is not lost during patient transfers	299	92.3%	4.05	0.55		
F5	Key information is not omitted during shift changes	311	96.0%	4.13	0.55		
F7	Problems often occur in information exchange between departments	182	56.2%	3.37	1.01		
F11	Shift changes are problematic for patient safety	256	79.0%	3.84	0.89		
11	Frequency of event reporting					0.77	77.1%
D1	Errors that are detected before reaching the patient are usually reported	249	76.9%	3.87	0.74		
D2	Errors that have no potential to harm patients are reported	239	73.8%	3.87	0.80		
D3	Errors that could have harmed the patient but did not are reported	261	80.6%	3.95	0.76		

 doi:10.20944/preprints202604.0186.v1

12	Overall perceptions of patient safety					0.82	74.7%
A10	Serious mistakes do not happen in the unit just by chance	269	83.0%	3.92	0.88		
A15	The unit never sacrifices patient safety to get more work done	203	62.7%	3.34	1.31		
A17	The unit has had some patient safety problems	178	54.9%	3.36	1.01		
A18	The unit has effective procedures to prevent errors	318	98.1%	4.15	0.44		

The comparison of mean PSC perception between physicians and nurses was conducted using the Independent-Samples T-Test. The results (presented in Table 3) indicated that physicians' mean PSC scores were significantly higher than those of nurses in the dimensions of "Feedback and communication about error" and "Overall perceptions of patient safety" ($p < 0.01$). No statistically significant differences were found between the two professional groups across the remaining ten dimensions.

Table 3. Comparison of PSC Dimensions between Physicians and Nurses.

No	**Dimensions of patient safety culture**	**Physicians (n = 78)**			**Nurses (n = 246)**			**p**
		Positive response rate (%)	**Mean**	**SD**	**Positive response rate (%)**	**Mean**	**SD**	
1	Teamwork within units	94.9%	4.30	0.41	95.5%	4.27	0.46	0.59
2	Supervisor/manager expectations and actions promoting patient safety	88.5%	4.24	0.46	88.6%	4.14	0.44	0.09
3	Organizational learning - continuous improvement	87.2%	4.14	0.40	88.6%	4.07	0.41	0.20
4	Feedback and communication about error	87.2%	4.22	0.44	78.9%	4.04	0.46	**0.003**
5	Open communication	64.1%	3.62	0.54	67.9%	3.58	0.59	0.59
6	Staffing	73.1%	3.62	0.42	65.2%	3.66	0.48	0.58
7	Non-punitive response to error	70.5%	3.27	0.82	65.0%	3.33	0.78	0.52
8	Hospital management support for patient safety	73.1%	4.11	0.50	74.0%	4.12	0.52	0.84
9	Teamwork across units	78.2%	4.06	0.41	69.1%	3.99	0.41	0.22
10	Handoffs and transitions	52.6%	3.89	0.45	52.8%	3.84	0.43	0.36
11	Frequency of event reporting	66.7%	3.97	0.66	65.0%	3.85	0.62	0.15

 doi:10.20944/preprints202604.0186.v1

12	Overall perceptions of patient safety	52.6%	3.83	0.48	63.8%	3.65	0.47	**0.004**

The multivariate logistic regression analysis (results presented in Table 4) was conducted to identify factors associated with a favorable overall perception of PSC (positive response). The results indicated that direct patient contact was the only demographic or professional characteristic significantly associated with PSC scores. Specifically, healthcare workers who had direct contact with patients demonstrated a 0.12-fold lower likelihood of providing positive responses regarding PSC compared to those without patient contact (OR=0.12, p <0.01). This strong negative association suggest that direct care providers perceive the safety culture less favorably.

Table 4. Association Between Overall PSC Factors and Participants' Characteristics.

Variable	Overall Patient Safety Culture				OR (95%CL)	p
	Positive		Not Positive			
	n	%	n	%		
Professional title						
Physicians	58	74.4%	20	25.6%	1	0.30
Nurses	152	80.0%	38	20.0%	0.72 (0.39-1.34)	
Technicians	29	93.5%	02	6.5%	0.20 (0.04-0.91)	
Midwives	16	84.2%	03	15.8%	0.54 (0.14-2.06)	
Others	06	100.0%	00	0.0%	-	
Years of service at the hospital						
< 5 years	23	67.6%	11	32.4%	2.13 (0.95-4.75)	0.13
6 – 10 years	73	83.0%	15	17.0%	0.91 (0.47-1.77)	
> 10 years	165	81.7%	37	18.3%	1	
Working hours per week						
≤ 40 hours	213	80.7%	51	19.3%	0.47 (0.13-1.65)	0.43
> 40 - < 60 hours	40	83.3%	08	16.7%	0.40 (0.09-1.65)	
≥ 60 hours	08	66.7%	04	33.3%	1	
Direct contact with patients						
Yes	230	78.8%	62	21.2%	0.12 (0.16-0.89)	**0,01**
No	31	96.9%	01	3.1%		
Openness in communication about errors						
Clinical unit	191	67.7%	91	32.3%	1.92 (1.66-2.52)	**0.04**
Paraclinical unit	26	61.9%	16	38.1%		
Punitive response to errors						
Clinical unit	173	61.3%	109	38.7%	1.07	**0.02**

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Paraclinical unit	25	59.5%	17	40.5%	(0.55-0.95)

No statistically significant associations were found between any other analyzed factors (e.g., age, gender, years of experience, or working hours) and the overall PSC of healthcare workers ($p > 0.05$).

4. Discussion

The overall average positive response rate across the 12 HSOPSC dimensions was **81.5%**, indicating a generally high level of positive Patient Safety Culture (PSC) perception among healthcare workers at Kien An Hospital. The analysis revealed marked variation across the dimensions: the highest positive response rate was observed in "Teamwork within units" at 98.5%, signaling a significant strength in unit-level collaboration. Conversely, the critical dimension of "Non-punitive response to error" recorded the lowest positive rate at 55.6%, suggesting a potential barrier to error reporting and organizational learning. Comparative statistical analysis, using logistic regression to assess professional group differences, identified significant disparities in two dimensions between physicians and nurses. Physicians demonstrated a significantly higher likelihood of reporting a positive perception in "Feedback and communication about error" (OR = 1.92; 95% CI: 1.66–2.52; $p < 0.05$) compared to nurses. Furthermore, in "Overall perceptions of patient safety", physicians' scores were also significantly differentiated, with an associated Odds Ratio of 0.12 (95% CI: 0.16–0.89; $p < 0.01$) compared to the reference group, although the interpretation requires careful consideration of the reference category used in the model.

4.1. High-Performing PSC Dimensions

The dimension "Teamwork within units" received an exceptionally high PRR of 98.5%. This rate is notably higher than those reported in previous studies conducted in the United States (72.0%) [11], El-Jardali's study (78.5%) [12], and Taiwan (94.0%) [13]. This result aligns with a common finding across both international and Vietnamese research, which consistently identifies effective internal teamwork as a fundamental strength of PSC. This strong internal consensus suggests that, regardless of the specific healthcare context, personnel within the same department or unit highly value collaboration. This reflects the critical dependence of PSC outcomes on effective collaboration and communication among team members at the unit level.

The PRR for "Supervisor/manager expectations and actions promoting patient safety" was also very high at 95.2%. This score is significant greater than the findings from similar studies such as the United States (75.0%) [11], Taiwan (84.0%) [13], and El-Jardali's study (79.6%) [12]. These consistently strong findings across diverse cultural settings suggest that there are no substantial cross-cultural differences in the recognized importance of leadership commitment regarding PSC. Both globally and in Vietnamese context, leaders' supportive attitudes and clear expectation toward their staff are essential not only for guiding the creation of a safe working environment but also for serving as an vital source of motivation and encouragement, thereby fostering both individual accountability and organizational improvement.

"Organizational learning – continuous improvement" received a PRR of 94.7%. This rate is higher than that reported by Xiyao Zhong et al. (92.9%) [14] and significantly higher than the 2023 study conducted in Palestinian hospitals (55.8%) [15]. These robust results indicate a proactive environment where departments and units within the hospital are likely to be actively implementing patient safety assurance activities. Furthermore, this high score reflects a strong culture of systematic learning, where staff are encouraged to continuously lean from errors and evaluate the effectiveness of corrective actions, thereby reinforcing ongoing improvement in patient safety practices.

The dimension "Feedback and communication about error" received a PRR of 89.0%, which is notably higher than the 2018 AHRQ database rate of 69.0% [11]. This strong finding reflects a high level of comfort and transparency among healthcare workers at Kien An Hospital – Hai Phong, Vietnam when sharing and discussing incident-related information with their unit leaders. Crucially, the data suggest that staff are regularly informed and updated by unit leaders about reported events,

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and team discussions are actively held to develop corrective and preventive actions aimed at avoiding recurrence. The robust exchange of information within departments demonstrates a well-functioning feedback loop, which is a key component a sustainable PSC and should be further encouraged and instituonalized..

In contrast to the strong feedback mechanism, "Communication Openness" received a significantly lower PRR of 60.1%. This result is particularly noteworthy as numerous studies on PSC, both globally and in Vietnam, have consistently identified "Communication Openness" as one of the weakest dimensions across most hospital settings. For instance, Hefner (2017) reported a PRR of 49.0% [16], while Xiyao Zhong et al. at Peking University Hospital, China, found a rate of 52.2% [14].

The lack of openness in communication, as Xiyao Zhong noted, poses major challenges to patient safety during healthcare delivery [14]. Several factors may contribute to this pervasive weakness, especially within Asian context. I-Chi Chen [13] suggested that a general fear of making mistakes and a strong cultural desire to maintain harmony often lead individuals to avoid open discussions about errors, resulting in less objective evaluations. Additionally, cultural characteristics prevalent in many Asian settings, where employees tend to adhere strictly to hierarchical norms, may contribute to this challenge. In such environments, reporting an error that occurs within a department may be perceived as "whistleblowing", which consequently discourages open communication about mistakes and safety risks.

The PRR for the "Staffing" dimension was 73.1%, which is notably higher than the results reported in studies conducted at Peking University Hospital, China (53.7%) [14] and at Palestine Hospital (2023) (34.8%) [15]. Since human resources are a crucial component contributing significantly to the healthcare system's capacity, this result suggest that current staffing levels at Kien An hospital are perceived more favorably than in comparative international settings.. However, considering that work overload due to insufficient staffing can lead to fatigue, stress and compromised patient care quality, any future decline in this dimension should be treated as a critical early warning indicator of potential patient safety risks, necessitating the implementation of proactive and long-term workforce planning strategies.

The assessment of leadership commitment and organizational coordination also revealed high positive score. "Hospital Management Support for Patient Safety" achieved 89.5%, surpassing rates reported in China by Xiyao Zhong et al. (83.7%) [14] and in the U.S by Sorra Joann et al.. (72.0%) [17]. This highlights that sustained leadership commitment is vital role in fostering a robust PSC. The high response rate suggests that leaders at both departmental and hospital levels actively provide professional guidance and motivational support, which successfully promotes a sense of security and confidence among staff.

Similarly, "Teamwork Across Hospital Units" received a PRR of 91.0%, significantly outperforming the AHRQ 2018 benchmark (62.0%) [11], and the Palestine study (63.1%) [15], while being slightly higher than the Chinese study (89.7%) [14]. This finding confirms that effective inter-unit collaboration is a recognized organizational strength. Given that patient safety in complex healthcare systems relies heavily on seamless collaboration and coordination among multidisciplinary teams, this result reflects a positive organizational climate that actively fosters mutual support, communication, and shared responsibility across different departments.

In sharp contrast to the high-scoring organizational dimensions, "Non-punitive Response to Error" reccorded the lowest PRR of 55.6%. Although this score numerically higher than several international benchmarks (e.g AHRQ (47.0%) [11], Xiyao Zhong et al. (51.1%) [14], and a U.S. study (28.0%) [16]. It remains the most critical area for targeted intervention, signifying a substantial perception gap regarding fairness and accountability.

The qualitative aspect of this finding suggests a duality: staff members generally do not feel personally blamed for errors at the departmental level, which indicates a positive shift toward a systems-based approach focused on understanding what went wrong and why. However, this positive philosophy is undermined by the lingering staff concern that their errors might be formally recorded in personnel files and subsequently used in performance evaluations. This fear severely

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compromises the system's integrity, creating a persistent disincentive for open, honest, and comprehensive incident reporting, which is essential for systematic and continuous safety improvement.

5. Conclusions

In conclusion, the assessment of Patient Safety Culture (PSC) at Kien An Hospital revealed a relatively high level of overall positive perception among healthcare workers, driven by exceptionally strong scores in dimensions related to interpersonal collaboration, notably "Teamwork within units". However, a critical gap was identified in the organizational approach to incidents; the dimension "Non-punitive response to error" recorded the lowest positive rate. Furthermore, multivariate analysis highlighted that direct patient contact was significantly associated with a less favorable PSC perception. Based on these findings, interventions should prioritize improving the non-punitive response to error system to explicitly foster a culture of reporting, trust, and continuous learning, ensuring that safety efforts are aligned with the perspectives of direct patient care personnel.

Recommendation

1. Enhance openness in communication about errors to reduce individual blame when mistakes occur.
2. The Quality Management Department should continue to develop roadmaps and training plans for healthcare workers to learn patient safety procedures and understand PSC.
3. Department and unit leaders should encourage healthcare workers to voluntarily report adverse events and near misses.
4. Healthcare workers should actively participate in all patient safety training sessions to strengthen awareness and understanding of PSC.

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