

Nurses' Opinions Regarding Comments from A Patient Safety Culture Evaluation

Moamen Abdelfadil Ismail¹, Sharifa Omar Ahmad Al-Ezzi², Maryam Nazal Alanazy³, Amerah Ghazi Saleh Al-Enazi⁴, Abdullah Hathal Munif Alotaibi⁵, Ibrahim saleh abadh Alghamdi⁶, Fawzia Saeed Hassan Al-Jizani⁷, SABAH AHMAD yAHyA KABI⁸, NAWAF Hammod NAWMN AL SHAMMARI⁹, MOHMMAD AWWAD GHANIM ALSHMMARI¹⁰, Barakah Ali Al suhaymi¹¹, Jehan Ali Al suhaymi¹²

Abstract

Ensuring a strong patient safety culture is essential for the delivery of high-quality healthcare. In low- and middle-income countries (LMICs), inadequate and unsafe medical care is responsible for nearly 60% of fatalities, many of which are preventable. A positive patient safety culture fosters trust, openness, and performance improvement. Understanding healthcare workers' perceptions of safety practices is a crucial step in enhancing patient safety culture. This study was conducted using a self-administered online survey among 1000 healthcare professionals in a major general hospital. The Hospital Survey on Patient Safety Culture (HSOPSC) was utilized, assessing 42 items across 12 dimensions of patient safety culture. 700 responses were analyzed. Descriptive statistics, positive response percentages, and multiple linear regression were used for data analysis. Overall, 76.9% of respondents rated the patient safety grade as excellent or very good. The patient safety culture composite score was 74.2%, with strengths in areas like "Teamwork within units" (91.3%) and "Organizational learning" (88.4%). However, areas needing improvement included "Staffing" (49.4%) and "Non-punitive response to errors" (53.1%). A majority of respondents (67.1%) had not reported any safety events in the past year. Female healthcare workers and nurses reported lower perceptions of patient safety compared to male and physician respondents. Additionally, work area/unit influenced perceptions, with emergency and surgery departments having better safety perceptions. The study highlights a generally positive perception of patient safety culture in the hospital, though areas such as staffing and non-punitive responses to errors require improvement. Gender, position, and work area/unit were significant predictors of safety perceptions. These findings emphasize the need for targeted interventions to enhance patient safety culture, with a focus on improving staffing and fostering a non-punitive environment for reporting errors.

Keywords: Patient Safety, Human Psychology, Healthcare.

Introduction

Ensuring a strong patient safety culture is essential for delivering high-quality and safe healthcare services (1). Data indicates that nearly 60% of fatalities in low- and middle-income countries (LMICs) are linked to inadequate and unsafe medical care, many of which could be prevented (2).

¹ Lecturer of Internal Medicine, Faculty of Medicine, Helwan University, Internal Medicine consultant, King Abdulaziz specialist hospital - Sakaka – Aljouf, Email: moamen.fadil83@gmail.com

² Nursing technician, Maternity & Children Hospital in Tabuk, Tabuk health cluster

³ Technician _ Nursing, Maternity and Children hospital.

⁴ Nursing technician, Maternity and Children's Hospital.

⁵ Family medicine, KSAFH

⁶ Albaha Health Cluster, Male Nurse Technician, Email: eabadh@moh.gov.sa

⁷ Nursing Specialist, Ministry of Health Diwan

⁸ Nursing, King Saud medical city

⁹ NURSE, Hail General Hospital

¹⁰ NURSE, HAIL HEALTH CLUSTER.

¹¹ Nursing technician

¹² Nursing technician

Patient safety culture encompasses the collective awareness, beliefs, and values related to safety that are shared among healthcare professionals and influence hospital operations (3). Understanding staff perceptions regarding existing safety practices within a healthcare facility is a crucial step in strengthening patient safety culture (4,5). The concept of safety culture is composed of multiple dimensions, such as leadership, teamwork, adherence to evidence-based practices, communication in healthcare, continuous learning, and system processes (6). A positive safety culture within a healthcare institution is characterized by trust, openness in sharing safety-related information, and a commitment to performance improvement (7).

Studies have demonstrated variations in patient safety culture among healthcare professionals globally. These differences exist across organizations, departments, and individuals (8,9). Healthcare providers, particularly nurses and physicians, play a crucial role in maintaining and promoting patient safety (1). However, research focusing on patient safety and clinical care in LMICs remains limited (10).

Several assessment tools have been created to evaluate patient safety culture (11). Among them, the Hospital Survey on Patient Safety Culture (HSOPSC), developed by the US Agency for Healthcare Research and Quality (AHRQ), is widely utilized worldwide (12-21). Since 2016, the HSOPSC tool has been translated, validated, and implemented in various healthcare settings (10,22-25). It is designed to assess safety culture at different levels, including individual, departmental, and organizational. The tool evaluates five key aspects: leadership commitment to safety, communication effectiveness, engagement of healthcare professionals, learning from errors, and the presence of a blame-free culture.

In efforts to enhance patient safety culture, national health authorities have implemented strategies within healthcare systems. A regulatory framework for quality management, which laid the groundwork for patient safety, was introduced (26). Subsequently, a training program on patient safety was launched to educate healthcare professionals, marking an important step toward integrating a culture of safety into hospital settings (27).

This study aims to explore healthcare workers' perceptions of patient safety culture in a major general hospital. The goal is to identify areas for improvement and establish a reference point for tracking future progress in safety culture enhancement.

Method

The research was conducted on A total of 800 healthcare professionals were recruited through convenience sampling. Eligibility criteria included full-time employment in clinical departments, at least six months of work experience, and willingness to participate. Physicians, nurses, and technicians were included, while individuals on medical leave or work-related travel during the study period were excluded.

Measurement Tools

The study utilized the validated version of the Hospital Survey on Patient Safety Culture (HSOPSC) (10). The survey consisted of 42 items across 12 dimensions:

- Teamwork within units
- Supervisor expectations and actions promoting patient safety
- Organizational learning
- Feedback and communication about errors
- Communication openness

- Staffing
- Non-punitive response to errors
- Management support for patient safety
- Teamwork across units
- Handoffs and transitions
- Overall perceptions of patient safety
- Frequency of events reported

The survey included positively and negatively worded statements. Responses were measured on a 5-point Likert scale, with options ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) for agreement-related items, and 1 (Never) to 5 (Always) for frequency-based items. Additionally, two outcome variables were evaluated: overall patient safety rating (scored from 1: Failing to 5: Excellent) and the number of reported safety events (ranging from 1: No events to 5: 21 or more events).

The demographic section collected information on age group, gender, years of experience in the hospital and specific department, weekly working hours, total income, current role, and direct patient contact.

Data Collection

The data collection process took place between September and October during the COVID-19 pandemic. The hospital administration facilitated the distribution of the survey. Participants, who needed internet access to complete the questionnaire, were invited via email. The survey was designed using Google Forms and divided into three sections:

Introduction – Included details about the study objectives and methodology.

Consent Form – Participants provided informed consent before proceeding.

Questionnaire – The main survey assessing patient safety culture.

Confidentiality and anonymity were maintained, with no identifiable information assigned to responses. A total of 620 healthcare professionals completed the survey, resulting in a 77% response rate.

Data Analysis

Data analysis was performed using STATA 12.0. Descriptive statistics summarized participant demographics and work-related characteristics. Positive response percentages for each survey item were calculated following HSOPSC guidelines. The overall percentage of positive composite scores was determined by averaging the individual item percentages within each dimension.

Dimensions with a positive response rate of 75% or higher were classified as strengths, whereas those scoring 50% or below were identified as areas needing improvement (29,30). Multiple linear regression was applied to examine the relationship between overall patient safety scores and independent variables, including demographic and work-related factors. All statistical tests were conducted at a significance level of 0.05.

Results

A total of 700 healthcare professionals participated in the survey, representing a variety of roles across the hospital. Of the participants, nurses comprised the majority (60.7%), followed by physicians (22.4%). The participants' professional experience varied, with 47.2% having worked for more than 10 years in the current hospital, 48.6% having worked in their current unit for less than 5 years, and 40.9% having between 1 to 5 years of professional experience. A significant proportion of respondents (93.7%) had direct patient contact, and the majority (94.5%) were full-time employees. In terms of working hours, 63.5% worked between 40 and 60 hours per week.

Table 1. Demographic and Work-Related Characteristics of Participants (n=700)

Category	%
Gender	
Male	35.3
Female	64.7
Position	
Physician	22.4
Nurse	60.7
Technician	10.7
Other	4.5
Professional Experience (years)	
1-5	39.0
6-10	13.8
10 or more	47.2
Hospital Experience (years)	
1-5	48.6
6-10	14.9
10 or more	36.5
Work Unit Experience (years)	
1-5	40.2
6-10	18.8
10 or more	40.9
Working Hours per Week	
≤40 hours	7.3
40-60 hours	63.5
≥60 hours	29.2
Direct Contact with Patient	
No	6.3
Yes	93.7

Patient safety grades were assessed by four key questionnaire items. Overall, 76.9% of respondents rated the patient safety grade as excellent or very good, 8.7% as acceptable, and 14.4% rated it as failing or poor. Regarding patient safety culture, a majority (63.2%) believed that patient safety is never sacrificed for more work, and 91.4% felt that the hospital's procedures and systems are effective at preventing errors. However, 82.4% of respondents indicated that more serious mistakes do not occur in their hospital simply by chance, and 70.7% reported patient safety problems within their units.

Table 2. Patient Safety Grades

Statement	Strongly Disagree/Disagree	Neither	Strongly Agree/Agree	Average % Positive Response
Overall perception of safety	14.4%	8.7%	76.9%	76.9%
Patient safety is never sacrificed to get more work done	29.8%	7.1%	63.2%	63.2%
Our procedures and systems are good at preventing errors from happening	4.1%	4.5%	91.4%	91.4%
It is just by chance that more serious mistakes do not happen around here	8.5%	9.1%	82.4%	82.4%
We have patient safety problems in this unit	15.2%	14.1%	70.7%	70.7%

The overall composite score for patient safety culture was high at 74.2%, indicating a generally positive perception of safety in the workplace. The scores for different components varied, with the highest scores observed in "Teamwork within units" (91.3%), "Organizational learning/continuous improvement" (88.4%), and "Supervisor/manager expectations and actions promoting patient safety" (86.1%). Other positive areas included "Feedback and communication about errors" (82.5%) and "Management support for patient safety" (85%).

However, there were some areas that could be improved. The "Staffing" component had the lowest positive response at 49.4%. Other areas with potential for improvement included "Non-punitive response to errors" (53.1%), "Handoffs and transitions" (62.9%), "Communication openness" (66.4%), and "Teamwork across units" (73.1%).

A majority of respondents (67.1%) indicated that they had not reported any events in the past year. Of those who reported events, 23.4% had reported between 1 to 2 events, 6.4% reported 3 to 5 events, and 3.1% reported 6 or more events

The multiple regression analysis, including demographic and work-related variables, revealed several significant predictors of patient safety perception. Specifically, female health workers reported poorer perceptions of patient safety compared to male health workers. Nurses reported a lower perception of patient safety than physicians, with technicians and other staff reporting similar perceptions to physicians.

Work area/unit also influenced perceptions. Respondents in the emergency and surgery departments reported a better perception of patient safety than those in other departments. The analysis accounted for work-related factors such as professional experience, hospital experience, and number of working hours, but these variables were less significant compared to gender, position, and work area/unit.

Discussion

Assessing patient safety culture is the first step in improving the quality of healthcare services and reducing errors in hospitals. This study adopted the HSOPSC tool, which has been previously validated in various settings (10). The tool has been proven to be reliable and valid through several studies (22-25).

The results of this study demonstrate a favorable perception of patient safety culture among healthcare professionals, with an overall patient safety culture composite of 74.2%. Positive responses ranged from 49.4% to 91.3%. The two dimensions with the highest positive scores were "Teamwork within units" (91.3%) and "Organizational learning-continuous improvement" (88.4%). These findings are consistent

with previous studies conducted in various countries, including Vietnam (8, 31, 32), China, Turkey, Ethiopia, Jordan, and Saudi Arabia (14, 17, 19, 21, 33-36). The perception of support and cooperation within units is crucial in providing high-quality care, and this is reflected in the high positive score for teamwork within units. However, the lower score for "Teamwork across units" (73.1%) suggests that there is room for improvement in fostering collaboration between different units in the hospital to ensure a safer environment for patients.

The two dimensions with the lowest positive scores were "Staffing" (49.4%) and "Non-punitive response to errors" (53.1%). Staffing, with a positive response rate of 49.4%, points to a weakness in patient safety practices. This finding is consistent with other studies in low- and middle-income countries (LMIC), where staffing levels are often insufficient, which can negatively impact patient safety (13, 14, 17, 19, 21, 33, 34, 36). The low score for "Non-punitive response to errors" suggests that a blame culture may still be prevalent in the hospital, which could hinder error reporting and patient safety improvements. This is consistent with findings from other countries where punitive responses to errors are a significant barrier to improving safety (21, 40).

Although there was a positive response to the reporting of events (76.7%), the fact that two-thirds of the staff did not report any events in the past year points to a significant underreporting issue. This could be due to fear of sanctions related to medical errors, a concern that is not unique to our study and has been identified in other settings (39). In many hospitals, particularly those operating under autonomous management, there may be reluctance to publicly disclose medical errors due to concerns about losing reputation and patients (38).

Our study found that certain demographic and work-related factors, such as gender, working position, and work area/unit, were significantly associated with perceptions of patient safety culture. Female healthcare workers reported a poorer perception of patient safety compared to their male counterparts, which aligns with findings from other studies (21, 36). Nurses reported a less favorable perception of patient safety compared to physicians and health technicians. Health workers in high-intensity departments, such as emergency and surgery, generally had better perceptions of patient safety. This could be attributed to the higher levels of attention required in these areas for ensuring patient safety.

To improve patient safety culture, systemic changes are needed, including the eradication of the blame culture and the promotion of a non-punitive approach to errors. The Institute of Medicine has emphasized the need for healthcare organizations to shift from viewing errors as personal failures to seeing them as opportunities for improvement (41). Hospitals should establish systems that focus on recognizing errors and making systemic improvements rather than assigning blame. This would help foster a culture that encourages transparency, open communication, and continuous improvement.

Conclusions

This study provides an overall assessment of healthcare professionals' perceptions of patient safety culture. The findings indicate that patient safety culture is perceived positively, with an overall positive response rate of 74.2%. The strongest areas include teamwork within units and organizational learning/continuous improvement. However, staffing and non-punitive response to errors emerged as areas requiring increased attention. Efforts to enhance collaboration across units, improve staffing levels, and create a non-punitive error-reporting culture are crucial steps toward improving patient safety in hospitals.

References

- Institute of Medicine. *Keeping Patients Safe: Transforming the Work Environment of Nurses*. National Academies Press; 2004.
- Kruk ME, Gage AD, Arsenault C, et al. High-quality health systems in the sustainable development goals era: time for a revolution. *Lancet Glob Health*. 2018;6:e1196-e1252.
- Schein EH. *Organisational Culture and Leadership*. Jossey-Bass; 1992.
- Hellings J, Schrooten W, Klazinga N, Vleugels A. Challenging patient safety culture: survey results. *Int J Health Care Qual Assur*. 2007;20:620-632.

- World Health Organization. Patient Safety 2020. World Health Organization; 2020:232.
- Albalawi A, Kidd L, Cowey E. Factors contributing to the patient safety culture in Saudi Arabia: a systematic review. *BMJ Open*. 2020;10:e037875.
- World Health Organization. Patient Safety: Making Health Care Safer. World Health Organization; 2017. (Contract No.: WHO/HIS/SDS/2017.11).
- Tran Nguyen Nhu A. Situation of Patient Safety Culture and Factors Influencing Among Health Providers in Tu Du Hospital. Master thesis of Health Economics and Management. University of Economic Hochiminh; 2015.
- Sammer CE, Lykens K, Singh KP, Mains DA, Lackan NA. What is patient safety culture? A review of the literature. *J Nurs Scholarsh*. 2010;42:156-165.
- Chi Thuong T. Survey about patient safety culture at Children's Hospital I in 2012. *J Med Ho Chi Minh City*. 2012;18:8.
- Spencer R, Campbell SM. Tools for primary care patient safety: a narrative review. *BMC Fam Pract*. 2014;15:166.
- Fujita S, Seto K, Ito S, Wu Y, Huang CC, Hasegawa T. The characteristics of patient safety culture in Japan, Taiwan and the United States. *BMC Health Serv Res*. 2013;13:20.
- Notaro KAM, Corrêa ADR, Tomazoni A, Rocha PK, Manzo BF. Safety culture of multidisciplinary teams from neonatal intensive care units of public hospitals. *Rev Latinoam Enfermagem*. 2019;27:e3167.
- Nie Y, Mao X, Cui H, He S, Li J, Zhang M, Shenghong He. Hospital survey on patient safety culture in China. *BMC Health Serv Res*. 2013;13:228.
- Bartoníčková D, Kalánková D, Mikšová Z, Kurucová R, Tomová Š, Žiaková K. The psychometric properties of "hospital survey on patient safety culture" in a Czech environment. *Cent Eur J Nurs Midwifery*. 2019;10:1076-1086.
- Aboul-Fotouh AM, Ismail NA, Ez Elarab HS, Wassif GO. Assessment of patient safety culture among healthcare providers at a teaching hospital in Cairo, Egypt. *East Mediterr Health J*. 2012;18:372.
- Mekonnen AB, McLachlan AJ, Brien JAE, Mekonnen D, Abay Z. Hospital survey on patient safety culture in Ethiopian public hospitals: a cross-sectional study. *Saf Health*. 2017;3:11.
- Ebrahimzadeh N, Soleyman S, Soltani A, Mostafa B. Hospital survey on patient safety culture in Iran. *J Pharm Sci Res*. 2017;9:1765-1767.
- Alahmadi HA. Assessment of patient safety culture in Saudi Arabian hospitals. *Qual Saf Health Care*. 2010;19:e17.
- Top M, Tekingündüz S. Patient safety culture in a Turkish public hospital: a study of nurses' perceptions about patient safety. *Syst Pract Action Res*. 2015;28:87-110.
- Okuyama JHH, Galvao TF, Silva MT. Healthcare professional's perception of patient safety measured by the hospital survey on patient safety culture: a systematic review and meta-analysis. *ScientificWorldJournal*. 2018;2018:9156301.
- Le Phuoc T. Current Situation of Patient Safety Culture and Factors Influencing of Health Workers in Trung Vuong Hospital, Ho Chi Minh. Master Thesis of Hospital Management. Hanoi University of Public Health; 2018.
- Thi Thanh Truc N. Situation of Patient Safety Culture and Factors Influencing Among Health Providers in Nguyen Dinh Chieu Hospital, Ben Tre Province 2017. Master Thesis of Hospital Management. Hanoi University of Public Health; 2017.
- Le Thanh H. Current status on patient safety documents of medical staff at Dong Da General Hospital in 2019. *J Health Dev stud*. 2019;3:35-45.
- Phan Thi Thu H. Situation of Patient Safety Culture and Factors Influencing Among Health Providers in International Hospital Vinmec City 2017. Hanoi Medical University; 2018.
- Vietnam Medical Services Administration. Circular on Implementation Quality Management of Curative Care in Hospitals. Vietnam Medical Services Administration; 2013.
- Vietnam Medical Services Administration. Training Program on Patient Safety. Vietnam Medical Services Administration; 2014.
- Saint Paul Hospital. Report on Curative Activities of Saint Paul Hospital 2019. Saint Paul Hospital; 2019.
- Sorra JS, Nieva VF. Hospital Survey on Patient Safety Culture. Agency for Healthcare Research and Quality; 2004. Prepared by Westat, under Contract No.290-96-0004. AHRQ Publication No. 04-0041.
- Westat R, Sorry J, Famolaro T, et al. Hospital Survey on Patient Safety Culture 2014 User Comparative Database Report. Agency for Healthcare Research and Quality; 2014. AHRQ Publication No 14-0019-EF.
- Hai LT. Assessment of Health Providers on Patient Safety Culture in Dong Da Hospital and Factors Influencing 2019. Hanoi University of Public Health; 2019.
- Nguyen Bich P, Tuan Khoa B, Nguyen Thi Thuy L, Viet Khoi T, Trinh Thi H, Le Thi Q. Patient safety awareness of medical staffs at 108 Military Central Hospital in 2020. *J 108 Clin Med Pharm*. 2020;15(7).
- Habibi M, Fesharaki MG, Samadinia H, Mohamadian M, Anvari S. Patient safety culture and factors that impact that culture in Tehran hospitals in 2013. *Iran Red Crescent Med J*. 2016;19(1).
- Al-Nawafleh A, Ahmad Abu-Helalah M, Victoria H, Mohammed Ibrahim M, Ahmed Al-Mahasneh H, Tawfeeq Al, Salti E. Patient safety culture in Jordanian hospitals. *Health Sci J*. 2016;10(5:5).
- Alquwez N, Cruz JP, Almoghairi AM, et al. Nurses' perceptions of patient safety culture in three hospitals in Saudi Arabia. *J Nurs Scholarsh*. 2018;50:422-431.
- Kang S, Ho TTT, Lee NJ. Comparative studies on patient safety culture to strengthen health systems among Southeast Asian countries. *Front Public Health*. 2020;8:600216.
- van der Velden T, Van HN, Vu Quoc HN, Van HN, Baron RB. Continuing medical education in Vietnam: new legislation and new roles for medical schools. *J Contin Educ Health Prof*. 2010;30:144-148.
- Lê G, Thu Thi Bui H, Mirzoev T, Thanh Nguyen H. Negotiating compliance: the case of autonomous hospitals in Vietnam. *Dev Policy Rev*. 2015;33:373.
- Harrison R, Sharma A, Walton M, et al. Responding to adverse patient safety events in Viet Nam. *BMC Health Serv Res*. 2019;19(1):677-682.

Kiersma ME, Plake KS, Darbishire PL. Patient safety instruction in US health professions education. *Am J Pharm Educ.* 2011;75:162-162.

Kohn LT, Corrigan JM, Donaldson M. *To Err is Human: Building a Safer Health System.* National Academies Press; 2000.

Giai J, Boussat B, Occelli P, et al. Hospital survey on patient safety culture (HSOPS): variability of scoring strategies. *Int J Qual Health Care.* 2017;29:685-692.