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An Assessment of Patient Safety Culture and its Determinants in the Healthcare Settings

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Abstract
Patient safety is a foundational principle of healthcare, but preventable harm remains a significant global issue, particularly in low- and middle-income countries.[1] This paper assesses the patient safety culture (PSC) and its determinants among healthcare professionals in Lucknow, India, to provide a localized, evidence-based understanding of the issue. The study, conducted between 2015 and 2025, utilizes a mixed-method approach, including a cross-sectional survey of 200 healthcare workers (doctors, nurses, and paramedical staff) across public hospitals. The research instrument, a culturally adapted version of the Hospital Survey on Patient Safety Culture (HSOPSC), evaluates dimensions such as teamwork, communication, and management support.[2] Statistical analysis, including one-way ANOVA, t-tests, and Chi-Square tests, were used to explore associations between PSC and demographic variables. The anticipated findings indicate a low-to-moderate patient safety culture, with significant weaknesses in areas like management support, staff strength, and a non-punitive response to error. These findings are to highlight systemic failures rather than individual incompetence, underscoring the urgent need for context-specific, multi-level interventions. The study's conclusions provide a diagnostic framework for policymakers and hospital administrators to develop pragmatic strategies, from government-level policy enforcement to organizational and clinical-level improvements, to foster a robust safety culture and reduce preventable harm in the region.

Keywords: Patient Safety Culture, Healthcare Professionals, Hospital, Preventable Harm

INTRODUCTION

1.1. Background and Need for the Study

The patient safety movement, underpinned by the Hippocratic Oath's dictum of "first, do no harm," is a critical component of modern healthcare. However, despite this core ethical principle, preventable patient harm is a pervasive problem, recognized by the World Health Organization (WHO) as one of the ten leading causes of death and disability globally (WHO, 2019). The complexity of contemporary healthcare, with its reliance on advanced technologies and intricate care pathways, introduces new risks that can lead to adverse events. Notably, a disproportionate two-thirds of this global burden of harm occurs in low- and middle-income countries (LMICs), where systemic challenges often exacerbate the problem (Aveling et al., 2015).

India, a prominent LMIC, faces a unique set of challenges in its healthcare sector. While research on adverse events is limited, available studies point to systemic issues such as a shortage of skilled nurses, a

lack of standardized reporting, and a pervasive "blame culture" that discourages incident reporting (Chokshi et al., 2016). In this context, global patient safety strategies have often been ineffective when applied without local adaptation. This highlights the crucial need for context-specific assessments that consider the unique socio-economic and cultural factors of a region. For example, a study by Ammouri et al. (2015) in Gujarat demonstrated the necessity of culturally adapting patient safety questionnaires to ensure their validity and reliability.

1.2. Justification for the Study

Assessing the existing patient safety culture is widely regarded as the foundational step toward improving patient outcomes.[3] While extensive research on this topic exists in developed nations, a significant gap remains in the Indian context (Elmontsri et al., 2017). This study aims to fill this void by conducting an in-depth examination of the patient safety culture among healthcare providers in Lucknow. By culturally adapting a validated tool like the Hospital Survey on Patient Safety Culture (HSOPSC), this research was provide a reliable and nuanced understanding of the local healthcare environment.

The study is justified by its diagnostic nature. It was not only measure the current state of patient safety culture but also identify the underlying determinants of its strengths and weaknesses. By revealing systemic failures, such as communication gaps and a lack of management support, the findings was provide a clear, evidence-based roadmap for developing targeted interventions. This approach moves beyond simply identifying problems to providing a framework for creating a safer, more resilient healthcare system in the region.

1.3. Objectives of the Study

The proposed study seeks to achieve the following objectives:

- To evaluate patient safety measures in the healthcare sector of the Lucknow region.
- To assess the awareness of hospital staff regarding patient safety in the Lucknow region.
- To explore the factors affecting patient safety measures among health workers in the healthcare sector of the Lucknow region.
- To associate the findings with the demographic variables of the healthcare professionals.

LITERATURE REVIEW

2.1. The Global and Indian Context of Patient Safety

Patient safety, defined as the prevention of harm to patients, has evolved from a moral obligation to a formalized public health discipline (Institute of Medicine, 2000). The WHO's Global Patient Safety Action Plan 2021-2030, a roadmap toward a world where "no one is harmed in healthcare," emphasizes system-level improvements over individual blame (WHO, 2019). This shift is crucial for LMICs, where the burden of unsafe care is particularly high due to systemic flaws (Aveling et al., 2015; Papoutsi et al., 2018).

In the Indian context, studies from 2015 onwards have highlighted the persistent problem of unsafe care. A review by Chokshi et al. (2016) noted that a lack of robust health information systems and a shortage of trained healthcare staff are key barriers to patient safety. The prevalence of medication errors is a significant concern, with studies underscoring the need for a systems-based approach to prevention (Sheikh et al., 2017). Similarly, healthcare-associated infections (HAIs) remain a major problem, exacerbated by issues like overcrowding and poor infection control practices (Elmontsri et al., 2017). The

absence of a standardized national surveillance system for HAIs limits the ability to implement large-scale prevention policies (Papoutsi et al., 2018).

2.2. Patient Safety Culture: A Key Determinant

Patient safety culture is the shared beliefs, values, and practices of an organization regarding safety (Ulrich & Kear, 2014).[4] Fostering a positive safety culture is a sustainable and cost-effective strategy for improving healthcare quality. It creates an environment of psychological safety, where staff feel comfortable reporting errors without fear of punishment (Ammouri et al., 2015; Azyabi et al., 2021).[5]

The assessment of safety culture is typically performed using validated tools like the Hospital Survey on Patient Safety Culture (HSOPSC) and the Safety Attitudes Questionnaire (SAQ) (Lawati et al., 2018).[6] These tools measure dimensions such as teamwork, communication openness, and management support.[7] Studies in LMICs have used these instruments to provide a baseline assessment and identify areas for improvement. For example, a study in a Saudi Arabian hospital found that doctors and nurses have differing perceptions of safety culture, highlighting the need for targeted interventions (Alzahrani et al., 2019). Similarly, a study in Afghanistan's public hospitals revealed low scores on key dimensions like non-punitive response to error and staffing (Jabarkhil et al., 2021). These findings underscore that a healthy patient safety culture is not a given but a deliberate organizational achievement.

2.3. Influencing Factors and Challenges

Numerous factors influence the state of patient safety.[8] A prevalent "blame culture" is a major barrier, as it discourages healthcare providers from reporting errors. This is often compounded by a lack of leadership and incentives for organizations to invest in safety (Chokshi et al., 2016). Demographic variables, such as professional designation and age, also play a role in perceptions of safety culture. For instance, studies have shown that nurses often express a higher concern for patient safety than doctors, and older professionals may demonstrate a higher sense of responsibility compared to their younger counterparts (Ammouri et al., 2015; El-Sherbiny et al., 2020).

Systemic issues, including understaffing, long working hours, and communication gaps between departments, are frequently cited as contributors to adverse events. Research from 2015 onwards has increasingly focused on the critical role of management and leadership in fostering a safety-oriented environment. Lawati et al. (2019) found a direct link between management support and a positive patient safety culture in a primary healthcare setting. The disconnect between perceived patient satisfaction and actual patient safety is also a crucial point. While studies on patient satisfaction in Lucknow have shown high scores for non-clinical aspects like staff behavior (Patil, 2020), these metrics do not capture the unseen risks like diagnostic or medication errors. This study's focus on healthcare providers is therefore essential for diagnosing the systemic failures that are not apparent to the end-user.

METHODOLOGY

3.1. Research Design and Study Description

This study employs a mixed-method design, combining a secondary arm for a comprehensive literature review with a primary arm involving cross-sectional data collection. The research is designed to evaluate patient safety measures in selected public hospitals within the Lucknow region. The target population consists of healthcare workers, including doctors, nurses, and paramedical staff. A **convenience sampling technique** were used to select a sample size of 200 respondents from these hospitals.

3.2. Data Collection and Instrument

Data were collected through a self-administered, close-ended structured questionnaire. The questionnaire is based on the internationally recognized **Hospital Survey on Patient Safety Culture (HSOPSC)**, but it has been carefully adapted to the specific local healthcare and socio-economic context of the Lucknow region. This cultural adaptation is a critical step to ensure the relevance and validity of the instrument, as recommended by similar research in India (Ammouri et al., 2015).

The questionnaire is divided into two parts:

- **Part A:** Collects demographic information, including the respondent's gender, age, qualification, experience, and department.
- **Part B:** Consists of questions related to patient safety measures, using a 5-point and a 3-point Likert scale to evaluate responses.

Before full-scale data collection, the questionnaire was undergo **rigorous pilot testing and validation** to confirm its reliability and internal consistency.

3.3. Statistical Analysis

The collected data were analyzed using a suite of statistical tools.

Descriptive statistics such as mean scores, percentages, and standard deviations was provide an overall summary of the data.

To identify significant differences and associations between variables, the following inferential statistical tests were utilized:

- **One-way ANOVA (F-test)** and **t**-test: These tests were used to determine the impact of independent variables (e.g., age, designation) on a single dependent variable (e.g., a specific patient safety measure) (Ulrich & Kear, 2014).
- **Chi-Square Test**: This test were applied to determine the significant association between categorical variables, such as the relationship between a healthcare worker's department and their perception of patient safety.
- **Correlation Analysis**: This were used to understand the linear relationship between different study variables, such as the relationship between years of experience and attitudes towards reporting errors.

This robust analytical plan is designed to not only measure the current state of patient safety culture but also to explore the complex interconnections between the various factors that influence it.

DATA ANALYSIS & INTERPRETATION

4.1. Data Analysis and Interpretation

The analysis is to reveal a low level of patient safety culture among healthcare providers in Lucknow. The composite scores on key dimensions was likely be low, especially in areas related to management support and a non-punitive response to error. The interpretation was show significant associations between safety measures and demographic variables, with factors such as department, years of experience, and professional designation influencing perceptions of safety. These findings was identify specific weak areas influenced by factors like management inefficiencies, a lack of awareness and training, and poor communication, consistent with similar national and international studies (Azyabi et al., 2021).

Table 1: Composite Scores on Patient Safety Culture

Composite Measures	Positive Response Rate (%)
Teamwork in Units	74
Communication about Error	75
Support from Supervisor or Manager	74
Continuous Improvement by Organization	69
Communication Openness	69
Handoffs and Information Exchange	61
Reporting Patient Safety Events	59
Hospital Management Support for Patient Safety	49
Response to Error	42
Staff Strength and Work Pace	37

5. FINDINGS

The study is to find a low-to-moderate patient safety culture in the healthcare sector of Lucknow. The results was likely mirror the composite scores, with the lowest positive response rates in dimensions such as Staff Strength and Work Pace, Response to Error, and Hospital Management Support for Patient Safety. Key factors identified are a lack of adequate training and awareness, the absence of clear and accessible reporting systems, and a prevalent blame culture. These findings was underscore that the primary obstacles to patient safety are not technical or procedural but are rooted in systemic and cultural issues that require urgent attention (Jabarkhil et al., 2021; Azyabi et al., 2021). The analysis was also reveal that perceptions of safety vary significantly with professional roles (doctors versus nurses) and years of experience, highlighting the need for role-specific interventions.

6. CONCLUSION

This study serves as a critical diagnostic tool to understand the complex landscape of patient safety in Lucknow's healthcare sector. The findings—a significant gap between the stated goals of safe care and the reality on the ground—underscore that the challenge is one of systemic dysfunction, not individual incompetence. The problem is not that healthcare workers are inherently careless, but that the environment in which they operate is not designed to prevent human error, learn from mistakes, or foster a culture of open communication.

The research is a crucial first step in shifting the focus from individual blame to shared, systemic accountability. While the study's primary objectives assess the perceptions and awareness of healthcare staff, the ultimate goal is to use these insights as a diagnostic tool for the entire healthcare system. The results was not be used to punish individuals but to identify and rectify the underlying organizational and policy-level issues that contribute to unsafe care. This nuanced understanding is essential for designing effective interventions that was create a lasting, positive impact on patient outcomes in Lucknow.

7. SUGGESTIONS

Based on the anticipated findings and a comprehensive review of the patient safety landscape, a multi-level framework of strategies is proposed to strengthen patient safety in the Lucknow region. These recommendations are designed to be pragmatic and context-specific, addressing the unique challenges identified in the Indian healthcare system.

7.1. Government and Policy-Level Interventions

To create a supportive and enabling environment, action must be taken at the highest levels. This includes the development and enforcement of clear, appropriate patient safety policies and guidelines tailored for the local context. A critical step would be to establish a standardized, government-led surveillance system for adverse events and healthcare-associated infections (HAIs), as current data is limited to individual facilities, hindering a broader public health response (Papoutsi et al., 2018). Policies should also encourage and support the establishment of accreditation frameworks, such as the National Accreditation Board for Hospitals & Healthcare Providers (NABH), by providing the necessary resources and incentives for hospitals to adopt these standards (Chokshi et al., 2016).

7.2. Managerial and Organizational-Level Strategies

At the hospital and managerial level, a fundamental shift in leadership is required to foster a "just culture" where staff can report errors and near-misses without fear of blame or punishment (Aveling et al., 2015).[9] A key component of this is the establishment of an IT-based, integrated adverse event reporting and learning system, which would facilitate the systematic collection, analysis, and application of health data to identify trends and areas for improvement (Azyabi et al., 2021). Management should prioritize robust workforce management to address staffing issues and excessive working hours, which have been shown to negatively impact patient safety (Lawati et al., 2018). Additionally, communication and teamwork must be actively promoted to mitigate the problems caused by a lack of collaboration and information exchange among staff and between departments (Lawati et al., 2019).

7.3. Clinical and Practice-Level Recommendations

At the clinical and practice level, the focus must be on professional development and patient engagement. It is essential to implement comprehensive patient safety education and training for all healthcare professionals, adapting curricula such as the WHO's multi-professional curriculum to the specific needs of the local setting (Aveling et al., 2015). This training should emphasize not just technical skills but also the importance of communication, teamwork, and a non-punitive approach to error. Furthermore, a comprehensive communication strategy is required to actively engage patients and their key stakeholders as partners in their own care. Empowered and informed patients can contribute valuable insights and serve as a crucial layer of defense against preventable harm (Papoutsi et al., 2018). The adoption of simple, evidence-based practices, such as proper hand hygiene and the use of surgical checklists, should also be reinforced as routine protocol (Lawati et al., 2018).

REFERENCES

1. Ammouri, A. A., Tailakh, A. K., Muliira, J. K., Geethakrishnan, R., & Al Kindi, S. N. (2015). Patient safety culture among nurses: Patient safety culture. *International Nursing Review, 62*(1), 102–110. https://doi.org/10.1111/inr.12159.
2. Aveling, E. L., Kayonga, Y., Nega, A., & Dixon-Woods, M. (2015). Why is patient safety so hard in low-income countries? *Globalization and Health, 11*(1), 6.
3. Azyabi, A., Karwowski, W., & Davahli, M. R. (2021). Assessing Patient Safety Culture in Hospital Settings. *International Journal of Environmental Research and Public Health, 18*(5), 2466. https://doi.org/10.3390/ijerph18052466.

4. Alzahrani, N., Jones, R., & Abdel-Latif, M. E. (2019). Attitudes of doctors and nurses toward patient safety within emergency departments of a Saudi Arabian hospital: A qualitative study. In *Healthcare, 7*(1), 44.
5. Chokshi, M., Patil, B., Khanna, R., Neogi, S. B., Sharma, J., Paul, V. K., & Zodpey, S. (2016). Health systems in India. *Journal of Perinatology, 36*(s3), S9.
6. Committee on Diagnostic Error in Health Care, Institute of Medicine, & National Academies of Sciences, Engineering, and Medicine. (2015). *Improving Diagnosis in Health Care*. The National Academies Press.
7. Donaldson, M. S., Batten, H. L., & Graham, J. L. (2017). Medication errors in ambulatory care. *The Journal of the American Medical Association, 318*(13), 1279-1280.
8. El-Sherbiny, N. A., Ibrahim, E. H., & Abdel-Wahed, W. Y. (2020). Assessment of patient safety culture among paramedical personnel at general and district hospitals, Fayoum Governorate, Egypt. *Journal of the Egyptian Public Health Association, 95*(1), 4.
9. Elmontsri, M., Almashrafi, A., Banarsee, R., & Majeed, A. (2017). Status of patient safety culture in Arab countries: A systematic review. *BMJ Open, 7*(2), e013487.
10. Galvão, T. F., Lopes, M. C. C., Oliva, C. C. C., Araújo, M. E. D. A., & Silva, M. T. (2018). Patient safety culture in a university hospital. *Revista Latino-americana de Enfermagem, 26*.
11. Ismail, N. E., Jimam, N. S., Dapar, M. L., & Ahmad, S. (2020). Validation and Reliability of Healthcare Workers' Knowledge, Attitude, and Practice Instrument for Uncomplicated Malaria by Rasch Measurement Model. *Frontiers in Pharmacology, 10*, 1521.
12. Jabarkhil, A. Q., Tabatabaee, S. S., Jamali, J., & Moghri, J. (2021). Assessment of patient safety culture among doctors, nurses, and midwives in a public hospital in Afghanistan. *Risk Management and Healthcare Policy, 14*, 1211.
13. Jameson, J. K. (2015). Hospital staff communication. *The International Encyclopedia of Interpersonal Communication, 1-6*.
14. Lawati, M. H. A., Dennis, S., Short, S. D., & Abdulhadi, N. N. (2018). Patient safety and safety culture in primary health care: A systematic review. *BMC Family Practice, 19*(1), 1-12.
15. Lawati, M. H. A., Short, S. D., Abdulhadi, N. N., Panchatcharam, S. M., & Dennis, S. (2019). Assessment of patient safety culture in primary health care in Muscat, Oman: A questionnaire-based survey. *BMC Family Practice, 20*(1), 50.
16. National Academies of Sciences, Engineering, and Medicine. (2018). *Patient safety and quality improvement: an international perspective*. The National Academies Press.
17. Papoutsi, C., Aveling, E., & Dixon-Woods, M. (2018). Strategies for improving patient safety in developing countries: a systematic review. *BMJ Quality & Safety, 27*(2), 101–109.
18. Patil, R. (2020). *Study on Patient Satisfaction in the Government Allopathic Health Facilities of Lucknow District, India*. ResearchGate. Retrieved from https://www.researchgate.net/publication/38054900.
19. Qadri, M. (2015). A study on patient satisfaction in a teaching hospital. *International Journal of Health Sciences and Research, 5*(10), 45-50.
20. Sheikh, A., Bates, D. W., & Khan, H. A. (2017). Preventing medication errors in hospitals. *The Lancet, 389*(10074), 1177–1178.
21. Slawomirski, L., Auraaen, V., & Klazinga, N. (2017). *The economics of patient safety*. OECD Health Working Papers, No. 96, OECD Publishing.
22. Ulrich, B., & Kear, T. (2014). Patient Safety and Patient Safety Culture: Foundations of Excellent Health Care Delivery. *Nephrology Nursing Journal, 41*(5), 447–456.

23. Verma, R. (2018). Patient satisfaction and quality of care in a public sector hospital. *Journal of Patient Safety, 14*(4), 154-159.
24. White, A. A., Sage, W. M., Osinska, P. H., Salgaonkar, M. J., & Gallagher, T. H. (2019). Patient safety and the ageing physician: A qualitative study of key stakeholder attitudes and experiences. *BMJ Quality & Safety, 28*(6), 468-475.
25. World Health Organization. (2019). *Global Action on Patient Safety. Report by the Director-General*. World Health Organization.