Perceived Barriers To Patient Safety Culture Among Frontline Healthcare Workers In Saudi Arabia Hospitals: Qualitative Study

Abdulrahman Alqarni[1]; Abdullah Almohammadi[1]; Mansour Alsaadawi [1]; Faris Subhi[1]; Ali Alzahrani[1]; Mohammed Alshamrani[1]; Ali Aljuaid[1]; Mohammed Alsharabi[1]; Bander Alyoubi [1]; Fahad Alzahrani[1]; Abdullah Saeed Alzahrani[1]; Dalya Abo Alainain[1]; Nasser Alzayedi[1]; Meshari Alharbi[1].

[1] Branch of the Ministry of Health, Jeddah, Saudi Arabia.

Abstract

Background: Patient safety culture is critical for reducing medical errors and improving healthcare quality. In Saudi public hospitals, frontline healthcare workers often encounter organizational and systemic barriers that hinder the development of a positive safety culture. Understanding these barriers from the perspective of frontline staff is essential to inform targeted interventions.

Objective: To explore perceived barriers to patient safety culture among frontline healthcare workers in Saudi public hospitals.

Methods: A qualitative descriptive study was conducted with 11 participants, including nurses, physicians, and allied health professionals, recruited from multiple public hospital units. Semi-structured interviews were used to collect data on experiences and perceptions of patient safety culture. Interviews were audio-recorded, transcribed verbatim, and analysed using thematic analysis to identify key themes and subthemes.

Results: Analysis revealed five main themes: (1) limited leadership engagement and organizational commitment to patient safety, (2) fear of blame and punitive response to errors, (3) hierarchical communication and teamwork barriers, (4) workload pressure and resource constraints, and (5) limited training and patient safety awareness. Participants reported that leadership absence, punitive culture, ineffective communication, high workload, and insufficient training collectively compromised safe practice and reporting behaviours.

Conclusions: Barriers to PSC in Saudi public hospitals are predominantly organizational and systemic. Addressing these challenges requires multifaceted strategies, such as strengthening leadership engagement, and providing safety training. These findings offer practical guidance for hospital administrators and policymakers to improve patient safety culture and inform future research in similar healthcare settings.

Keywords: Patient safety culture, Saudi Arabia, qualitative study, frontline healthcare workers, public hospitals

BACKGROUND

Patient safety has emerged as a crucial factor in the health system performance globally (World Health Organization, 2023). Evidence have shown that it helps to reduce medical errors, improving quality of care, and enhancing patient outcomes (Dhingra-Kumar, N., Brusaferro & Arnoldo, 2020; Mistri, Badge & Shahu, 2023). Unsafe care continues to cause significant preventable harm worldwide, with estimates suggesting that errors contribute to millions of adverse events annually in healthcare settings (Hessels et al., 2019; Lee et al., 2019). A positive patient safety culture (PSC) is exhibited as the shared values, beliefs, and norms within a healthcare organization that shape staff attitudes and behaviours toward

safety-related practices and error reporting (Agency for Healthcare Research and Quality [AHRQ], 2022). Therefore, patient safety culture has an influence on how frontline healthcare workers recognize and respond to risks, report incidents, and engage in continuous safety improvement.

In the Kingdom of Saudi Arabia (KSA), rapid healthcare expansion under initiatives such as Vision 2030 has intensified attention on PSC as a strategic priority (Alaska & Alkutbe, 2023). Recent national projects, including systematic assessment cycles of the Hospital Survey on Patient Safety Culture (HSOPSC) through the Saudi Patient Safety Centre, underscore the importance of measuring safety culture to inform policy and practice (Saudi Patient Safety Center, 2023). These assessments have highlighted persistent challenges, with lower rates of positive responses in core safety culture domains compared to global benchmarks.

Despite progress, empirical evidence indicates that barriers to establishing a robust PSC remain widespread in Saudi public hospitals (Albalawi, Kidd & Cowey, 2020). Leadership engagement and management support for safety have been consistently identified as weak predictors of a positive culture, often linked to environments where blame and punitive responses to errors prevail. Such a practices may have negative repercussions on the incident reporting and open communication, leading to under-reporting of near-misses and adverse events. Communication breakdowns are among the most frequently reported obstacles in PSC research (Albalawi, Kidd & Cowey, 2020; Rawas & Abou Hashish, 2023). In the Saudi context, ineffective communication is attributed to hierarchical organizational structures, language diversity within the workforce, and poor interdepartmental handovers (Saleh et al., 2023). These communication failures inhibit collaborative teamwork and timely information flow, which are essential components of safe patient care.

Workload pressures and staffing shortages further compound safety culture challenges. This was noted by a systematic review conducted by Albalawi, Kidd and Cowey (2020), which reported that high patient-to-staff ratios and heavy clinical workloads contribute to burnout, rushed procedures, and decreased adherence to safety protocols. The review further highlighted inadequate staffing as a factor associated with lower safety culture scores in domains such as event reporting and error response. Other studies have also identified training and awareness gaps among healthcare professionals as additional barriers to PSC (Alsulami, A'aqoulah & Almutairi, 2022). Although awareness levels of patient safety concepts vary with professional role and experience, formal and continuous training is often limited, which affects confidence in using safety reporting systems and in recognizing latent system risks.

Some researchers have also reported that fear of punitive responses remains pervasive, even in instances where systems are in place to encourage reporting and learning from errors (Alaska & Alkutbe, 2023). Interestingly, regional research indicates that similar barriers prevail across Gulf Cooperation Council (GCC) countries and other Arab health systems. For example, a systematic review focused on Arab countries highlighted blame culture, communication issues, and leadership deficiencies as common factors limiting positive patient safety culture in the region (Albalawi, Kidd, & Cowey, 2020). Still, further evidence shows that PSC is multifaceted, involving interactions between organizational policies, frontline behaviours, and broader health system governance (Algethami et al., 2024).

Nevertheless, there is a notable gap in qualitative research focusing specifically on frontline healthcare workers' lived experiences of safety culture barriers in Saudi public hospitals. Most existing studies rely on quantitative survey data, which can identify patterns in safety culture dimensions but may not fully capture the nuanced contextual and organizational dynamics that shape PSC perceptions. Therefore, this study aims to fill that gap by

exploring perceived barriers to PSC from the perspective of frontline healthcare workers, providing rich contextual insights to inform targeted interventions and policy reforms in Saudi public hospitals.

RESULTS

The study included 11 frontline healthcare workers comprising nurses (n = 5), physicians (n = 2), and allied health professionals (n = 4). Participants had varied educational backgrounds and clinical experience ranging from 1 to over 15 years, providing diverse perspectives on patient safety culture in Saudi public hospitals (Table 1).

Table 1. Summary of participants' features

Participant ID	Profession	Department/Unit	Highest Education Level	Years of Clinical Experience	Gender
P1	Registered Nurse	Medical Ward	Bachelor's Degree	6–10 years	Female
P2	Registered Nurse	Surgical Ward	Bachelor's Degree	1–5 years	Male
P3	Registered Nurse	Intensive Care Unit	Master's Degree	11–15 years	Female
P4	Physician	Emergency Department	Doctor of Medicine (MD)	6–10 years	Male
P5	Physician	Internal Medicine	Doctor of Medicine (MD)	>15 years	Male
P6	Pharmacist	Inpatient Pharmacy	Bachelor's Degree	6–10 years	Female
P7	Laboratory Technologist	Clinical Laboratory	Bachelor's Degree	11–15 years	Male
P8	Radiology Technologist	Radiology Department	Bachelor's Degree	1–5 years	Male
P9	Registered Nurse	Outpatient Department	Diploma	>15 years	Female
P10	Physiotherapist	Rehabilitation Unit	Bachelor's Degree	6–10 years	Female
P11	Registered Nurse	Pediatric Ward	Bachelor's Degree	11–15 years	Female

Data reduction process was summarized.

Table 2. Data reduction process

Theme	Subtheme	Illustrative Quote (Participant ID)
Theme 1: Limited Leadership Engagement in Patient Safety	Lack of visible leadership support	"We rarely see hospital leaders in the wards unless there is an inspection. Patient safety feels like paperwork, not real action." (P1)

	Poor follow-up on safety reports	"After reporting an incident, nobody comes back to explain what was done or if anything changed." (P6)
Theme 2: Fear of Blame and Punitive Reporting Culture	Fear of disciplinary action	"Reporting an error can affect your evaluation, so people prefer not to report unless it is very serious" (P2)
	Errors viewed as individual fault	"The focus is always on who made the mistake, not on what in the system caused it." (P4)
Theme 3: Hierarchical Communication and Weak Teamwork	Limited speaking-up among junior staff	"As a junior staff member, you think twice before questioning a senior doctor, even if patient safety is at risk." (P8)
	Ineffective handover communication	"During shift changes, important details are sometimes missed, especially when the department is busy." (P11)
Theme 4: Workload Pressure and Resource Constraints	Staff shortages and high workload	"One nurse may be responsible for too many patients, so safety checks are sometimes rushed." (P3)
	Inadequate equipment and supplies	"Sometimes we don't have the proper equipment, and that increases the risk of errors." (P7)
Theme 5: Limited Training and Patient Safety Awareness	Insufficient safety training	"We do not receive regular training on patient safety; most learning happens informally." (P10)
	Poor orientation on incident reporting	"When I joined, no one clearly explained how or when to report incidents." (P9)

Themes

Eleven frontline healthcare workers participated in the study, including nurses (n = 5), physicians (n = 2), and allied health professionals (n = 4), all working in Saudi public hospitals. Participants represented different clinical units and had between 1 and over 15 years of clinical experience. Thematic analysis revealed five key themes reflecting perceived barriers to patient safety culture.

Theme 1: Leadership Engagement and Organizational Commitment to Patient Safety

Limited leadership engagement emerged as a significant barrier to patient safety culture. Participants perceived hospital leadership as largely disconnected from frontline safety concerns, with safety efforts often driven by inspections or accreditation requirements rather than continuous practice improvement. One nurse explained, *"We rarely see hospital leaders in the wards unless there is an inspection. Patient safety feels like paperwork, not real action"* (P1). Another participant highlighted the lack of feedback after reporting safety issues, stating, *"After reporting an incident, nobody comes back to explain what was done or if anything changed"* (P6).

This perceived absence of leadership accountability reduced staff confidence in management's commitment to patient safety.

Theme 2: Fear of Blame and Punitive Response to Errors

Participants consistently described a punitive organizational culture that discouraged error reporting. Fear of disciplinary action and negative performance evaluations influenced healthcare workers' willingness to report incidents. A nurse noted, *"Reporting an error can affect your evaluation, so people prefer not to report unless it is very serious"* (P2). Errors were frequently viewed as individual failures rather than system-level issues. As one physician stated, *"The focus is always on who made the mistake, not on what in the system caused it"* (P4). This blame-oriented culture limited transparency and hindered organizational learning.

Theme 3: Hierarchical Communication and Teamwork Barriers

Hierarchical structures within public hospitals were perceived to negatively affect communication and teamwork. Junior staff and allied health professionals often felt uncomfortable speaking up about safety concerns. One participant explained, *"As a junior staff member, you think twice before questioning a senior doctor, even if patient safety is at risk"* (P8). Ineffective communication during handovers was also identified as a patient safety risk. A nurse commented, *"During shift changes, important details are sometimes missed, especially when the department is busy"* (P11). These communication challenges increased the likelihood of errors and compromised patient safety.

Theme 4: Workload Pressure and Resource Limitations

High workload and staffing shortages were repeatedly described as major barriers to safe practice in public hospitals. Participants reported that excessive patient loads often forced them to rush safety procedures. One nurse stated, *"One nurse may be responsible for too many patients, so safety checks are sometimes rushed"* (P3). Limited availability of equipment and supplies further exacerbated safety risks. A laboratory technologist noted, *"Sometimes we don't have the proper equipment, and that increases the risk of errors"* (P7). These constraints made consistent adherence to safety protocols difficult.

Theme 5: Limited Training and Patient Safety Awareness

Insufficient training and education on patient safety principles emerged as a recurring concern. Participants reported a lack of regular safety training and limited formal instruction on incident reporting systems. One allied health professional stated, *"We do not receive regular training on patient safety; most learning happens informally"* (P10). Additionally, inadequate orientation for newly employed staff was highlighted. A nurse explained, *"When I joined, no one clearly explained how or when to report incidents"* (P9). This gap in training contributed to inconsistent safety practices and reduced confidence in managing patient safety risks.

Overall, the findings indicate that barriers to patient safety culture in Saudi public hospitals are predominantly organizational and systemic, shaped by leadership practices, punitive responses to errors, hierarchical communication, workload pressures, and limited training opportunities. These interconnected barriers collectively influence frontline healthcare workers' ability to provide safe patient care.

DISCUSSION

This study identified limited leadership engagement as a central barrier to establishing an effective patient safety culture in Saudi public hospitals. Participants described leadership as largely reactive, focused on meeting external standards rather than embedded in daily safety practices. This finding resonates with both Saudi specific research and broader international literature suggesting that inadequate organizational commitment at managerial levels diminishes staff confidence and weakens safety climate (Alshammari et

al., 2019; Alaska, & Alkutbe, 2023; Aljaffary et al., 2022). For example, a systematic review of patient safety culture studies in Saudi Arabia identified ineffective leadership and poor managerial support as among the most frequent factors hindering safety culture development (Albalawi, Kidd & Cowey, 2020). Albalawi and colleagues further reported that leaders who are not visibly engaged in safety activities contribute to persistent gaps in safety culture domains such as "management support for patient safety" and "overall perceptions of safety."

Global evidence also supports this interpretation. For example, leadership styles that emphasize active engagement, visibility in clinical areas, and feedback loops have been associated with higher safety culture scores and increased reporting of safety incidents. In contrast, hierarchical and distant leadership styles correlate with reduced staff willingness to raise safety concerns (Vehvilainen et al., 2024). Additionally, specific studies have shown that transformational and servant leadership approaches significantly improve safety outcomes by encouraging shared ownership of safety goals and enabling frontline involvement in safety planning (Demeke, van Engen & Markos, 2025).

This study also noted that the pervasive fear of blame and punitive response to errors emerged strongly in this study and is supported by quantitative evidence from multiple Saudi hospital surveys indicating low scores in the "non-punitive response to error" domain. When healthcare workers anticipate negative consequences for reporting mistakes, they are more likely to conceal errors or near misses, which severely limits organizational learning and improvement. This aligns with broader evidence showing that punitive cultures are strongly associated with under-reporting of incidents and stigmatization of staff who disclose mistakes (William, Liana & Jusat, 2025; Layne et al., 2018).

Empirical research within Saudi hospitals reinforces this barrier. For instance, large surveys report that non-punitive response to error consistently scores lower than other safety culture domains (Aljaffary et al., 2022; Binkheder et al., 2023). These perceptions were correlated with reduced rates of incident reporting, compromising patient safety monitoring and feedback loops. Similar findings have been observed in cross-national research in Middle Eastern and global contexts, where punitive responses to incident reporting discourage transparency and hamper the establishment of a just culture where errors are viewed as opportunities for learning (Dwidar, Fakhry & Abdel-Hamed, 2025). Safety culture frameworks emphasize that distinguishing between human error and reckless behavior is essential to build trust and encourage reporting (Al Muharraq et al., 2024).

Consistent with our findings, communication challenges rooted in hierarchical structures and team dynamics are widely recognized barriers to patient safety culture. Participants described difficulties in speaking up about safety concerns, particularly across professional hierarchies. This issue is reflected in national surveys showing low scores for "communication openness," "handoffs," and "teamwork across units" (Binkheder et al., 2023).

Globally, ineffective communication and pronounced professional hierarchies have been associated with increased miscommunication, delayed escalation of safety issues, and fragmented teamwork (Weller, Boyd & Cumin, 2014; Vehvilainen et al., 2024). Studies indicate that open communication and psychological safety are essential for an effective safety culture as beliefs that one can speak up without retribution (Omar, & Theeb, 2023). When cultural norms or organizational structures discourage junior staff from questioning senior clinicians, safety threats may go unnoticed or unresolved (Vehvilainen et al., 2024). Other studies have shown that multidisciplinary teamwork and structured communication tools (e.g., SBAR for handoffs) may improve communication clarity and reduce errors (Kosim & Saimi, 2025).

High workload, staffing shortages, and resource limitations were also identified as significant barriers identified affecting incident reporting. This aligns with both Saudi and international evidence that overworked and understaffed teams report lower safety culture scores, especially in domains related to "staffing" and "work pace."(Albaalharith & A'aqoulah, 2023). Staff shortages often compromise task completion and at the same time, increase general workload, fatigue, and stress, leading to higher risk of errors (Dall'Ora et al., 2024; Wei et al., 2024). Similar patterns have been documented in large healthcare surveys indicating that inadequate staffing is linked to reduced reporting of incidents and lower overall perceptions of patient safety (Saleh et al., 2023).

Workload pressures can also interact with other culture barriers. For example, overburdened staff may have little time for effective communication, team collaboration, or participation in safety training. This kind of interaction may lead to the development of other negative elements of PSC, such as omission errors, leading to adverse events. Research suggests that improving staffing levels, workload distribution, and deployment of support personnel can mitigate these risks and improve safety outcomes (Dall'Ora et al., 2024). However, addressing resource constraints in Saudi public hospitals may require policy interventions that balance staffing allocations and ensure sufficient equipment.

Finally, limitations in training and awareness were consistently noted as barriers to developing a robust safety culture. Participants felt that formal safety education and orientation on reporting mechanisms were insufficient or inconsistently delivered. This finding is substantiated by Saudi studies showing relatively low levels of safety culture awareness and inadequate training on safety practices (Albaalharith & A'aqoulah, 2023).

International evidence indicates that structured safety training, which includes simulation, error analysis methods, and just culture education may enhance staff competence and confidence in safety activities (Park et al., 2023). Moreover, educational interventions have been linked to improved attitudes toward reporting, greater awareness of safety protocols, and increased engagement in continuous improvement (Al Muharraq et al., 2024). Training also supports other PSC domains by improving communication skills, familiarity with reporting systems, and understanding of leadership expectations. Institutions that invest in comprehensive and ongoing safety education demonstrate superior safety culture outcomes compared to those with ad-hoc training (Saleh et al., 2023).

Limitations

First, the study was conducted exclusively in Saudi public hospitals, which may limit the transferability of findings to private hospitals or other healthcare systems. Second, the sample size was relatively small, and although it allowed for in-depth exploration of experiences, it may not capture the full diversity of perceptions among all frontline healthcare workers in the country.

Recommendations for Practice and Future Research

For practice, hospital leadership should strengthen visible engagement in patient safety initiatives, foster a just culture to reduce fear of blame, and implement structured communication protocols to enhance teamwork across hierarchies. Workload management strategies, adequate staffing, and resource allocation are essential to enable adherence to safety practices. Comprehensive and ongoing training programs on patient safety principles and reporting mechanisms should be provided to all frontline staff.

For future research, larger multi-centre qualitative and mixed-methods studies are recommended to explore the generalizability of these findings across Saudi public and private hospitals. Further investigation into the effectiveness of leadership interventions, just culture implementation, and interprofessional communication strategies on patient safety outcomes is also warranted.

CONCLUSION

This study highlights that perceived barriers to patient safety culture in Saudi public hospitals are predominantly organizational and systemic. Limited leadership engagement, fear of blame, hierarchical communication, workload pressures, and insufficient training collectively undermine frontline healthcare workers' ability to engage in safe practices. Addressing these barriers requires a multifaceted approach that strengthens visible and supportive leadership, fosters a just culture, promotes open communication, optimizes staffing and resources, and implements comprehensive safety training programs. By focusing on these areas, hospital administrators and policymakers can enhance patient safety culture, improve reporting and learning from incidents, and ultimately contribute to safer, higher-quality care. These findings provide actionable insights for both practice improvement and future research directions.

REFERENCES

1. Agency for Healthcare Research and Quality (AHRQ) (2022). What Is Patient Safety Culture? https://www.ahrq.gov/sops/about/patient-safety-culture.html?
2. Al Muharraq, E. H., Abdali, F., Alfozan, A., Alallah, S., Sayed, B., & Makakam, A. (2024). Exploring the perception of safety culture among nurses in Saudi Arabia. *BMC nursing*, *23*(1), 412. https://doi.org/10.1186/s12912-024-02077-7
3. Alaska, Y. A., & Alkutbe, R. B. (2023). What Do We Know About Patient Safety Culture in Saudi Arabia? A Descriptive Study. *Journal of patient safety*, *19*(8), 517–524. https://doi.org/10.1097/PTS.0000000000001165
4. Albaalharith, T., & A'aqoulah, A. (2023). Level of Patient Safety Culture Awareness Among Healthcare Workers. *Journal of multidisciplinary healthcare*, *16*, 321–332. https://doi.org/10.2147/JMDH.S376623
5. Albalawi, A., Kidd, L., & Cowey, E. (2020). Factors contributing to the patient safety culture in Saudi Arabia: a systematic review. *BMJ open*, *10*(10), e037875. https://doi.org/10.1136/bmjopen-2020-037875
6. Algethami, F., Alasmari, A. S., Alessa, M. K., Alhamid, A. A., Ateeq, M. K., Alsulami, H., Elmorsy, S. A., & Alruwaili, S. F. (2024). Patient safety culture in a tertiary care hospital in Makkah, Saudi Arabia, a cross-sectional study. *BMC health services research*, *24*(1), 883. https://doi.org/10.1186/s12913-024-11310-7
7. Aljaffary, A., Awad Albaalharith, M., Alumran, A., Alrawiai, S., & Hariri, B. (2022). Patient safety culture in primary healthcare centers in the Eastern province of Saudi Arabia. *Risk Management and Healthcare Policy*, 229-241. https://doi.org/10.2147/rmhp.s336117
8. Alshammari, F., Pasay-an, E., Alboliteeh, M., Alshammari, M. H., Susanto, T., Villareal, S., ... & Gonzales, F. (2019). A survey of hospital healthcare professionals' perceptions toward patient safety culture in Saudi Arabia. *International Journal of Africa Nursing Sciences*, *11*, 100149. https://doi.org/10.1016/j.ijans.2019.100149
9. Alsulami, A., A'aqoulah, A., & Almutairi, N. (2022). Patient safety culture awareness among healthcare providers in a tertiary hospital in Riyadh, Saudi Arabia. *Frontiers in public health*, *10*, 953393. https://doi.org/10.3389/fpubh.2022.953393
10. Binkheder, S., Alaska, Y. A., Albaharnah, A., AlSultan, R. K., Alqahtani, N. M., Amr, A. A., Aljerian, N., & Alkutbe, R. (2023). The relationships between patient safety culture and sentinel events among hospitals in Saudi Arabia: a national descriptive study. *BMC health services research*, *23*(1), 270. https://doi.org/10.1186/s12913-023-09205-0

11. Cernasev, A., & Axon, D. R. (2023). Research and scholarly methods: Thematic analysis. *Journal of the American College of Clinical Pharmacy*, *6*(7), 751-755. https://doi.org/10.1002/jac5.1817
12. Dall'Ora, C., Saville, C., Rubbo, B., Turner, L., Jones, J., & Griffiths, P. (2022). Nurse staffing levels and patient outcomes: a systematic review of longitudinal studies. *International journal of nursing studies*, *134*, 104311. https://doi.org/10.1016/j.ijnurstu.2022.104311
13. Demeke, G. W., van Engen, M. L., & Markos, S. (2025). Servant leadership and patient safety culture in Ethiopian public hospitals: a qualitative study. *BMC Health Services Research*, *25*(1), 984. https://doi.org/10.1186/s12913-025-13118-5
14. Dhingra-Kumar, N., Brusaferro, S., & Arnoldo, L. (2020). Patient Safety in the World. In L. Donaldson (Eds.) et. al., *Textbook of Patient Safety and Clinical Risk Management*. (pp. 93–98). Springer. https://doi.org/10.1007/978-3-030-59403-9_8
15. Doyle, L., McCabe, C., Keogh, B., Brady, A., & McCann, M. (2020). An overview of the qualitative descriptive design within nursing research. *Journal of research in nursing*, *25*(5), 443-455. https://doi.org/10.1177/1744987119880234
16. Dwidar, M. M., Fakhry, S. F., & Abdel-Hamed, L. A. (2025). Just culture and its influence on nurse interns' willingness to report near-miss events: a cross-sectional study in five Egyptian university hospitals. *BMC nursing*, *24*(1), 1397. https://doi.org/10.1186/s12912-025-03979-w
17. Hessels, A. J., Paliwal, M., Weaver, S. H., Siddiqui, D., & Wurmser, T. A. (2019). Impact of patient safety culture on missed nursing care and adverse patient events. *Journal of nursing care quality*, *34*(4), 287-294. DOI: 10.1097/NCQ.0000000000000378
18. Kosim, N., & Saimi, S. (2025). Enhancing patient safety outcomes through SBAR communication: A systematic review. *Malahayati International Journal of Nursing and Health Science*, *8*(7), 843-857. https://doi.org/10.33024/minh.v8i7.1046
19. Layne, D. M., Nemeth, L. S., Mueller, M., & Martin, M. (2019, February). Negative behaviors among healthcare professionals: relationship with patient safety culture. In *Healthcare* (Vol. 7, No. 1, p. 23). MDPI. https://doi.org/10.3390/healthcare7010023
20. Lee, S. E., Scott, L. D., Dahinten, V. S., Vincent, C., Lopez, K. D., & Park, C. G. (2019). Safety culture, patient safety, and quality of care outcomes: a literature review. *Western journal of nursing research*, *41*(2), 279-304. https://doi.org/10.1177/0193945917747416
21. Mistri, I. U., Badge, A., & Shahu, S. (2023). Enhancing Patient Safety Culture in Hospitals. *Cureus*, *15*(12), e51159. https://doi.org/10.7759/cureus.51159
22. Omar, H. A., & Theeb, A. S. (2023). Psychological Safety in Nursing: A Narrative Review of Leadership, Burnout, and Cultural Barriers to Patient Safety. *Journal of Nursing Science and Professional Practice 2*(3), 140-145, DOI: 10.4103/JNSPP.JNSPP_17_25
23. Park, O., Jeon, M., Kim, M., Kim, B., & Jeong, H. (2023). The Effects of a Simulation-Based Patient Safety Education Program on Compliance with Patient Safety, Perception of Patient Safety Culture, and Educational Satisfaction of Operating Room Nurses. *Healthcare (Basel, Switzerland)*, *11*(21), 2824. https://doi.org/10.3390/healthcare11212824
24. Rawas, H., & Abou Hashish, E. A. (2023). Predictors and outcomes of patient safety culture at King Abdulaziz Medical City, Jeddah, Saudi Arabia. A nursing perspective. *BMC nursing*, *22*(1), 229. https://doi.org/10.1186/s12912-023-01391-w
25. Saleh, E. R., Kaabi, B., Al-Malki, A., Al-Ali, A., Al-Tamimi, A., Al-Otaibi, M., Al-Otaibi, R. & Ismail, M. (2023). Recent Update in Implementation of Patient Safety Culture Among Healthcare System in Saudi Arabia. *Saudi Journal of Nursing and Health Care*, 8(7), 183-188. https://doi.org/10.36348/sjnhc.2025.v08i07.004

26. Sarkhosh, S., Abdi, Z., & Ravaghi, H. (2022). Engaging patients in patient safety: a qualitative study examining healthcare managers and providers' perspectives. *BMC nursing*, *21*(1), 374. https://doi.org/10.1186/s12912-022-01152-1
27. Saudi Patient Safety Center (2023). *The Saudi Patient Safety Center launched the fifth cycle of the Hospital Survey on Patient Safety Culture (HSOPSC).*
https://www.spsc.gov.sa/English/News/Pages/News135.aspx
28. Vehvilainen, E., Charles, A., Sainsbury, J., Stacey, G., Field-Richards, S. E., & Westwood, G. (2024). Influences of leadership, organizational culture, and hierarchy on raising concerns about patient deterioration: a qualitative study. *Journal of patient safety*, *20*(5), e73-e77. *DOI:* 10.1097/PTS.0000000000001234
29. Vehvilainen, E., Charles, A., Sainsbury, J., Stacey, G., Field-Richards, S. E., & Westwood, G. (2024). Influences of Leadership, Organizational Culture, and Hierarchy on Raising Concerns About Patient Deterioration: A Qualitative Study. *Journal of patient safety*, *20*(5), e73–e77. https://doi.org/10.1097/PTS.0000000000001234
30. Wei, N., Wang, Z., Li, X., Zhang, Y., Zhang, J., Huang, Z., & Wang, X. (2024). Improved staffing policies and practices in healthcare based on a conceptual model. *Frontiers in public health*, *12*, 1431017. https://doi.org/10.3389/fpubh.2024.1431017
31. Weller, J., Boyd, M., & Cumin, D. (2014). Teams, tribes and patient safety: overcoming barriers to effective teamwork in healthcare. *Postgraduate medical journal*, *90*(1061), 149–154. https://doi.org/10.1136/postgradmedj-2012-131168
32. William, W., Liana, D., & Jusat, I. (2025). Learning Organization and Feedback Culture in Patient Safety Incident Reporting: The Mediating Role of Non-Punitive Response. *JUKEJ: Jurnal Kesehatan Jompa*, *4*(2), 882-888.
https://doi.org/10.57218/jkj.Vol4.Iss2.1936
33. World Health Organization (2023). Patient safety. https://www.who.int/news-room/fact-sheets/detail/patient-safety?