

Exploring the Roles and Perceptions of Nursing Professionals in Promoting Patient Safety Culture in Various Healthcare Settings of Hafr Al-Batin, Saudi Arabia: A Qualitative Study

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ABSTRACT

Objective: This qualitative study aimed to explore the roles and perceptions of nursing professionals in promoting a patient safety culture within various healthcare settings in Hafr Al-Batin, Saudi Arabia.

Methods: Semi-structured interviews were conducted with 24 nursing professionals from three healthcare facilities. Interviews were audio-recorded, transcribed verbatim, and analyzed using thematic analysis.

Results: Four main themes emerged: 1) Nursing roles in patient safety, 2) Barriers to promoting a safety culture, 3) Facilitators of a safety culture, and 4) Recommendations for improvement. Participants perceived their central role was ensuring patient safety through monitoring, reporting errors, and educating patients and families. Barriers included workload, lack of resources, and a punitive culture. Teamwork, communication, and supportive leadership facilitated safety. Recommendations included increasing staffing, providing training, and fostering a just culture.

Conclusions: Nursing professionals play a crucial role in promoting patient safety, but face significant barriers. Implementing participants' recommendations may help enhance safety culture in these settings. Further research is needed to evaluate the effectiveness of such strategies.

KEYWORDS: patient safety culture, nursing, qualitative research, Saudi Arabia

1. Introduction

Patient safety is a critical global health priority. The World Health Organization estimates that 134 million adverse events occur annually in hospitals in low- and middle-income countries, contributing to 2.6 million deaths (World Health Organization, 2019). A positive patient safety culture, where safety is a top priority

and openly discussed, is key to reducing harm (Alquwez et al., 2018). Nurses are central to safety culture, as the largest group of healthcare professionals with the most direct patient contact (Alswat et al., 2017).

In Saudi Arabia, studies have found varying perceptions of safety culture among nurses, with overall culture often scoring lower than international benchmarks (Alquwez et al., 2018; Alswat et al., 2017). Most research has been quantitative, with limited exploration of nurses' experiences and recommendations (Alquwez et al., 2018). Qualitative studies allow for deeper understanding of complex issues like safety culture (Guba & Lincoln, 1994).

Hafr Al-Batin is a city in the Eastern Province of Saudi Arabia with a population of around 400,000. No studies have examined patient safety culture in this setting. This qualitative study aimed to address this gap by exploring the roles and perceptions of nursing professionals regarding safety culture in Hafr Al-Batin. The research questions were:

1. How do nursing professionals perceive their role in promoting patient safety culture?
2. What are the key barriers and facilitators to promoting safety culture in this setting?
3. What recommendations do nursing professionals have for improving safety culture?

Insights from this underexplored setting can inform targeted interventions to enhance patient safety practices and outcomes.

2. Literature Review

Patient Safety Culture

Patient safety culture refers to the shared values, beliefs, and behavioral norms that shape how healthcare professionals prioritize and approach patient safety in an organization (Alquwez et al., 2018). A positive safety culture is characterized by open communication, teamwork, leadership support, organizational learning, and a non-punitive response to errors (Sorra & Dyer, 2010). Extensive evidence links positive safety culture to reduced adverse events, mortality, and length of stay, and increased patient satisfaction (DiCuccio, 2015; Sorra & Dyer, 2010).

The Hospital Survey on Patient Safety Culture (HSOPSC), developed by the Agency for Healthcare Research and Quality, is the most widely used tool to assess safety culture (Sorra & Dyer, 2010). Studies using Arabic versions of the HSOPSC have found that safety culture in Saudi Arabian hospitals is generally lower than international benchmarks, with scores of 44-61% compared to the US benchmark of 75% (Alquwez et al., 2018; Alswat et al., 2017). Key areas for improvement in Saudi hospitals include non-punitive response to errors, communication openness, and staffing (Alquwez et al., 2018).

While survey studies provide an overview of safety culture, they do not capture the

nuances of how safety is enacted in practice. Qualitative research is crucial for understanding the complex social, professional, and organizational factors that shape safety culture in a particular context (Guba & Lincoln, 1994).

Nursing Roles in Patient Safety

Nurses play a vital role in promoting patient safety through their 24/7 presence with patients, coordination of care, surveillance for risks and deterioration, and advocacy in escalating concerns (Dyab et al., 2018). Core nursing practices for safety include monitoring vital signs, conducting risk assessments, checking medications, reporting errors, and educating patients and families (Alswat et al., 2017; Dyab et al., 2018).

Studies in Saudi Arabia have found that nurses generally have positive perceptions of patient safety and consider it a high priority (Alquwez et al., 2018; Alswat et al., 2017). However, nurses also report significant challenges in promoting safety, including high workload, inadequate staffing, lack of resources, poor communication, and a blame culture (Alquwez et al., 2018; Dyab et al., 2018). These factors can lead to burnout, job dissatisfaction, and intention to leave, further undermining patient safety (Alquwez et al., 2018).

Qualitative studies provide rich insights into nurses' lived experiences and perceptions. For example, Dyab et al. (2018) found that Saudi nurses perceived their role as "being vigilant" and "being the eyes and ears of the patient". Key challenges included workload, language barriers, and lack of policies. Nurses recommended better staffing ratios, language courses, and standardized safety protocols.

Another qualitative study in Saudi Arabia by Ammouri et al. (2021) found that nurses viewed their role as preventing harm and being a "safety net" for patients. Barriers included lack of time, interruptions, and a culture of blame. Facilitators were supportive leadership, education, and involving patients in safety. Nurses wanted more training, clear guidelines, and a just culture.

These studies highlight the value of an in-depth, contextualized understanding of nurses' perceptions and experiences. However, most qualitative research on patient safety in Saudi Arabia has been conducted in large urban hospitals. There is a need to explore safety culture in diverse geographic and clinical settings to inform locally tailored interventions.

3. Methods

Design

This study employed a qualitative descriptive design, which is suitable for researching complex experiential phenomena and informing practice and policy (Willis et al., 2016). Semi-structured interviews were used to gather rich data on participants' perceptions and experiences of patient safety culture (DeJonckheere & Vaughn, 2019).

Setting and Participants

The study was conducted in Hafr Al-Batin, a city in the Eastern Province of Saudi

Arabia. Purposeful sampling was used to recruit registered nurses and nursing assistants from three government healthcare facilities: 1) Ministry of Health branch, 2) Hafar Al-Batin Central Hospital, and 3) Maternity and Children's Hospital. These sites were chosen to capture perceptions across diverse clinical settings.

Inclusion criteria were: 1) employed as a registered nurse, nursing technician, or nursing assistant; 2) minimum 6 months experience in the current facility; and 3) willing to participate. The target sample size was 20-30, based on qualitative research guidelines for achieving informational power (Malterud et al., 2016).

Data Collection

Individual face-to-face interviews were conducted between June and August 2024 in private rooms at the facilities. A semi-structured interview guide was developed based on the research questions and literature review. Questions explored participants' perceived roles and practices in patient safety, barriers and facilitators to promoting safety culture, and recommendations for improvement. Interviews were conducted in Arabic, audio-recorded, and lasted 30-60 minutes.

Data Analysis

Interview recordings were transcribed verbatim and translated into English. Thematic analysis was conducted, following the six-step approach of Braun and Clarke (2006). This involved familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing a report. Coding was done inductively, with themes derived from the data. Two researchers coded the transcripts independently and then compared and discussed the codes to reach consensus. Quotes were incorporated to illustrate themes and enhance credibility.

Rigor and Reflexivity

Several strategies were used to ensure the trustworthiness of the findings (Lincoln & Guba, 1985). Credibility was enhanced through triangulation of data sources (nurses from different facilities and roles), investigator triangulation (multiple coders), and member checking (soliciting feedback from participants on preliminary findings). Detailed descriptions of the setting, participants, and data collection and analysis support transferability. An audit trail of methods and decisions was kept to enable dependability. The researchers engaged in ongoing reflexivity to bracket assumptions and biases.

4. Results

Participant Characteristics

A total of 24 nursing professionals participated in the study: 10 registered nurses, 8 nursing technicians, and 6 nursing assistants. The sample was predominantly female (79%), Saudi national (83%), and ranged in age from 24 to 45 years ($M = 31.5$, $SD = 5.2$). Years of experience ranged from 1 to 18 ($M = 6.3$, $SD = 4.1$). The majority held a diploma (63%). More demographic data is presented in Table 1.

Four main themes were identified: 1) Nursing roles in patient safety, 2) Barriers to promoting safety culture, 3) Facilitators of safety culture, and 4) Recommendations for improvement. Each theme had several sub-themes, illustrated with representative quotes.

Theme 1: Nursing Roles in Patient Safety

Participants perceived their primary role was to ensure patient safety through continuous monitoring, identifying and reporting risks, and educating patients and families. Three sub-themes emerged:

1.1. Constant surveillance

"Our main role is to keep an eye on the patient at all times. We check their vital signs regularly, monitor for any changes, make sure they are safe in the bed." (RN6)

1.2. Detecting and reporting errors

"If we see any mistake, like wrong medication or dose, we must catch it and report it immediately to prevent harm. We are the last line of defense for the patient." (NT3)

1.3. Patient and family education

"It is our job to educate the patients and their families about safety, like hand hygiene, fall prevention, medication instructions. If they understand, they can help us keep them safe." (NA5)

Theme 2: Barriers to Promoting Safety Culture

Participants identified several challenges in promoting a strong safety culture, related to workload, resources, communication, and organizational culture. Four sub-themes were:

2.1. Staffing and workload

"We are always short-staffed, especially on night shifts. The nurse-to-patient ratio is too high. We have to rush and may miss things. It is not safe." (RN8)

2.2. Lack of resources and equipment

"Sometimes we don't have enough supplies, like gloves or alcohol swabs. The equipment like IV pumps may be old or broken. This makes our job very difficult and risky." (NT1)

2.3. Communication barriers

"Many patients don't speak Arabic well. We also have language gaps with some foreign staff. Miscommunication can easily happen and lead to errors." (RN2)

2.4. Blame culture

"When a mistake happens, the first thing is to blame the nurse. We feel afraid to report errors because we may be punished or shamed. So people try to hide mistakes." (RN9)

Theme 3: Facilitators of Safety Culture

Participants identified several factors that promoted safety culture, including teamwork, effective communication, safety systems, and supportive leadership. Four sub-themes were:

3.1. Teamwork and collaboration

"Having a good team that works together is very important for safety. When we support each other, remind each other, we can catch mistakes and give better care." (RN4)

3.2. Clear communication channels

"There are clear guidelines on how to communicate patient information during handover or transfer. When the communication is structured and complete, there is less chance of errors." (NT7)

3.3. Safety protocols and checklists

"We have protocols for medication safety, infection control, pressure injury prevention. The checklists help us remember the steps and not skip anything." (RN1)

3.4. Supportive management

"When the head nurse or manager creates an open atmosphere, encourages us to speak up about safety, thanks us for catching mistakes, it really makes a difference." (RN10)

Theme 4: Recommendations for Improvement

Participants made several suggestions for enhancing safety culture, including increasing staffing, providing training and resources, involving patients, and fostering a just culture. Four sub-themes were:

4.1. Adequate staffing levels

"The most important thing is to increase the number of nurses. If we have a manageable workload, we can provide safer care. We should match the international standards for nurse-patient ratios." (RN7)

4.2. Ongoing training and education

"We need more education on patient safety topics. Things are always changing, new procedures or medications. The training should be for all staff, like mandatory workshops every year." (NT4)

4.3. Patient and family engagement

"The patients and families should be more involved. We can give them clear information, brochures, videos. Ask them to speak up if they see any safety issues. They are part of the healthcare team." (NA2)

4.4. Non-punitive error reporting

"The culture of blame needs to change. Errors should be seen as opportunities to learn, not to punish. If we feel safe to report mistakes, we can prevent future harm. There should be a system for confidential reporting." (RN5)

5. Discussion

This study provides important insights into the perceptions and experiences of nursing professionals regarding patient safety culture in Hafr Al-Batin, Saudi Arabia. Consistent with previous research, participants perceived their key role as maintaining constant vigilance to protect patients from harm (Alswat et al., 2017; Dyab et al., 2018). This study adds to the literature by highlighting the specific safety practices of continuous monitoring, error detection and reporting, and patient education.

The identified barriers to safety culture, such as staffing shortages, inadequate resources, communication gaps, and a punitive environment, align with challenges reported in other Saudi and international studies (Alquwez et al., 2018; Ammouri et al., 2021; Dyab et al., 2018). These findings underscore the need for system-level interventions to address the structural and cultural barriers that hinder nurses' ability to promote safety.

Participants' insights on the facilitators of safety culture, including teamwork, communication, protocols, and leadership support, provide valuable guidance for strengthening safety practices. Previous research has similarly found that factors like good communication, standardized processes, and non-punitive reporting enhance safety culture (Alquwez et al., 2018; Ammouri et al., 2021). This study advances understanding of how these facilitators operate in the specific context of Hafr Al-Batin.

The recommendations offered by participants, such as increasing staffing, providing training, engaging patients, and promoting a just culture, present practical strategies for improving safety. These suggestions are consistent with best practices identified in the patient safety literature (Bates & Singh, 2018). Implementing these recommendations may help create a more supportive environment for nurses to uphold safety.

Implications for Practice

The study findings have important implications for nursing practice and healthcare management in Hafr Al-Batin and similar settings. Hospital administrators should prioritize adequate nurse staffing and workload management, as this was a key concern for participants and is linked to patient outcomes (Dyab et al., 2018). Providing ongoing education on safety topics, in both Arabic and English, can help ensure all staff have up-to-date knowledge.

Managers can promote a safety culture by modeling openness, encouraging error reporting, and involving staff in safety initiatives. Establishing anonymous reporting systems and emphasizing learning over blame can help shift toward a just culture (Bates & Singh, 2018). Engaging patients and families as partners in safety, through education and empowerment to speak up, is an important strategy (Ammouri et al., 2021).

At the policy level, developing national guidelines and benchmarks for patient safety culture, based on the HSOPSC dimensions, can provide a shared framework for improvement (Alquwez et al., 2018). Allocating adequate resources for staffing,

training, and safety infrastructure is critical. Promoting collaboration and knowledge sharing between hospitals can help disseminate best practices.

Limitations and Future Research

This study had several limitations. First, the small sample size and single geographic setting may limit transferability to other contexts. Studies in other regions of Saudi Arabia would enable comparisons. Second, self-reported data may be subject to social desirability and recall biases. Observational methods could provide further insights. Third, the cross-sectional design captured perceptions at one point in time. Longitudinal studies could examine the impact of safety interventions over time.

Future research should focus on developing and evaluating tailored interventions to address the identified barriers and leverage the facilitators of safety culture. Combining quantitative and qualitative methods can provide a comprehensive understanding. Exploring the perspectives of other healthcare professionals, such as physicians and pharmacists, and comparing them with nurses' views, could offer a more holistic picture of the safety culture.

6. Conclusion

This qualitative study revealed the vital role of nursing professionals in promoting patient safety culture in Hafr Al-Batin, Saudi Arabia, and the challenges they face in doing so. Participants identified key barriers, facilitators, and recommendations for improving safety culture. The findings can inform interventions at the organizational and policy levels to support nurses in upholding patient safety. By creating a culture where safety is a shared responsibility and openly discussed and reported, healthcare organizations can reduce harm and improve outcomes for patients.

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