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EXPLORING THE REASONS BEHIND UNDERREPORTING OF MEDICATION ERRORS BY NURSES IN HOSPITAL SETTINGS

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Abstract

Background: *Medication errors are a major cause of preventable harm in healthcare settings and remain a global concern, with nurses playing a central role in medication administration. Despite their significance, underreporting of medication errors continues to impede improvement in patient safety practices. Understanding the causes behind this underreporting is vital for developing effective strategies that promote a culture of transparency and learning within hospitals.*

Aim: *This study aimed to explore the reasons behind underreporting of medication errors by nurses in hospital settings and to identify key factors influencing their reporting behavior.*

Methods: *A descriptive cross-sectional study was conducted among 180 registered nurses at Hameed Latif Hospital, Lahore. Data were collected using a structured questionnaire consisting of demographic details and items assessing knowledge, attitudes, and barriers toward medication error reporting. Statistical analysis was performed using SPSS version 26, applying descriptive statistics and percentage distribution.*

Results: *Findings revealed that while 90% of nurses agreed that reporting improves patient safety, only 63.9% were aware of their hospital's error reporting policy, and 53.3% understood the reporting steps. The main barriers identified included fear of punishment (82.2%), lack of feedback (73.3%), workload (69.4%), and unclear reporting systems (61.1%). Positive attitudes toward reporting were observed, but systemic and cultural factors hindered consistent compliance.*

Conclusion: *Underreporting of medication errors remains a multifactorial challenge driven by fear, inadequate systems, and lack of managerial support. Promoting non-punitive reporting, regular feedback, and continuous training can enhance patient safety culture.*

INTRODUCTION

Medication errors are defined as preventable events that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of healthcare professionals, patients, or consumers (Allan & Barker, 1990). Underreporting refers to the failure of healthcare professionals to document or communicate medication errors that occur during patient care. Nurses, as frontline caregivers, play a critical role in medication administration and patient safety. Understanding the reasons behind nurses' underreporting of medication errors is vital for improving transparency, healthcare quality, and patient outcomes (Barker, 1980).

Globally, medication errors affect millions of patients each year and remain a leading cause of preventable adverse events in healthcare systems. De Vries et al. (2008) reported that approximately 10% of hospitalized patients experience some form of medication-related adverse event. The World Health Organization estimates the economic burden of these errors to be billions of dollars annually, emphasizing their global impact. Studies show that a substantial proportion of medication errors remain unreported, particularly in developing nations where non-punitive reporting cultures are less prevalent (Carlton & Blegen, 2006). In Pakistan and similar settings, fear of punishment and lack of supportive systems are major barriers to accurate documentation and error disclosure (Abdulmutalib & Safwat, 2020).

Medication errors can occur at various stages of the medication process, including prescribing, dispensing, administering, and monitoring (Bates et al., 1995). Nurses, being responsible for the final stage of medication delivery, are most vulnerable to committing or witnessing these errors. Factors such as excessive workload, fatigue, poor communication, and insufficient pharmacological knowledge contribute significantly to medication-related incidents (BRADY et al., 2009). The failure to report such events prevents healthcare organizations from identifying systemic weaknesses and implementing necessary interventions to improve patient safety (Flynn et al., 2002).

Fear of blame, punishment, and professional stigma remains one of the key deterrents to error reporting (Armitage, 2009). In many hospital settings, medication errors are perceived as personal failures rather than opportunities for system improvement. This punitive approach discourages transparency and limits opportunities for learning. Consequently, nurses often remain silent to avoid disciplinary action or damage to their professional reputation (Kale et al., 2012).

Organizational barriers such as lack of managerial support, inadequate feedback mechanisms, and the absence of clear reporting procedures further discourage reporting (Dean & Barber, 2001). Research indicates that healthcare institutions that adopt non-punitive, system-based approaches achieve higher reporting rates and improved safety outcomes (Buckley et al., 2007). A supportive culture that promotes error disclosure without fear of reprisal encourages learning and accountability among nurses (Armitage & Knapman, 2003).

Communication barriers and hierarchical structures within healthcare organizations also play a role in underreporting (Carlton & Blegen, 2006). Nurses may feel intimidated when reporting errors involving physicians or senior staff members, especially in cultures with rigid professional hierarchies (Kongkaew et al., 2013). Such power dynamics reduce open dialogue and hinder collaborative safety efforts.

Addressing underreporting requires a comprehensive, multifaceted approach involving education, supportive policies, and cultural transformation. Encouraging open communication, providing continuous professional development, and implementing clear, non-punitive reporting systems can foster a culture of safety (Aspinall et al., 2022). Understanding nurses' perceptions, institutional barriers, and the factors influencing their decision-making regarding medication error reporting is crucial for designing effective interventions that enhance patient safety and promote a culture of learning rather than blame.

Data Collection and Analysis

Primary data were collected through self-administered questionnaires distributed to participants after obtaining ethical approval and informed consent. Respondents were assured of confidentiality and anonymity. After collection, data were coded, tabulated, and entered into SPSS

version 26 for analysis. Quantitative variables were presented as means and standard deviations, while qualitative data were summarized using frequencies and percentages. Statistical tests, including chi-square and correlation analysis, were used to examine relationships between variables. Results were interpreted at a p-value < 0.05 to determine statistical significance. The analysis focused on identifying key factors influencing underreporting behavior, ultimately guiding recommendations for improving reporting systems and enhancing patient safety culture within hospital settings.

Results and Analysis

Table 1: Demographic Characteristics of Respondents (n = 180)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Female	153	85.0
	Male	27	15.0
Age (years)	21–30	88	48.9
	31–40	65	36.1
	41 and above	27	15.0
Qualification	Diploma in Nursing	74	41.1
	BSc Nursing	82	45.6
	Post RN / MSN	24	13.3
Experience (years)	< 5 years	69	38.3
	5–10 years	76	42.2
	> 10 years	35	19.5
Work Unit	ICU	50	27.8
	General Ward	56	31.1
	Pediatric Ward	34	18.9
	Emergency	40	22.2

Table 1 presents the demographic characteristics of the 180 participating nurses. The majority were female (85%) and aged between 21–30 years (48.9%). Most nurses held a BSc in Nursing (45.6%) and had 5–10 years of experience (42.2%). Participants were distributed across ICUs, general wards, pediatric wards, and emergency departments.

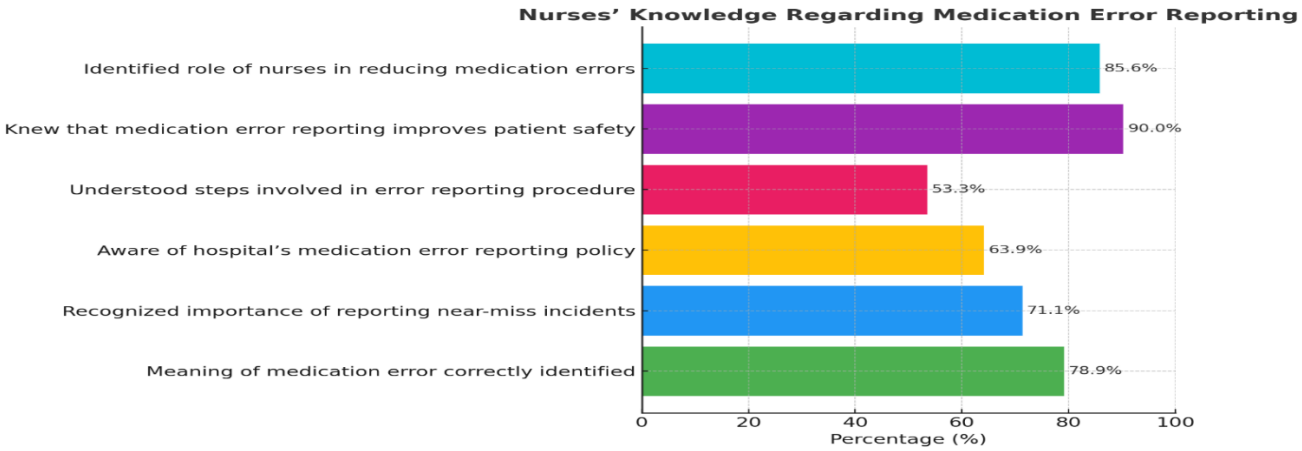

Figure 1: Nurses' Knowledge Regarding Medication Error Reporting

Figure 1 shows nurses' knowledge regarding medication error reporting. Most nurses (90%) recognized that reporting improves patient safety, while 78.9% correctly defined medication errors. However, only 53.3% were familiar with the steps in the reporting process, indicating knowledge gaps. Awareness of hospital reporting policies was moderate at 63.9%.

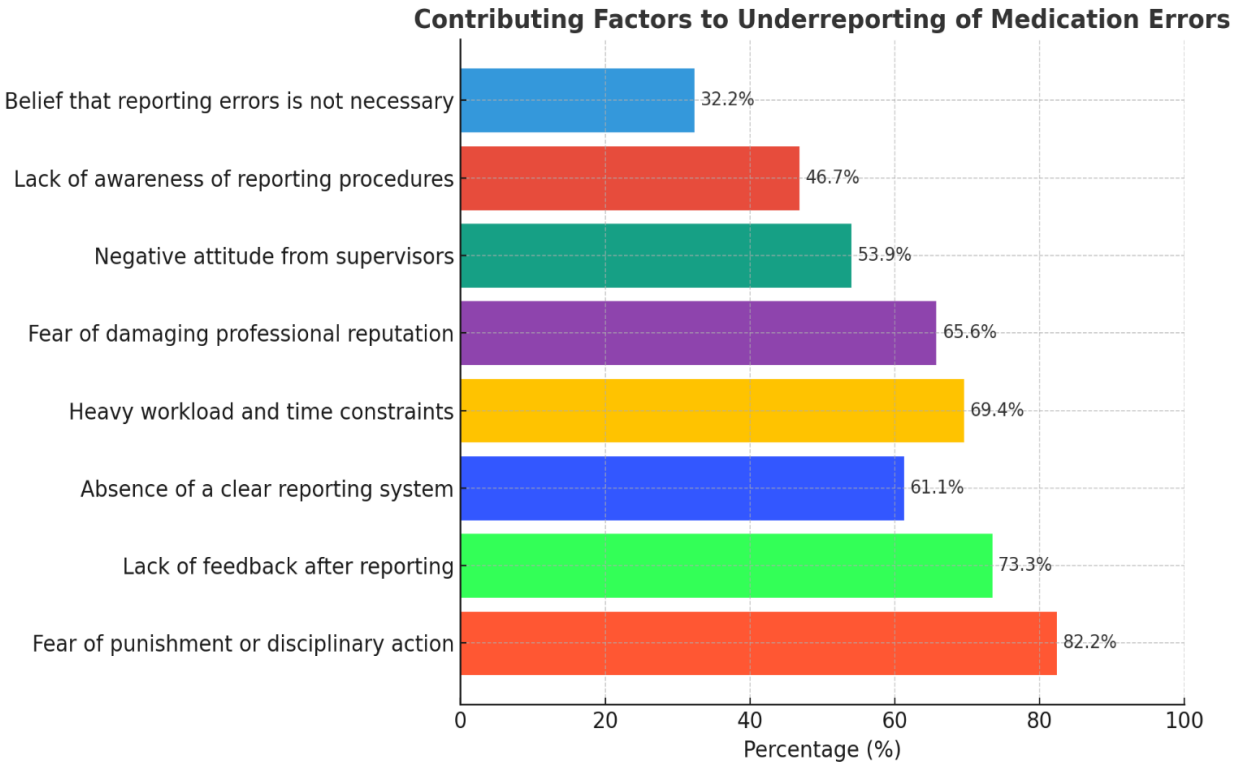

Figure 2: Factors Contributing to Underreporting of Medication Errors

Figure 2 outlines the major factors contributing to underreporting of medication errors. Fear of punishment (82.2%) and lack of feedback (73.3%) were the most cited barriers. Other notable issues included heavy workload (69.4%), unclear reporting systems (61.1%), and fear of reputation loss (65.6%). These findings highlight the influence of organizational culture on reporting behavior.

Table 2: Association between Knowledge Level and Reporting Practice

Knowledge Level	Regularly Report Errors (n)	Rarely Report Errors (n)	Total (n)	Chi-Square (χ^2)	p-value
High (≥80%)	52	21	73		
Moderate (60–79%)	33	39	72	**14.27**	**0.002**
Low (<60%)	12	23	35		
Total	**97**	**83**	**180**		

Table 2 demonstrates the relationship between knowledge level and reporting practices among nurses. A significant association was found (χ^2 = 14.27, p = 0.002), showing that nurses with higher

knowledge were more likely to report errors regularly. This indicates that improving knowledge can enhance medication error reporting compliance.

Discussion

The findings of this study revealed that while nurses demonstrated a reasonable level of understanding regarding the concept of medication errors and their role in ensuring patient safety, significant gaps persisted in knowledge related to institutional policies and procedural aspects of error reporting. Approximately 78.9% correctly identified the meaning of a medication error, and 90% agreed that reporting improves patient safety. These findings are consistent with Mayo and Duncan (2004), who reported that although nurses generally recognize the importance of medication safety, confusion remains regarding formal reporting mechanisms. Similarly, Pepper (1995) found that despite awareness of the potential risks of medication errors, limited procedural clarity continues to impede effective reporting practices in clinical settings.

Fear of punishment or disciplinary action emerged as the most cited reason for underreporting, with 82.2% of nurses acknowledging it as a major deterrent. This finding supports the conclusions of Leape (2009) and Lt (2000), who emphasized that blame-oriented environments discourage disclosure and obstruct safety improvements. Kopp et al. (2006) similarly noted that the fear of legal or administrative repercussions causes nurses to conceal medication errors, leading to lost opportunities for institutional learning. These results highlight the urgent need for a shift from punitive to system-based accountability frameworks to foster transparency and error disclosure.

Lack of feedback after reporting was another major barrier, identified by 73.3% of participants. This aligns with McLeod et al. (2013), who observed that insufficient managerial feedback demotivates nurses and undermines continuous improvement initiatives. In contrast, Meyer-Massetti et al. (2011) demonstrated that implementing structured feedback and follow-up mechanisms enhances reporting compliance and strengthens organizational safety culture. These findings underscore the importance of consistent communication between administrators and clinical staff to sustain motivation for error reporting.

The absence of a clear reporting system was cited by 61.1% of respondents as a significant challenge. Carlton and Blegen (2006) and MERP (1998) reported similar findings, indicating that unclear or overly complex reporting procedures discourage nurses from documenting incidents. Conversely, De Vries et al. (2008) found that the adoption of simplified electronic reporting tools substantially improved participation rates, reinforcing the need for accessible, user-friendly systems to facilitate reporting.

Workload and time constraints were identified by 69.4% of nurses as key contributing factors to underreporting. This observation corresponds with Mary Fry and Dacey (2007), who noted that increased workloads and inadequate staffing levels reduce nurses' ability to prioritize non-urgent administrative duties such as error reporting. However, Brady et al. (2009) argued that workload interacts with organizational culture and managerial attitudes, suggesting that supportive leadership can mitigate the impact of time pressures on reporting compliance.

Fear of damaging one's professional reputation (65.6%) and negative supervisory attitudes (53.9%) also influenced underreporting behaviors. These findings parallel Armitage (2009), who described hierarchical power dynamics and punitive supervision as significant cultural barriers to open communication. Similarly, Mayo and Duncan (2004) emphasized that supportive mentorship and nonjudgmental feedback environments encourage nurses to share experiences without fear of reprisal.

Overall, the results of this study reinforce that while nurses are knowledgeable about the importance of reporting medication errors, systemic and cultural barriers persist. These findings align with Bates et al. (1995) and Kale et al. (2012), who concluded that improving medication safety requires both education and the development of a safety-oriented culture. Encouraging open dialogue, providing feedback, simplifying reporting processes, and promoting a non-punitive atmosphere are essential strategies for enhancing reporting compliance, improving transparency, and reducing medication errors within healthcare systems.

Conclusion

The present study highlights that although nurses possess a sound theoretical understanding of medication errors and recognize their importance in promoting patient safety, a considerable gap persists between knowledge and actual reporting practices. The findings reveal that fear of punishment, lack of feedback, unclear reporting systems, and excessive workload are major barriers contributing to underreporting. These results emphasize that the issue is not merely one of individual accountability but rather a systemic and organizational challenge deeply rooted in institutional culture. Consistent with earlier research (Mohammadnejad et al., 2013; Confidence et al., 2022; Robbins et al., 2023), the study confirms that the creation of a supportive, non-punitive environment and effective communication mechanisms are vital to encourage transparent reporting and strengthen patient safety initiatives.

Recommendations

1. **Promote a Non-Punitive Culture:** Hospital management should adopt a "no blame" policy for medication error reporting to eliminate fear and encourage openness among nurses.
2. **Implement Feedback Systems:** Regular and constructive feedback should be provided to nurses after error reports to reinforce learning and accountability.
3. **Simplify Reporting Procedures:** Develop user-friendly, confidential, and accessible reporting systems to make the process less time-consuming and more efficient.
4. **Conduct Regular Training Sessions:** Continuous education and simulation-based workshops on medication safety and error management should be organized to enhance knowledge and competence.
5. **Ensure Supportive Leadership:** Supervisors and nurse managers should foster trust, provide emotional support, and recognize nurses who report errors as contributing to quality improvement.
6. **Address Workload and Staffing Issues:** Adequate staffing and workload distribution are essential to allow nurses sufficient time for proper documentation and reporting of errors.
7. **Integrate Error Reporting in Policy Framework:** Institutional policies should include clear guidelines, responsibilities, and protective measures for individuals reporting medication errors.

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