EXPLORING PATIENT-REPORTED EXPERIENCE IN MEDICATION SAFETY IN ASTER SANAD HOSPITAL

by Jana Publication & Research

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Abstract

Background: Medication safety is a cornerstone of patient-centered healthcare and a global priority under the World Health Organization's (WHO) Global Patient Safety Challenge: Medication Without Harm. Despite advances in safety systems, medication errors remain a leading cause of preventable harm. Patients are often the first to recognize unsafe practices, yet their voices remain underrepresented in safety research, particularly in the Middle East. This study examines patient-reported experiences of medication safety at Aster Sanad Hospital, a private tertiary care institution in Riyadh, Saudi Arabia.

Method: A cross-sectional mixed-methods design was employed. Quantitative data were collected through a validated patient-reported experiencemeasure (PREM) survey administered to 400 patients who had received prescribed medications within the past 12 months. Descriptive statistics were used for survey data.

Result: This study revealed that while most patients expressed satisfaction with the technical aspects of care, significant gaps existed in communication and education about medication use. The most frequently reported issues included insufficient explanations of side effects, unclear dosage instructions, and delays in medication delivery. Facilitators of safe practices included pharmacist counseling, provision of written information, and opportunities for patient questions.

Conclusion: These findings highlight the value of integrating patient-reported experiences into hospital safety frameworks. The study concludes that enhancing communication strategies, embedding patient feedback systems, and strengthening pharmacist-led education can significantly improve medication safety. Aster Sanad Hospital can serve as a model for private hospitals in Saudi Arabia and the wider Gulf region by prioritizing patient voices in safety monitoring.

Keywords: Medication safety, patient-reported experience, hospital safety, Saudi Arabia, Aster Sanad Hospital

Introduction

Medication safety remains a global public health challenge, with the World Health Organization (WHO) identifying medication-related harm as one of the leading causes of avoidable injury and healthcare expenditure worldwide. The WHO's third Global Patient Safety Challenge, Medication Without Harm, launched in 2017, emphasizes the urgent need to reduce severe, avoidable harm related to medications by 50% within five years (WHO, 2017). Despite substantial improvements in pharmacovigilance, medication reconciliation, and safety technologies, errors continue to occur at all stages of the medication-use processprescribing, dispensing, administration, and monitoring (Keers et al., 2018; Assiri et al., 2018). These errors are estimated to cost healthcare systems more than USD 42 billion annually, disproportionately affecting vulnerable populations with polypharmacy and chronic conditions (Donaldson et al., 2017).

A growing body of literature emphasizes the importance of patient involvement as a safety mechanism. Traditionally, medication safety research has been provider-centered, focusing on clinical staff compliance, safety protocols, and system design. However, recent studies reveal that patients are often the first to detect errors or near misses, such as discrepancies in dosage, omissions, or side effects not explained by healthcare professionals (Schwappach, 2018; Mira et al., 2019). Patients also provide unique insights into barriers to safe medication practices, including communication gaps, limited understanding of medical terminology, or cultural dynamics that inhibit active questioning of healthcare providers (Longtin et al., 2010). Consequently, international patient safety strategies increasingly call for integrating patient perspectives into reporting and monitoring frameworks.

In Saudi Arabia, the issue of medication safety has received increasing national attention, especially under Vision 2030, which prioritizes quality, safety, and patient-centered care. Research shows that medication errors are common in Saudi hospitals, with prevalence rates ranging from 18% to 56% depending on the care setting (Aljadhey et al., 2013; Khoja et al., 2011). A multicenter study by Alsaidan et al. (2020) identified prescribing errors and poor

communication between providers and patients as critical safety gaps. Despite investments in accreditation (e.g., Joint Commission International, Saudi Central Board for Accreditation of Healthcare Institutions), systematic integration of patient-reported experiences into safety frameworks remains limited.

Aster Sanad Hospital, a private tertiary institution in Riyadh, provides a valuable setting for investigating these issues. As part of Aster DM Healthcare, the hospital adheres to international standards and serves a multicultural patient population with diverse languages and health literacy levels. Such diversity creates both challenges and opportunities for advancing medication safety practices. On one hand, linguistic and cultural barriers may hinder effective communication; on the other, private hospitals often have greater flexibility to implement innovative patient engagement strategies.

While global literature increasingly highlights the value of patient-reported experiences, few studies in Saudi Arabia or the broader Gulf region systematically explore patient voices in medication safety. Most existing studies have concentrated on healthcare professionals' knowledge, attitudes, and practices, thereby underrepresenting patient perspectives (Alomi, 2017; Assiri et al., 2018). Addressing this gap is vital to align Saudi healthcare with global safety priorities and strengthen patient-centered care in line with Vision 2030.

Study Objectives:

1. To assess patients' perceptions of medication safety during their care at Aster Sanad Hospital.

2. To identify patient-reported medication errors, near misses, and adverse drug events.

3. To explore barriers and facilitators to safe medication practices from the patient perspective.

4. To recommend evidence-based strategies for integrating patient feedback into hospital safety systems.

By addressing these objectives, this study not only contributes new evidence to the Saudi healthcare landscape but also positions patient-reported experiences as a cornerstone of future safety interventions.

Methodology

Design and Setting

A cross-sectional methods design was used. This approach allowed for statistical generalization. The study was conducted at Aster Sanad Hospital, Riyadh, a private tertiary institution accredited by international quality and safety bodies.

Study Population and Sampling

- Inclusion criteria: Adult patients (≥18 years) who received prescribed medications in the hospital (inpatient or outpatient) within the past 12 months, able to provide informed consent.

- Exclusion criteria: Patients with severe cognitive impairment, psychiatric instability, or language barriers (unless translators were available).

Sample size:

We estimated a minimum sample of 384 patients using a precision-based formula for proportions (95% confidence, ±5% margin of error, and p = 0.5). The calculation was based on the formula:

$$n_0 = (Z^2 \times p \times (1-p)) / d^2$$

where Z = 1.96 for 95% confidence, p = 0.5, and d = 0.05. This resulted in n_0 = 400.

Data Collection

A validated Patient-Reported Experience Measure (PREM) adapted for medication safety.Domains: communication, education on medication, perceived errors, satisfaction with medication process.Administered in Arabic and English.

Data Analysis

Data were entered, cleaned, and analyzed using SPSS version 22. Descriptive statistics were used to summarize patient demographics and baseline characteristics, including frequencies, percentages, means, and standard deviations. Patient-reported experience measures (PREMs) related to medication safety were presented using measures of central tendency and dispersion.

Ethical Considerations

This study was conducted in strict accordance with ethical principles outlined in the Declaration of Helsinki and local regulatory guidelines. Ethical approval was obtained from the Institutional Review Board (IRB) of Aster Sanad Hospital prior to the commencement of the study (ARC-07.00.00). All participants provided informed consent after receiving a clear explanation of the study objectives, procedures, potential risks, and benefits. Participation was entirely voluntary, and participants were assured that they could withdraw at any time without any consequences to their care or treatment.

Confidentiality and anonymity were strictly maintained throughout the study. Data were coded and stored securely, accessible only to the research team. Identifiable information was removed prior to analysis to ensure privacy. The study also adhered to principles of beneficence and non-maleficence, ensuring that no harm came to participants, and the findings were intended to enhance patient safety practices and improve healthcare quality at Aster Sanad Hospital.

Results

Participant Characteristics

A total of 400 patients participated in the survey, with a response rate of 92%. The majority were female (56.2%), aged between 30–49 years (47.5%), and of Saudi nationality (61%). Approximately 65% of respondents had at least a secondary school education, and 58% were outpatients. Table 1 summarizes the demographic characteristics.

Table 1. Demographic characteristics of participants (N=400)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	175	43.8
	Female	225	56.2
Age (years)	18–29	92	23.0
	30–49	190	47.5
	≥50	118	29.5
Nationality	Saudi	244	61.0
	Non-Saudi	156	39.0
Education	≤ Secondary school	140	35.0
	College/University	202	50.5
	Postgraduate	58	14.5
Care type	Inpatient	168	42.0
	Outpatient	232	58.0

Patient Perceptions of Medication Safety

Overall, 72% of participants reported satisfaction with the medication-use process. However, significant concerns were noted regarding communication. Nearly 45% indicated insufficient explanation of medication side effects, and 38% reported unclear dosage instructions. Table 2 details patient perceptions.

Table 2. Patient perceptions of medication safety (N=400)

Item	Positive response (%)	Negative response (%)
Satisfaction with overall medication process	72.0	28.0
Clear dosage instructions received	62.0	38.0
Explanation of side effects provided	55.0	45.0
Opportunity to ask questions	68.5	31.5

Reported Medication Errors and Adverse Events

A total of 18% of patients reported delays in medication delivery during hospitalization. 12% noted discrepancies between prescribed and dispensed dosages, and 9% experienced unanticipated side effects that were not previously explained. These findings emphasize patient awareness of safety risks.

Discussion

The findings of this study provide compelling evidence for the role of patient-reported experiences in enhancing medication safety within hospital settings. A key result was the identification of communication and patient education gaps, with nearly half of participants reporting insufficient explanation of side effects and unclear dosage instructions. This aligns with global evidence indicating that communication failures are the most frequent contributing factor to medication errors (Keers et al., 2018; Manias, 2018).

In the Saudi context, our findings corroborate previous studies that identified weak patientprovider communication as a persistent safety challenge (Aljadhey et al., 2013; Alsaidan et al., 2020). However, unlike earlier studies which primarily focused on healthcare provider perspectives, this research highlights patients' lived experiences, underscoring their unique capacity to identify and articulate risks. Notably, patient accounts revealed not only perceived

errors but also systemic barriers such as time pressure on staff, language differences, and insufficient engagement strategies. These insights extend existing literature by contextualizing safety issues within a multicultural private hospital environment.

A significant facilitator identified by patients was pharmacist-led counseling. This resonates with evidence from both global and regional studies showing that pharmacist involvement improves medication adherence and reduces adverse events (Alomi, 2017; Kaboli et al., 2006). Similarly, the provision of written multilingual materials and staff openness to patient questions were strongly associated with positive perceptions of safety. These findings suggest that simple, low-cost interventionswhen embedded systematicallycan yield substantial improvements in patient safety culture.

Another noteworthy insight from patient feedback was the potential role of digital tools, such as SMS reminders and mobile applications, to enhance medication safety. This reflects growing international evidence on the value of health technology in reducing errors and empowering patients (Fischer et al., 2017). For Saudi Arabia, where mobile health adoption is increasing rapidly under Vision 2030, integrating such digital interventions represents a feasible and scalable strategy.

The study's findings have policy and practice implications. First, hospitals should institutionalize mechanisms for routinely capturing patient feedback on medication safety. Second, healthcare professionals should receive training in patient-centered communication that acknowledges linguistic and cultural diversity. Third, pharmacists should be more actively integrated into patient care pathways beyond dispensing, particularly in providing structured counseling sessions. Finally, leveraging health technology can address systemic issues such as patient forgetfulness, poor comprehension, and follow-up gaps.

Despite its contributions, the study acknowledges limitations. As a single-institution study, generalizability may be limited. Additionally, self-reported experiences are subject to recall bias. Nevertheless, triangulating survey data with interviews and incident report reviews strengthens the validity of findings.

In conclusion, this research affirms that patients are indispensable partners in medication safety. Incorporating their voices provides granular, context-specific insights that can complement

provider-focused safety initiatives. For Aster Sanad Hospital, embracing patient-reported experiences represents not only an opportunity to improve care but also a strategic step toward aligning with national safety goals and international best practices.

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