



Original Article

Patient Involvement in Medication Safety at a Tertiary Care Teaching Hospital

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ABSTRACT

Objectives: Patient involvement enhances safety, quality, and patient-centeredness in healthcare by empowering patients, families, and caregivers to participate in care processes actively. Encouraging patients to monitor and update medication plans can improve treatment adherence and enable timely interventions. This study investigates inpatient engagement in medication safety behaviours, their desire for involvement, and healthcare professional support at a tertiary care teaching hospital.

Material and Methods: Using quantitative questionnaires (Inpatient Medication Safety Involvement Scale and Control Preference Scale) with 100 patients and 100 healthcare professionals, the study found strong support for patient involvement, particularly among professionals.

Results: However, a significant gap exists between patients' desired and actual engagement, with systemic barriers hindering progress. Both groups favoured shared decision-making, though patients leaned toward doctor-led decisions.

Conclusion: Interventions like patient education and professional training are needed to bridge this gap and enhance safety.

Keywords: Control preference scale, Inpatient medication safety involvement scale, Medication safety, Patient involvement

INTRODUCTION

Patient involvement is a cornerstone of modern health care, emphasizing the active participation of patients, families, caregivers, and healthcare providers to enhance safety, quality, and patient-centeredness. Engaging patients in managing their medication plans improves treatment adherence and enables providers to monitor and intervene as needed, aligning with the World Health Organization's (WHO) framework for patient safety, which emphasizes systems to minimize risks and prevent harm.^[1] Patient safety remains a critical component of healthcare quality, with global efforts like the WHO's World Alliance for Patient Safety addressing persistent challenges due to systemic issues and human factors. The Institute of Medicine highlights medical errors as a significant contributor to mortality, though comparisons require cautious interpretation due to methodological variations.^[2]

Inpatient medication safety activities, such as reviewing medication records, preventing dose omissions, providing information during shift handovers, and raising concerns, are vital for reducing errors. While numerous strategies exist, few have demonstrated substantial impact.^[3] Increasing patient

involvement in inpatient medication management is a promising yet underexplored approach. Patients often possess critical knowledge about their pre-admission medications, serving as a safeguard against errors. A 2018 systematic review by Kim *et al.* found that patient education and medication reconciliation reduced errors, though engagement was limited by barriers such as insufficient awareness or lack of provider encouragement.^[4] Local observations indicate patients occasionally prevent errors by questioning medications, but confusion about inpatient prescriptions often hinders participation.^[5]

This study explores patient and healthcare professional preferences for inpatient engagement in medication safety behaviours and decision-making, aiming to identify gaps and opportunities for improvement in a tertiary care teaching hospital.

Aim of the study

This study aims to examine the preferences of patients and healthcare professionals regarding inpatient engagement in medication safety behaviours and their preferences for medication-related decision-making.

Objectives

1. To assess patients' preferences and actual involvement in medication-related activities during hospitalization
2. To evaluate healthcare professionals' support for patient involvement in medication-related activities
3. To compare patient and healthcare professional perspectives on medication involvement
4. To measure preferences for decision-making involvement regarding medications among patients and healthcare professionals.

MATERIAL AND METHODS

Study design

An exploratory analytical study was conducted using quantitative questionnaires to capture perspectives of patients and healthcare professionals in a tertiary care teaching hospital.

Sample size

The study included 100 patients and 100 healthcare professionals (50 doctors and 50 nurses), selected via convenience sampling from various hospital wards, allowing exploratory comparisons across gender, age, and professional groups.

Instruments

- Two tailored quantitative questionnaires were developed:
- Inpatient medication safety involvement scale: Adapted

from Mohsin-Shaikh *et al.*,^[6] the patient version included eight questions exploring views and experiences with medication safety, while the healthcare professional version had five questions focusing on their perspectives.

- Control preference scale: Adapted by Mohsin-Shaikh *et al.*,^[6] this validated instrument assessed preferences for involvement in medication-related decision-making.
- Additional questions captured demographic data (gender, age, and profession for healthcare professionals).

Data collection

Conducted from July 2024 to December 2024, the questionnaire responses were collected across hospital wards. Patients were selected based on their ability to read and understand medication charts to ensure meaningful responses. To protect patient privacy, questionnaires were anonymized, and data were stored securely in compliance with institutional data protection protocols, with access restricted to the research team.

Data analysis

Data were analyzed descriptively using percentages and frequency distributions. Statistical tests (Wilcoxon signed-rank test, Mann-Whitney *U*-test, and Chi-square test) identified significant differences between groups.

Ethics

The study received approval from the institutional ethics committee, and informed consent was obtained from all participants.

RESULTS

Responses were gathered from 100 patients and 100 healthcare professionals (50 doctors and 50 nurses) across various wards. Demographic details are summarized in Table 1.

Patient involvement gaps

Figure 1 and Table 2 illustrates a significant gap between patients' actual and desired involvement in medication safety behaviours. For example, only 43% of patients reviewed their medication administration records, yet 79% expressed a desire to do so. Similarly, 24% self-administered medications, but 54% wanted to.

Table 1: Demographics of the participants.

Group	Number	Age range	Gender (M/F)
Patients	100	18–75	52/48
Healthcare professionals	100	25–60	45/55
Doctors	50	28–60	30/20
Nurses	50	25–55	15/35

The Wilcoxon signed rank test confirmed statistically significant differences ($P < 0.05$) for viewing records and self-administration.

Healthcare professional support

Figure 2 shows strong healthcare professional support for patient engagement, with 90% or more endorsing behaviours like asking questions, checking for errors, and alerting staff. Support for self-administration was lowest at 65%, with nurses less supportive than doctors (Mann-Whitney U-test, $P < 0.05$).

Comparative views

Differences between patients and healthcare professionals in different aspects of medication are shown in Table 3.

Table 2: Differences between actual and desired patient behaviours.

Behaviour	Actual (%)	Desired (%)	P-value (Wilcoxon)
Viewing medication records	43	79	<0.05
Self-administration	24	54	<0.05
Asking medication questions	78	84	0.12
Checking for errors	35	65	<0.05

P value <0.05 was considered as significant.

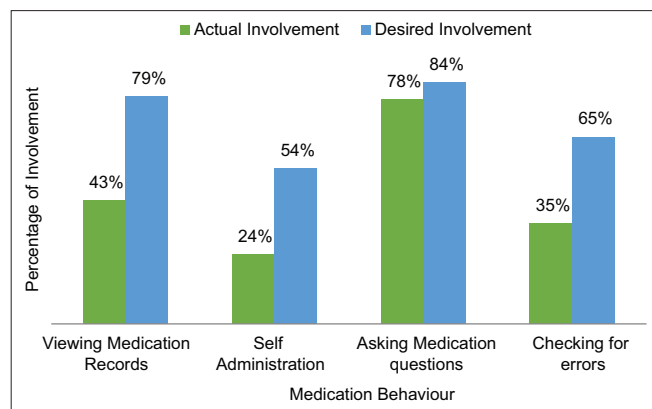


Figure 1: Patient involvement in medication safety behaviours.

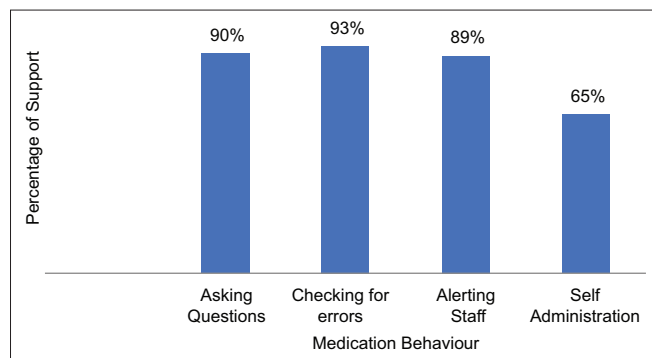


Figure 2: Healthcare professional support for patient engagement.

Figure 3 and Table 3 highlight differences in perspectives, with healthcare professionals more supportive of patient engagement than patients' reported experiences (Mann-Whitney U-test, Chi-square test, $P < 0.0001$). This discrepancy may reflect communication gaps, where professionals' encouragement is not effectively conveyed to patients, potentially due to time constraints or unclear roles.

Decision-making preferences

Figures 4-6 and Table 4 show both groups favoured shared decision-making for starting (HCPs: 53%, Patients: 48%), dosing (HCPs: 56%, Patients: 43%), and stopping medications (HCPs: 57%, Patients: 43%). Patients leaned more toward doctor-led decisions (e.g., 29% preferred "Mostly Doctor" for starting medications vs. 11% of HCPs; $P < 0.01$).

DISCUSSION

The findings align with prior research emphasizing patient involvement in medication safety. Mohsin-Shaikh *et al.* reported similar support, noting its potential to enhance

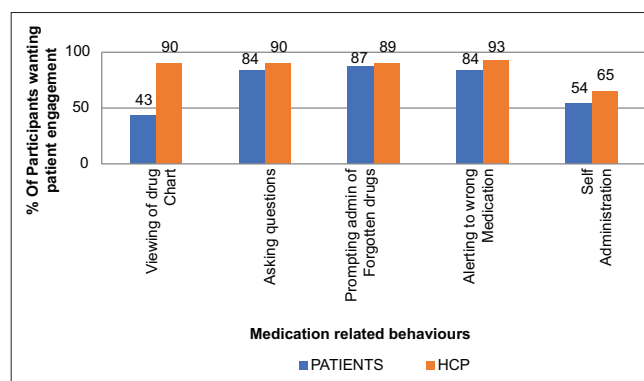


Figure 3: Views on involvement between patients and healthcare professionals in different aspects of medication.

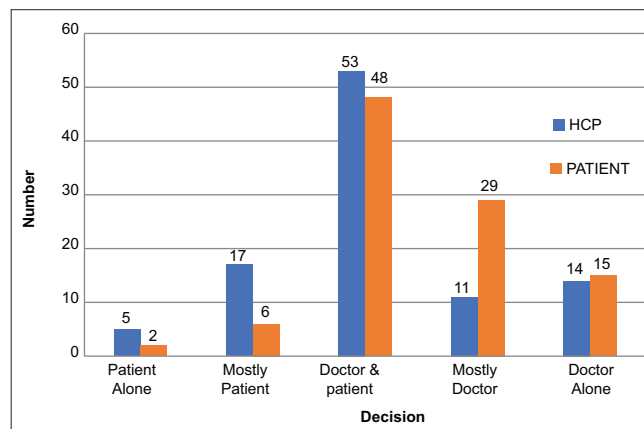


Figure 4: Decision on starting a new medicine.

Table 3: Differences between patients and healthcare professionals.

Comparison	Chi-square	P-value	Mann-Whitney U	P-value	Conclusion
Viewing of drug chart	62.35	<0.0001	2800	<0.0001	Significant difference
Asking questions about their drugs	53.03	<0.0001	3050	<0.0001	Significant difference
Prompting administering of forgotten drugs	41.37	<0.0001	3400	<0.0001	Significant difference
Alerting to wrong medication	24.02	<0.0001	3850	<0.0001	Significant difference
Self-administration	35.45	<0.0001	3700	<0.0001	Significant difference

P value less than 0.01 was considered as significant

Table 4: Adaptive control preference scale for medication decisions.

Decision	Group	Shared (%)	Mostly doctor (%)	Doctor alone (%)
Starting medication	Patients	48	29	15
	HCPs	53	11	7
Dosing medication	Patients	43	25	20
	HCPs	56	12	9
Stopping medication	Patients	43	27	18
	HCPs	57	10	8

HCPs: Health care professionals

safety.^[6] The gap between desired and actual engagement suggests systemic barriers, such as lack of encouragement or unclear roles, consistent with Kim *et al.*^[4] Unlike Davis *et al.*, who found patients reluctant to report errors, 78% of patients here asked medication-related questions, indicating a shift toward proactive engagement, possibly influenced by cultural factors like increasing patient autonomy expectations in the study setting.^[7] Cultural influences, such as trust in healthcare systems or societal norms around questioning authority, may shape patients' willingness to engage. This warrants further exploration.

Healthcare professionals' stronger support (90%+) for behaviours like error-checking aligns with Entwistle *et al.*, who emphasized collaborative environments.^[8] Lower support for self-administration (65%), particularly among nurses, may reflect concerns about liability or patient capability, as noted by Cumber *et al.*^[9] Pedersen *et al.* suggest self-administration could empower patients if supported by clear protocols.^[10] The preference for shared decision-making aligns with Garfield *et al.*,^[11] though patients' inclination toward doctor-led decisions may stem from trust in expertise or lack of confidence, as Doherty and Stavropoulou observed.^[12]

Interventions like structured patient education programs (Kim *et al.*) and professional training to foster collaboration could bridge the engagement gap.^[4] Local observations by McLeod support patients preventing errors through querying, suggesting clear communication channels and access to medication records could enhance engagement.^[5] The WHO's

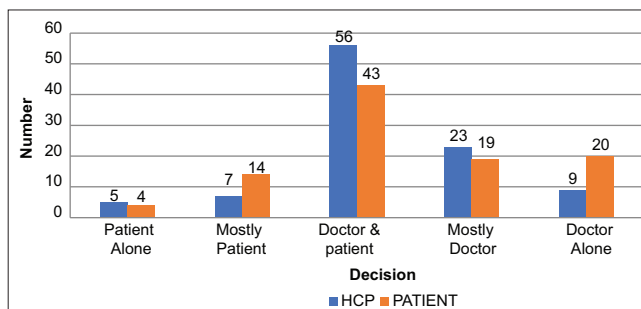


Figure 5: Decision on choosing the dose of medicine.

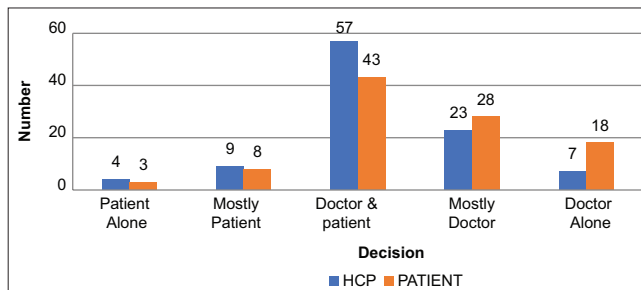


Figure 6: Decision on stopping a medicine.

advocacy for patient engagement in safer primary care applies to inpatient settings, though systemic challenges like resource constraints (Aranaz *et al.*) must be addressed.^[13,14]

Future research could explore digital tools for accessing medication records or training modules for professionals. Comparative studies across healthcare settings could clarify cultural and systemic influences on engagement.

CONCLUSION

This study highlights a shared desire for greater patient involvement in medication safety within a tertiary care teaching hospital. However, systemic barriers and communication gaps hinder progress. Interventions such as patient education, improved access to medication records, and professional training are essential to align actual and desired engagement, enhancing safety and adherence in line with global patient safety goals.

Limitations

The study used convenience sampling and included only patients capable of understanding medication charts, limiting generalizability to broader populations, including those with lower health literacy. Future studies could employ stratified or random sampling to enhance representativeness and include diverse patient groups. The sample size, while sufficient for exploratory analysis, may not fully capture diverse perspectives.

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