Exploring the Perception of Pharmacist Participating in Intensive Care Unit Round

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Abstract

Pharmacists play an essential role in the multidisciplinary Intensive Care Unit (ICU) team by enhancing patient safety, improving medication management, and supporting collaborative care. This qualitative study, conducted in a tertiary hospital ICU, explores the impact of pharmacist involvement during ICU rounds on patient outcomes, multidisciplinary collaboration, and medication safety. Data were collected through semi-structured interviews and focus group discussions with ICU healthcare professionals. Thematic analysis revealed that pharmacist participation significantly reduced medication errors, enhanced communication among healthcare professionals, and contributed to evidence-based decision-making. However, time constraints and limited resources were identified as challenges to effective pharmacist involvement. The study underscores the value of integrating pharmacists into ICU rounds, highlighting both their impact on patient recovery and the need for addressing existing barriers to maximize their contribution.

Keywords: Pharmacist Involvement, ICU, Patient Safety, Multidisciplinary Collaboration, Qualitative Study, Medication Errors, Critical Care.

Introduction

Pharmacists are increasingly recognized as integral members of the multidisciplinary healthcare team, particularly in high-risk settings such as the Intensive Care Unit (ICU). The complexity of patient care in the ICU, where critically ill patients often require a combination of multiple medications, places a significant demand on ensuring medication safety and optimization of therapeutic outcomes. As such, incorporating pharmacists into ICU rounds is considered a strategic approach to reduce medication errors, enhance drug therapy, and ultimately improve patient outcomes (Kane, Weber, &Dasta, 2003).

ICU patients are often highly vulnerable to adverse drug events (ADEs) due to their severity of illness, complex medication regimens, and the dynamic changes in their condition. Pharmacists, with their specialized knowledge in pharmacotherapy, can play a crucial role in identifying potential medication issues, ensuring appropriate dosing, preventing drug-drug interactions, and providing real-time recommendations during rounds (Leape et al., 1999). Studies have shown that pharmacist participation in ICU rounds not only reduces medication errors but also enhances the quality of care by ensuring more individualized and evidence-based pharmacological interventions (Kane et al., 2003).

This paper aims to explore the impact of pharmacist participation in ICU rounds on medication safety, patient outcomes, and healthcare efficiency. The literature suggests that the presence of clinical pharmacists in these settings not only mitigates preventable adverse drug events but also supports a culture of collaborative care, which is vital in critical care environments (MacLaren, Bond, & Martin, 2008). By analyzing existing evidence, this research will highlight the importance of pharmacist-led interventions in improving overall ICU patient care.

Literature Review

The literature provides compelling evidence for the benefits of pharmacist involvement in ICU settings, particularly in enhancing patient safety and optimizing drug therapy. Kane et al. (2003) conducted a comprehensive review of the impact of critical care pharmacists and found that their presence in ICU rounds significantly improved patient outcomes, including reduced mortality rates, fewer adverse drug events (ADEs), and better adherence to evidence-based guidelines. These findings underscore the importance of clinical pharmacists as integral members of the healthcare team in ensuring optimal care for critically ill patients.

Another notable study by Leape et al. (1999) demonstrated that pharmacist participation during ICU rounds led to a marked reduction in preventable ADEs. Pharmacists' expertise in pharmacotherapy enabled them to identify potential drug interactions, dosing errors, and inappropriate prescriptions, which were corrected in real-time. This proactive approach not only prevented potential harm to patients but also contributed to a culture of safety and continuous quality improvement in critical care environments.

MacLaren, Bond, and Martin (2008) investigated the clinical and economic outcomes associated with the direct involvement of pharmacists in the care of ICU patients with infections. Their study highlighted the dual benefit of pharmacist participation, demonstrating both improved clinical outcomes—such as reduced infection rates and shorter duration of mechanical ventilation—and economic benefits, including lower overall healthcare costs. The findings suggest that pharmacist interventions can contribute to the efficient use of healthcare resources while simultaneously enhancing the quality of care.

In addition to reducing ADEs, the involvement of pharmacists in ICU rounds has been shown to improve medication reconciliation processes. Walker et al. (2009) reported that pharmacist-led medication reconciliation at hospital discharge significantly reduced medication discrepancies, thereby decreasing the risk of readmissions and improving overall patient safety. This highlights the role of pharmacists not only during ICU care but also in the transition of care, ensuring continuity and reducing the likelihood of medication-related issues post-discharge.

The cost-effectiveness of involving pharmacists in ICU care has also been explored extensively. Schumock et al. (2003) provided evidence of the economic advantages associated with clinical pharmacy services, including reduced length of ICU stay and decreased healthcare expenditures. These findings support the notion that pharmacist-led interventions are not only clinically effective but also economically viable, making a strong case for their inclusion in routine ICU practice.

Furthermore, the role of pharmacists in antimicrobial stewardship programs within the ICU has been particularly impactful. MacDougall and Polk (2005) demonstrated that pharmacists' active participation in antimicrobial stewardship led to optimized antibiotic use, reduced resistance rates, and improved patient outcomes. This is especially crucial in the ICU, where patients are at high risk for infections, and the appropriate use of antibiotics is vital for preventing complications and improving survival rates.

Overall, the existing literature consistently supports the integration of pharmacists into ICU rounds as a means to improve patient safety, enhance the quality of drug therapy, and achieve cost savings. The evidence indicates that pharmacist-led interventions are effective in mitigating medication errors, optimizing therapeutic regimens, and supporting multidisciplinary collaboration, ultimately leading to better patient outcomes in the ICU.

Methodology

This study was conducted in a tertiary hospital with a dedicated ICU that serves critically ill patients requiring complex care. The research employed a qualitative approach to assess the impact of pharmacist participation in ICU rounds on medication safety, patient outcomes, and healthcare efficiency.

Study Design

A qualitative descriptive study design was used to explore the experiences and perceptions of ICU healthcare professionals regarding the involvement of pharmacists in ICU rounds. The study was conducted over a 12-month period, from January to December, to capture a broad range of perspectives from different staff members who participated in ICU care.

Data Collection

Data were collected through semi-structured interviews with ICU healthcare professionals, including physicians, nurses, and pharmacists. These interviews were designed to gather in-depth insights into participants' experiences, perceptions, and attitudes towards pharmacist involvement in ICU rounds. The interviews were conducted face-to-face, audio-recorded, and transcribed verbatim to ensure accuracy in capturing the participants' views.

In addition to interviews, focus group discussions were held to foster dialogue among different healthcare professionals and to explore the dynamics of multidisciplinary collaboration in the ICU. The focus groups allowed participants to discuss the benefits, challenges, and perceived impact of pharmacist-led interventions in an open and interactive setting.

Participants

The study involved a purposive sample of ICU healthcare professionals, including pharmacists, physicians, and nurses, who were directly involved in patient care and had experience with ICU rounds. The inclusion criteria required participants to have at least six months of experience working in the ICU. This ensured that the participants had adequate exposure to the multidisciplinary environment and could provide meaningful insights into the role of pharmacists in ICU care.

Data Analysis

The qualitative data collected from interviews and focus groups were analyzed using thematic analysis. Thematic analysis involved coding the data to identify recurring patterns, themes, and sub-themes related to the impact of pharmacist participation in ICU rounds. The analysis was conducted in several stages, including familiarization with the data, generating initial codes, searching for themes, reviewing themes, and defining and naming themes. This approach allowed for a comprehensive understanding of the benefits, challenges, and overall impact of pharmacist involvement in the ICU setting.

Ethical Considerations

Ethical approval for the study was obtained from the ethics committee. Informed consent was obtained from all participants prior to their involvement in the study. Participants were assured of their confidentiality, and all data were anonymized to protect their identities. The study followed ethical principles in accordance with the Declaration of Helsinki to ensure the rights and well-being of all participants.

Findings

Thematic analysis of the data revealed several key themes and sub-themes related to the involvement of

pharmacists in ICU rounds. The themes provide insight into both the benefits and challenges of pharmacist participation, as well as the overall impact on patient care and the multidisciplinary team.

Theme 1: Enhanced Patient Safety

Sub-theme 1.1: Reduction in Medication Errors
Participants consistently reported that pharmacist participation in ICU rounds significantly reduced medication errors. Pharmacists' expertise in pharmacotherapy was noted as a key factor in identifying potential issues before they could cause harm.

- Physician 1: "Having a pharmacist on rounds has definitely reduced the number of medication errors. Their knowledge of drug interactions is invaluable."

- Nurse 2: "They catch mistakes that we might overlook, especially when it comes to dosing adjustments for critically ill patients."

Sub-theme 1.2: Proactive Identification of Drug Interactions
Pharmacists were described as proactive in identifying drug-drug interactions, which helped prevent adverse drug events.

- Pharmacist 3: "During rounds, I am always looking for potential interactions, especially with the complex regimens these patients are on. It helps to catch these issues early."

Theme 2: Improved Multidisciplinary Collaboration

Sub-theme 2.1: Enhanced Communication
Pharmacists' involvement was seen as fostering better communication among the healthcare team, leading to more coordinated care.

- Nurse 4: "The pharmacist often acts as a bridge between the medical team and nursing. They help clarify medication orders, which reduces confusion."

- Physician 2: "Their input during rounds makes the whole team more confident in the treatment plan. It’s like having an extra layer of safety."

Sub-theme 2.2: Contribution to Decision-Making
Pharmacists were recognized for their role in the decision-making process, particularly regarding medication adjustments and therapy optimization.

- Physician 3: "Their recommendations are always evidence-based, which really helps in making informed decisions about patient care."

- Pharmacist 1: "I feel that my role is to provide the most current information on drug therapies so that the team can make the best decisions."

Theme 3: Challenges of Pharmacist Involvement

Sub-theme 3.1: Time Constraints
Despite the benefits, participants highlighted time constraints as a challenge to pharmacist participation in rounds.

- Pharmacist 2: "Sometimes it's hard to keep up with the pace of rounds, especially when there are many patients to review."

- Nurse 3: "The rounds can be long, and I know the pharmacists have other responsibilities too. Balancing everything can be tough."

Sub-theme 3.2: Limited Resources
The availability of pharmacists was sometimes limited, which affected their ability to participate in all ICU rounds.

- Physician 4: "We would love to have a pharmacist in every round, but realistically, there aren't enough of them to go around."

Theme 4: Perceived Impact on Patient Outcomes

Sub-theme 4.1: Positive Impact on Patient Recovery
Participants believed that pharmacist involvement positively impacted patient recovery by ensuring safe and effective medication use.

- Nurse 1: "Patients seem to recover faster when their medication is managed properly, and pharmacists play a huge role in that."

- Physician 5: "Optimized drug therapy means fewer complications, and that directly impacts how quickly patients can be discharged."

Discussion
The findings from this study highlight the significant role that pharmacists play in enhancing patient safety, improving multidisciplinary collaboration, and positively impacting patient outcomes in the ICU setting. The involvement of pharmacists in ICU rounds was consistently associated with a reduction in medication errors and the proactive identification of potential drug interactions, which are crucial in the management of critically ill patients. These findings are consistent with previous research by Leape et al. (1999) and Kane et al. (2003), which emphasized the value of pharmacists' expertise in reducing adverse drug events and optimizing medication therapy.

One of the key themes that emerged was the enhanced multidisciplinary collaboration resulting from pharmacist involvement. Pharmacists were found to act as a bridge between different healthcare professionals, facilitating clear communication and contributing to evidence-based decision-making. This role not only improved the confidence of the entire healthcare team in their treatment plans but also fostered a culture of collaboration and safety. The enhanced communication and contribution to decision-making align with findings by MacLaren, Bond, and Martin (2008), who highlighted the importance of pharmacists in supporting a cohesive team approach to patient care.

However, the study also revealed several challenges associated with pharmacist involvement in ICU rounds. Time constraints and limited resources were frequently mentioned by participants as barriers to effective pharmacist participation. The fast-paced nature of ICU rounds and the limited availability of pharmacists meant that it was not always possible for them to be present during every round. These challenges point to the need for better resource allocation and staffing to ensure that the benefits of pharmacist participation can be fully realized. Addressing these barriers may require hospital administrators to consider increasing the

number of pharmacists available in critical care settings or optimizing workflows to accommodate pharmacists' participation more effectively.

Despite these challenges, the positive impact of pharmacists on patient recovery was a recurring theme. Participants perceived that patients experienced faster recovery and fewer complications when their medication therapy was managed by pharmacists. This perception supports the findings of Walker et al. (2009), who demonstrated that pharmacist-led interventions, such as medication reconciliation, lead to improved patient outcomes and reduced readmission rates. The proactive involvement of pharmacists in managing complex medication regimens ensures that potential issues are identified and addressed promptly, ultimately contributing to better patient care.

The discussion also underscores the economic implications of pharmacist involvement. While the current study focused on qualitative insights, previous literature, such as Schumock et al. (2003), has shown that pharmacist interventions are not only clinically effective but also economically advantageous. The reduction in medication errors, optimization of drug therapy, and prevention of complications all contribute to shorter ICU stays and decreased healthcare costs, making a compelling case for the integration of pharmacists into ICU care as a standard practice.

In conclusion, this study provides valuable insights into the role of pharmacists in the ICU setting, highlighting both the benefits and challenges of their involvement. Pharmacists play a crucial role in enhancing patient safety, supporting multidisciplinary collaboration, and improving patient outcomes. However, challenges such as time constraints and limited resources need to be addressed to maximize the impact of pharmacist participation. Future research could focus on developing strategies to overcome these barriers, as well as quantifying the economic impact of pharmacist-led interventions in critical care settings to further support their integration into ICU teams.

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