

The Influence of Pharmacist-led Medication Review on the Frequency of Adverse Drug Reactions and Patient Satisfaction

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Introduction

Medication-related issues have been a longstanding concern in healthcare systems worldwide. Adverse Drug Reactions (ADRs) and medication errors contribute significantly to hospital admissions, patient morbidity and mortality. Studies have shown that improper medication use, either through incorrect dosing, lack of adherence, or unmonitored polypharmacy, leads to severe health complications. The World Health Organization (WHO) estimates that ADRs cause about 2.5 million hospitalizations each year in the United States alone. Therefore, the role of pharmacists in ensuring safe and effective medication use has become increasingly crucial. One of the most critical interventions to mitigate ADRs and improve patient safety is pharmacist-led medication review. This process involves the systematic examination of a patient's medications by a trained pharmacist to identify and resolve potential problems. A comprehensive medication review aims to prevent adverse drug events, optimize therapeutic outcomes and enhance patient safety. Given the increasing number of medications prescribed to patients, especially the elderly and those with multiple comorbidities, pharmacist-led medication review plays a key role in addressing medication-related issues [1].

Pharmacists are healthcare professionals who specialize in the preparation, dispensation and appropriate use of medications. With their extensive training in pharmacology, pharmaceuticals and clinical therapeutics, pharmacists are well-placed to monitor medication regimens, identify drug interactions and educate patients about proper medication use. A patient-centric service that ensures patients understand their medications and use them appropriately to achieve the best therapeutic outcomes. Clinical medication review involves evaluating a patient's current drug regimen to identify and prevent potential adverse drug interactions, side effects and the risk of medication-related problems. Medication reconciliation process helps prevent medication errors during transitions of care (e.g., hospital discharge, care setting changes) by ensuring the accuracy and completeness of medication lists. The emergence of pharmacist-led medication reviews in clinical settings is a direct response to the increasing complexity of modern pharmacotherapy and the associated risks of ADRs. By reviewing medication regimens, pharmacists play a pivotal role in enhancing medication safety and improving patient outcomes [2].

Description

Pharmacist-led medication review involves a structured process in which a pharmacist assesses a patient's entire medication list to identify any issues that may result in harm or diminished therapeutic effectiveness. Collection of patient information includes gathering all relevant data about the patient's current medications, medical history, laboratory results and other factors that might influence medication use, such as allergies, existing health conditions and lifestyle habits. The pharmacist reviews each medication to determine its

appropriateness, effectiveness and safety. The goal is to detect potential drug interactions, contraindications, dosing errors, or adverse effects that could compromise patient safety. Pharmacists evaluate whether the medications are necessary, whether the dosage is correct, if there are better therapeutic alternatives and whether the patient is adhering to the prescribed regimen. Once medication-related problems are identified, pharmacists provide recommendations to patients and healthcare providers. This may involve changing medications, adjusting doses, or counseling patients on proper medication use. After a medication review, follow-up is essential to ensure that the changes made are effective and that the patient experiences no adverse effects from the intervention. Pharmacists actively identify and intervene in cases where medication errors or ADRs could occur, thereby preventing harm to patients. By evaluating the effectiveness and safety of medications, pharmacists ensure that patients receive the best possible therapeutic regimen. Pharmacists educate patients about their medications, addressing any misunderstandings, improving adherence and promoting overall medication safety [3].

Adverse drug reactions remain a major cause of preventable harm in healthcare. Pharmacists play a key role in reducing the incidence of ADRs by identifying problematic drug interactions, inappropriate prescriptions and patient-specific contraindications. Research has shown that pharmacist-led medication review programs can significantly reduce the occurrence of ADRs in various patient populations, particularly those with polypharmacy and chronic conditions. Polypharmacy (the use of multiple medications) is a significant risk factor for ADRs, especially among the elderly, who often take several medications to manage multiple chronic diseases. By conducting thorough medication reviews, pharmacists can identify potentially harmful drug interactions and inappropriate prescribing. Studies have shown that pharmacist-led medication reviews can lead to a reduction in drug interactions and inappropriate prescriptions. This intervention has proven particularly effective in elderly patients, who are at greater risk for ADRs due to physiological changes that affect drug metabolism and elimination. One of the most notable outcomes of pharmacist-led medication reviews is the reduction in hospitalizations due to ADRs. A systematic review and meta-analysis conducted by Santschi et al. (2011) found that pharmacist interventions, including medication reviews, led to a significant reduction in hospital admissions related to ADRs. This demonstrates the profound impact pharmacists can have in preventing adverse drug events before they escalate into severe health crises [4].

Pharmacists are also skilled at identifying high-risk medications, such as anticoagulants, opioids and certain anti-diabetic drugs, which are more likely to cause severe adverse effects when not properly managed. Pharmacist-led reviews can reduce the likelihood of ADRs by ensuring that these high-risk medications are used appropriately and monitored regularly. Through their medication review services, pharmacists ensure that patients are appropriately monitored for potential side effects or toxicity. Pharmacists may recommend more frequent laboratory tests, monitor drug levels, or suggest alternative therapies to mitigate the risks of ADRs. Enhanced monitoring improves patient safety and reduces the likelihood of adverse effects. Patient satisfaction is a critical aspect of healthcare, influencing patient outcomes, treatment adherence and overall healthcare delivery. Pharmacist-led medication reviews have been shown to have a positive impact on patient satisfaction. Patients often feel more valued when they receive individualized care and pharmacist-led medication reviews provide a personalized approach to medication management. During medication reviews, pharmacists take the time to engage with patients, answer questions and provide tailored advice. This approach helps to build trust between the patient and healthcare provider, which positively influences patient satisfaction [5].

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Conclusion

Pharmacist-led medication review is a critical intervention in modern healthcare that has been shown to reduce the frequency of Adverse Drug Reactions (ADRs) and improve patient satisfaction. By systematically reviewing patients' medications, identifying potential risks, optimizing therapeutic regimens and educating patients about their treatments, pharmacists contribute significantly to improving patient safety and enhancing clinical outcomes. Moreover, the personalized care provided through medication reviews fosters better communication between patients and healthcare providers, leading to improved patient satisfaction and greater adherence to prescribed therapies. The evidence supporting the effectiveness of pharmacist-led medication reviews underscores the importance of integrating this service into healthcare systems worldwide. As polypharmacy and medication complexity continue to rise, the role of pharmacists in preventing ADRs and promoting patient-centered care will only become more vital. Therefore, investing in pharmacist-led medication reviews should be a priority for healthcare systems aiming to improve both patient safety and satisfaction.

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Conflict of Interest

There are no conflicts of interest by author.

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