



Review Paper

Role Of Clinical Pharmacists in Pharmacovigilance: A Narrative Review

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ABSTRACT

Pharmacovigilance is an essential component of patient safety, focusing on the detection, assessment, understanding, and prevention of adverse drug reactions (ADRs) and other drug-related problems. Clinical pharmacists play a pivotal role in pharmacovigilance due to their expertise in pharmacotherapy and direct interaction with patients and healthcare teams. They are involved in identifying and reporting ADRs, assessing causality, preventing medication errors, and providing patient counselling to ensure safe medication use. Despite challenges such as underreporting, lack of awareness, and limited resources, the active participation of clinical pharmacists strengthens pharmacovigilance practices in hospitals. This narrative review highlights the roles and responsibilities of clinical pharmacists in pharmacovigilance, the importance of their involvement in hospital settings, challenges faced in practice, and future perspectives to enhance patient safety. Strengthening the contribution of clinical pharmacists in pharmacovigilance can improve therapeutic outcomes, reduce drug-related harm, and promote a culture of medication safety in healthcare systems.

INTRODUCTION

Pharmacovigilance is an essential component of patient safety that focuses on the detection, assessment, understanding, and prevention of adverse drug reactions and other drug-related problems. With the increasing use of medications in clinical practice, monitoring drug safety has become a critical responsibility within healthcare systems.^[1] Clinical pharmacists play a vital role in pharmacovigilance activities due to their extensive knowledge of pharmacotherapy and direct

involvement in patient care. Their close interaction with patients, physicians, and other healthcare professionals positions them uniquely to identify adverse drug reactions, medication errors, and potential drug interactions at an early stage. In hospital and clinical settings, the active participation of clinical pharmacists in pharmacovigilance programs contributes significantly to improving medication safety, optimizing therapeutic outcomes, and reducing healthcare-related risks ^[2]. This narrative review

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aims to highlight the role of clinical pharmacists in pharmacovigilance, their responsibilities, challenges faced in practice, and future perspectives in enhancing patient safety.

OVERVIEW OF PHARMACOVIGILANCE

Pharmacovigilance refers to the science and activities concerned with the detection, assessment, understanding, and prevention of adverse effects or any other drug-related problems [3]. The primary goal of pharmacovigilance is to ensure patient safety and promote the rational use of medicines throughout their life cycle. The World Health Organization (WHO) defines pharmacovigilance as a crucial public health activity that helps in identifying previously unknown adverse drug reactions, monitoring known reactions, and assessing the benefit-risk balance of medicines. Pharmacovigilance plays a key role not only during clinical trials but also in the post-marketing phase, where medicines are used in larger and more diverse populations. Adverse drug reactions (ADRs) are a major cause of morbidity and mortality worldwide and contribute to increased hospital admissions, prolonged hospital stays, and higher healthcare costs. Effective pharmacovigilance systems help in early detection of ADRs, prevention of serious drug-related harm, and improvement of overall treatment outcomes. [4] In India, pharmacovigilance activities are coordinated through the Pharmacovigilance Programme of India (PvPI), under the Ministry of Health and Family Welfare. The program encourages spontaneous reporting of ADRs by healthcare professionals and promotes a culture of medication safety. Hospitals, medical colleges, and healthcare institutions play a significant role in strengthening pharmacovigilance through active participation and reporting.

ROLES AND RESPONSIBILITIES OF CLINICAL PHARMACISTS IN PHARMACOVIGILANCE

Clinical pharmacists play a crucial role in strengthening pharmacovigilance activities within healthcare systems. Their specialized knowledge of drugs and direct involvement in patient care enable them to identify, prevent, and manage adverse drug reactions effectively. One of the primary responsibilities of clinical pharmacists in pharmacovigilance is the detection and reporting of adverse drug reactions. Through regular patient monitoring, medication review, and interaction with healthcare professionals, clinical pharmacists can identify suspected ADRs at an early stage. Timely reporting of these reactions to pharmacovigilance centres contributes to improved drug safety surveillance. [5] Clinical pharmacists are also involved in assessing the causality, severity, and preventability of adverse drug reactions. By using standardized assessment tools, they help determine the relationship between the drug and the adverse event, thereby improving the quality of ADR reports submitted to national and international databases. Another important role of clinical pharmacists is medication error identification and prevention. They review prescriptions for potential errors, inappropriate dosing, drug-drug interactions, and contraindications. This proactive approach reduces the risk of drug-related harm and enhances patient safety. [6] Patient counselling and education form an integral part of pharmacovigilance activities. Clinical pharmacists educate patients about the safe use of medicines, possible side effects, and the importance of reporting any unusual symptoms. This patient-centered approach encourages active participation in pharmacovigilance and improves treatment adherence.



Clinical pharmacists also collaborate with physicians, nurses, and other healthcare professionals to promote a culture of medication safety. They participate in pharmacovigilance awareness programs, training sessions, and hospital committees aimed at improving ADR reporting and medication safety practices.[6]

IMPORTANCE OF PHARMACOVIGILANCE IN HOSPITAL PRACTICE

Pharmacovigilance plays a vital role in hospital practice by ensuring the safe and effective use of medicines. Hospitals are settings where patients often receive multiple medications, increasing the risk of adverse drug reactions, drug interactions, and medication errors. An effective pharmacovigilance system helps in minimizing these risks and improving patient care. Early detection and reporting of adverse drug reactions in hospitals help prevent serious complications and reduce morbidity and mortality. Pharmacovigilance activities allow healthcare professionals to identify patterns of drug-related problems and take timely corrective measures, thereby enhancing treatment outcomes.[7] Pharmacovigilance also contributes to rational drug use by promoting evidence-based prescribing and monitoring therapeutic effectiveness. By evaluating the benefit-risk profile of medicines in real-world clinical settings, hospitals can optimize medication therapy and reduce unnecessary drug exposure. In addition, pharmacovigilance helps in reducing healthcare costs by preventing avoidable hospital admissions, prolonged hospital stays, and additional treatments resulting from adverse drug reactions. A strong pharmacovigilance system supports quality assurance and improves overall healthcare delivery.[4] The involvement of clinical pharmacists in hospital pharmacovigilance

programs strengthens medication safety initiatives. Their active participation ensures accurate reporting, effective monitoring, and continuous improvement in drug safety practices within hospital settings.

CHALLENGES IN PHARMACOVIGILANCE PRACTICE

Despite its importance, pharmacovigilance practice faces several challenges in healthcare settings. One of the major challenges is underreporting of adverse drug reactions. Many healthcare professionals may fail to recognize or report ADRs due to lack of awareness, time constraints, or uncertainty about the reporting process.[1] Inadequate training and limited knowledge about pharmacovigilance among healthcare professionals also contribute to poor reporting rates. The absence of regular educational programs and awareness initiatives further affects the effectiveness of pharmacovigilance systems. Lack of time and heavy workload in hospital settings often limit the active participation of healthcare professionals in pharmacovigilance activities. In addition, incomplete or inaccurate documentation of patient information can affect the quality of ADR reports. Another challenge includes limited resources and infrastructure, particularly in developing countries. Insufficient staffing, lack of dedicated pharmacovigilance units, and poor access to reporting tools can hinder effective monitoring and reporting of drug-related problems.[7] Addressing these challenges requires continuous education, improved awareness, institutional support, and active involvement of clinical pharmacists to strengthen pharmacovigilance practices.

FUTURE PERSPECTIVES

The role of clinical pharmacists in pharmacovigilance is expected to expand in the



coming years with the increasing focus on patient safety and quality of healthcare. Integration of digital tools, electronic health records, and artificial intelligence can further improve ADR detection, reporting, and analysis.[8] Educational programs and continuous professional development for healthcare professionals will enhance awareness and participation in pharmacovigilance activities. Hospitals and healthcare institutions are likely to adopt more structured pharmacovigilance systems, with clinical pharmacists playing a central role in implementing these practices. In the future, collaborative efforts between regulatory authorities, hospitals, and clinical pharmacists will strengthen the pharmacovigilance framework, leading to safer medication use, improved therapeutic outcomes, and a reduction in drug-related harm across patient populations.[5]

CONCLUSION

Clinical pharmacists play a vital role in pharmacovigilance by ensuring the safe and effective use of medicines. Their involvement in detecting, reporting, and preventing adverse drug reactions enhances patient safety, reduces medication errors, and improves therapeutic outcomes. Despite challenges such as underreporting and limited resources, the active participation of clinical pharmacists strengthens pharmacovigilance practices in hospitals. Continued education, institutional support, and the use of digital tools can further enhance their role, making pharmacovigilance an integral part of modern healthcare.

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