



THE ROLE OF NURSES, LABORATORY PERSONNEL AND PHARMACISTS TOWARD MEDICATION ERRORS AND PATIENTS' SAFETY: SIMPLE REVIEW

Abdullah Ibrahim Al-Subaie^{1*}, Hessah Samar Almutir², Qassem Marzoog Alotaiby³, Nouf Omar Hamzi⁴, Amani Mansour Mohammed Abutalib⁵, Rayah Awwad Al. Ahamri⁵, Abdulmajeed Dhaifallah Q Alotaibi⁶, Abdullah Sanad Alotaibi⁷, Noura Bander Albakheet⁸, Warda mohammed Alomar⁵, Faris Masfer Algarnie⁹

Abstract

Objectives: to investigate the role and knowledge of pharmacists, nurses and lab personnel toward medication errors (MEs) and patients' safety in Saudi Arabia. **Methods:** We conducted a thorough search of PubMed, SCOPUS, Web of Science, and Science Direct to find pertinent literature. Rayyan QRCI was utilized during the entire process. **Results:** We included ten studies and all of them were cross-sectional studies. Studies reported that MEs are common among pharmacists, nurses and lab personnel, including errors in prescriptions were observed in the inpatient pharmacists, nurses and lab personnel services of the teaching hospital, they also understood the significance of reporting MEs and how doing so could enhance the standard of healthcare delivery. Additionally, community pharmacists are not well-versed in informing pregnant patients about the safety of prescription drugs. The prevalence of drug-related problems appears to be reduced by pharmacists, nurses and lab personnel interventions, highlighting the significance of an ideal health care plan for clinical care settings. **Conclusion:** The majority of MEs documented in the included publications included prescribing, which includes choosing improper drugs and doing so at the incorrect dosage. Reducing health care mistakes in children is mostly dependent on pharmacists, nurses and lab personnel interventions. The implementation of a ward-based healthcare-led treatment safety program is one of these strategies, along with instructional sessions and the review and validation of management orders.

Keywords: *Community pharmacists; Clinical pharmacists; Medication errors; Patient safety; Saudi Arabia*

^{1*}Clinical Laboratories Specialist, Ministry of Interior, Facilities Security Forces, Riyadh, Saudi Arabia

²Technician of Nursing, Eastern Labn Center, Riyadh, Saudi Arabia

³Nursing Specialist, Blood Bonk Center, Riyadh, Saudi Arabia

⁴Pharmacy technician, Riyadh Third Health cluster, Riyadh, Saudi Arabia

^{5,6,10}Nursing Technician, Riyadh Third Health Cluster, Riyadh, Saudi Arabia

⁷Pharmacy technician, AFIF HOSPITAL, Riyadh, Saudi Arabia

⁸Pharmacy Technician, King Saud Medical City, Riyadh, Saudi Arabia

⁹Medical Laboratory Technician, Riyadh Third Health cluster

¹¹Nursing Specialist, King Saud Medical City, Riyadh, Saudi Arabia

***Corresponding Author:** Abdullah Ibrahim Al-Subaie

*Clinical Laboratories Specialist, Ministry of Interior, Facilities Security Forces, Riyadh, Saudi Arabia

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Introduction

Given the prevalence of adverse occurrences in health services, patient safety is one of the primary obstacles to quality of care. Medical errors are the third most common cause of death in the US, accounting for about 250,000 deaths annually [1]. According to a Norwegian study, the incidence of major adverse outcomes is seven times higher for hospitalized patients who pass away [2].

These days, one of the primary concerns is patient safety because, in many situations, health professionals are also responsible for patient care in addition to system malfunctions, subpar organizational procedures, and inadequate management. Since various studies suggest that human errors in communication, cooperation, and psychological well-being among health professionals also contribute to patient safety failures, it is necessary to provide these professionals with improved training in order to help them change their behaviors [3, 4].

A number of reports, including those released by the World Health Organization (WHO) [5], have attempted to persuade medical professionals that reporting adverse drug reactions (ADRs) is their ethical and professional duty, while also bringing attention to the scope of the drug safety issue. The ultimate objective is to decrease drug-related morbidity and death by identifying drug safety issues in patients early on and by enhancing medication selection and judicious usage. The WHO predicts that the situation regarding ADRs in emerging and transitional nations will worsen. There is currently relatively little data on ADRs in these regions. Several factors contribute to this issue, including a lack of appropriate drug laws and regulations in some nations, insufficient funding, and a lack of ADR reporting [5].

Furthermore, community pharmacists are in the greatest position to report suspected ADRs because the success of a nationwide post-marketing surveillance program directly depends on the active participation of all health providers. Since they have a direct bearing on medication administration and counseling, these ADRs can really be seen in their routine patient care [6-8]. "The science and activities relating to the detection, assessment, understanding, and prevention of adverse effects or any other drug-related problem" is the definition of pharmacovigilance. based on the WHO [9] Studies have shown that while pharmacists are generally supportive of pharmacovigilance, they are not very experienced in reporting ADRs. Inadequate understanding of the idea of pharmacovigilance and a lack of awareness and culture surrounding the screening, detection, investigation, and reporting of

ADRs may be the causes of subpar reporting [10]. The purpose of this study was to use systematic review techniques to investigate the role and knowledge of pharmacists toward MEs and patients' safety in Saudi Arabia.

Studies in this review reported that MEs are common among clinical pharmacists, including errors in prescriptions were observed in the inpatient pharmacy services of the teaching hospital [14, 15], they also understood the significance of reporting MEs and how doing so could enhance the standard of healthcare delivery [22, 23]. Positive effects were noted, primarily decreases in DRPs and increases in adherence, notwithstanding the community pharmacists' contributions to medication review initiatives. There was a dearth of direct clinical evidence as well as proof of the therapies' economic effects.

Gillian et al. reported that the screened literature demonstrated how pharmaceutical errors have significantly decreased in quantity while identification and awareness of medication errors have increased. According to these results, pharmacists play a critical role in healthcare policy aimed at preventing prescription errors and promoting patient safety.

In this review, **Al-Mutairi et al.** reported that pharmacists had poor knowledge and understanding regarding the identification, evaluation, comprehension, and mitigation of side effects or any other issue relating to medication [20], but **Mobrad et al.** reported that they are well-educated in identifying drug misuse or dependence during their pharmacy college study, enabling them to offer suitable guidance to individuals who may be abusing drugs [21]. The greatest contributions from community pharmacists were found in compliance and concordance evaluations, wherein these professionals engaged patients by conducting interviews to determine DRPs and provide medication advice. Community pharmacists can assume greater responsibility for patient care than they presently do, according to these results and contributions. Improving information exchange between community pharmacists and other healthcare providers—for example, through electronic health records, assuming community pharmacists had access to them—could make their involvement easier.

The medication reviews that produced the most significant results were those that resulted in improved adherence and prescription modifications that decreased actual or anticipated drug-related issues. Changes in the quantity of medications that patients took, as well as the acceptance of pharmacist recommendations by

general practitioners, have received a great deal of attention. These are all illustrative results and general measures of how well a drug therapy is working. If there is no assessment performed (e.g., for possibly harmful medicines and combining medicines) or untreated diseases, the number of medications in use does not always indicate how sensible the pharmaceutical regimen is [25, 26].

We found that the prevalence of drug-related problems appears to be reduced by pharmacist interventions, highlighting the significance of an ideal pharmaceutical care plan for clinical care settings [17-19]. **Kallio et al.** reported that the community pharmacist's contributions to the interventions ranged from delivering the dispensing history to other health care professionals to accessing medical histories, conducting interviews with patients, carrying out medication reviews, consulting with the GP or case-conferencing the findings, discussing the results with the patient, and monitoring the execution of the medication changes. The interventions ranged in comprehensiveness from prescription reviews to clinical medication reviews. Positive effects were noted, primarily decreases in DRPs and increases in adherence, notwithstanding the community pharmacists' contributions to medication review initiatives. There was a dearth of direct clinical evidence as well as proof of the therapies' economic effects [27].

The evaluation of pharmacist interventions' impact on medication mistakes in outpatient settings ought to be the main objective of future research. This will make it possible to understand the role that pharmacists play in society better and will help the healthcare system pinpoint the places and situations that need more focus and advancements.

This systematic study used a thorough search technique that encompassed all major potential scientific databases. To make sure that all pertinent papers were found, the reference lists of the included articles were also examined. Two or three researchers participated in the selection procedure in order to prevent selection bias.

Conclusion

The majority of MEs documented in the included publications included prescribing, which includes choosing improper management and doing so at the incorrect treatment. Reducing health care mistakes in children is mostly dependent on pharmacists, nurses and lab personnel interventions. The implementation of a ward-based healthcare-led treatment safety program is one of these strategies,

along with instructional sessions and the review and validation of management orders.

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