

# Frequency of Medication Errors in Outpatient Pharmacy in Prince Hashem Bin Abdulla Hospital (RMS), Jordan

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**Abstract— Objectives:** patient health and safety are the key thought to be in mind in the healthcare system and some of the greatest significant steps in raising the care steps of patients are recognizing the medication errors and the potential causes that may arise. Medical faults for instance medication errors are the greatest leading errors that act on health in addition to a wide-reaching problem. **Methods:** A retrospective cross-sectional study accompanied by reviewing 2000 prescriptions of patients sent to an outpatient pharmacy during the period of January and February 2021, prescriptions features (class, prescribed amount, frequency, and duration of treatment) considered for appropriateness created by the Drug Information Handbook. Analytic measurements applied and used. **Results:** The 2000 prescriptions were studied and medication errors were noted in them. These errors were found in 349 prescriptions. The highest error rate was the wrong drug dose with a rate of 51.83%. **Conclusion:** Medication errors still exist and are of great concern to health care teams, writing prescriptions correctly, checking them and verifying them by pharmacists is important to reduce medication errors.

**Keywords—** Medication errors, prescriptions, pharmacy.

## I. INTRODUCTION

Medication errors are defined as a failure in the treatment process that foremost or may lead the patient to be harmed (1). (Medication Errors) may happen due to one of the listed five facts of medication ordering and supplying including prescribing, distributing, transcription, and supervision or perceiving (2-4). Medication errors take place in 2-14% of patients admitted to hospital and may principal to 44,000-98,000 deaths yearly in America (2, 5). The emergency section is the highest visited section of a hospital stating patients with severe and recurrently life-threatening diseases. Unexpected irregular measures occurring in association with the Emergency department have formed this section as a location of familiar for its high likelihood meant for medication errors; for example a matter of actuality, approximately 30 percent of all undesirable hospital accidents are related to this department (6). Among the causes of medication errors committed by nurses are the lack of medical staff and the environmental conditions of work, which are represented by the large number of patients seeking treatment and those suffering from difficult or chronic diseases, as well as the difficult work environment such as lack of sleep or interruption and the large number of verbal commands that cause medication errors. The reasons are also time constraints and rapid demand for the use of the drug (3, 6-9). The expected rate of medication errors ranges between 4-14% in the emergency department, which is the highest in pediatric emergency departments (8, 10), there is a study conducted in the United Kingdom revealed that the rate of medication errors was about 14% (11). In a study done by Simpson et al., Approximately 70% of medication errors are caused by errors incomplete prescriptions, and about 30% of errors are due to an error in calculating medication doses(9). This study was

completed to update the current medication errors and their percentage and the causative factors and their relation to patients.

## II. METHOD

A retrospective cross-sectional study accompanied by reviewing 2000 prescriptions of patients attending an outpatient pharmacy for the period of January and February 2021, prescription features (class, dose, frequency, and duration) considered for appropriateness founded on Drug Information Handbook. Analytic measurements were applied.

This study was conducted over a period of two months in January and February of the year 2021 in the outpatient pharmacy department. This pharmacy dispensed approximately 500 prescriptions per day, and 2,000 random prescriptions were taken out of 28,500 prescriptions during the study period, which was administered by three and two registered pharmacists. Pharmacist assistants.

Registered pharmacists work on checking random medical prescriptions, recording discovered medication errors, counting them, sorting them and collecting them to give results and send them to the Quality Office in order to analyze the results, find out the causes, and work to avoid the negatives.

## III. RESULTS

The 2000 prescriptions were studied and medication errors were noted in them. These errors were found in 349 prescriptions. The highest error rate was the wrong drug dose with a rate of 51.83%, followed by missing the diagnosis (37.8%) the repetition of the medication dose with a rate of 25.5%, the wrong duration of treatment with a rate of 18.33%, and the choice of the wrong treatment by 4.3%, respectively.

(Table1). The medication error rate for the 2000 prescriptions is 17.45%, which is a rather high rate.

TABLE 1. Type of medication errors and frequency

Type of Medication Error	No. (%) n=349
Wrong dose.	181(51.86%)
Diagnosis.	132(37.8%)
Duration.	64(18.33%)
Frequency.	89(25.5%)
Wrong Drug.	15(4.3%)

#### IV. DISCUSSION

Medication errors are defined as a failure in the treatment process that foremost or may lead the patient to be harmed in this study, the highest percentage of medication errors are wrong doses which may affect the treatment overall either low doses or high doses

The important part in this study of medical errors is the wrong dose, as this error represented a high rate of 51.8%.

Many medicines do not write the correct dose of medicine by the doctor for several reasons, either due to a large number of reviewers or the lack of complete knowledge of the correct dose or the similarity of the names of the available treatments and the failure to use scientific names.

Therefore, the writer must use the scientific name of the treatment in a uniform and permanent manner to avoid such errors.

Part of the medical errors in the prescription is not writing the time interval for using the drug or without a specific period of time to use the treatment,

In this study, the diagnosis was an integral part of the medication errors that are prevalent at the present time, as the treatment provider was making sure of the patient about his illness so that the treatment spent before it was dispensed to the patient would be compared and matched with the diagnosis.

The occurrence of damages resulting from medical or drug errors is not completely acceptable. On the contrary, patients have the full entitlement to receive the correct treatment at the right time, the right place, and the right time. For this reason, there is a large and fundamental role for pharmacists in examining medical prescriptions and making sure that they are free from medical errors. Determine any defect in it and participate in solving any problem related to medical prescriptions.

The use of computer programs such as the Hakeem program currently used reduces the rates of medical errors but does not eliminate them. The user of the program can repeat the error, if any, by repeating the prescription without making sure of the patient about his illness.(12)

This program has already reduced the spelling errors known in the past, which were usually written by hand in handwriting that is usually not clear to the teller. These

programs have led to a good and significant reduction in medical errors.(13)

There is an important point that can contribute to reducing medication errors, which is the participation of pharmacists and encouraging them to communicate with other doctors and pharmacists and benefit from them as advisors for their good knowledge of medication and its side effects and to provide better medical care and better health for patients and reduce treatment costs.

#### V. CONCLUSION

Medication errors still exist and are of great concern to health care teams, so care must be taken continuously and for a long period of time.

Writing prescriptions correctly, checking them and verifying them by pharmacists is important to reduce medication errors.

Other studies must be done in order to find out other causes and discover a deeper solution to the problem of medication errors.

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