



**Medication errors as a major concern to health care-  
A Case Report**

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**Abstract**

Medication error can be considered as a failure in the treatment or which may lead to and is hazardous to patient. It can occur at any step from the manufacturing process till it gets eliminated from the patient who receives it. The number of medication errors reported and documented is very less hence reporting as to be encouraged for information and incidence rates which may help in preventing them. As its being a major concern in the health care system, also, as a part of health care system pharmacist play a major role in intervening, preventing and managing the medication errors.

Key-Words: Medication, Health care, Pharmacist

**Introduction**

Medications are used as one of the intentional designs in the prevention and management of various infirmities. Although medications are useful to patients, at the same time, when used inappropriately they are harmful. According to National coordination council for medication Error Reporting and Preventing (NCCMERP), medication errors are defined as “ Any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of health care professionals, patient or consumer” .Medication errors are responsible for injury in 1 out of 25 hospitalized patients. While the medication error rates in hospital ranges from 4.4 to 59.1% worldwide, reporting of medication errors is less than 5%. United States food and drug administration (USFDA) reported that 2% hospital admissions were due to medication errors and 10% of reported errors were fatal. Medication errors occur when a health care professional perform an act that fails to achieve the intended goal or due to imperfect execution. Worldwide, billions of dollars are being spent in managing the medication errors. It is reported that M.E.'s cost Americans \$ 37.6 billion each year and about \$ 17 billion is associated with preventable errors.

They may be prescription centers, dispensing centered and/or administration centered (nurse / patient centered). The most common type of errors that arise in the practice are errors of commission and errors of omission. Acts like wrong/mis diagnosis, improper management of correct diagnosis, incomplete monitoring of use of drugs, lack of patient information and prescription errors such as illegible prescriptions, failure to recognise drug-drug interactions were some of the errors that fall under error of commission. Similarly, failure to follow up/ notify patients of test results, failure to coordinate care with consultants, delay in diagnosis, failure to perform preventive care or educate the patients on appropriate use of medications fall under the errors of omission. Medication errors also carry financial burden to the patients. In Indian scenario, lacking of many resources that are available in developed countries like computerised physician order entry system, bar code based medicine administration system, unit dose dispensing etc. All these issues make the practice settings more vulnerable to commit medication related injuries. Preventing medication errors is not only the role of pharmacist and other medical / health care professional but also patient and patient care givers, pharmaceutical manufacturers and its approval organisations. Patient's adherence in taking medications, informing about missed doses, any side effects or intolerance plays a major role in prevent medication errors. Poor designs with respect to drug product packaging and labelling, as well as

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selection of inappropriate or confusing nomenclature, have been identified as factors that contribute to serious medication errors by practitioners hence, Pharmaceutical manufacturers and approval agencies should be responsive to efforts of practitioners to minimize errors.

### Case Report

In a tertiary care hospital, a male patient of age 64 years was admitted with chief complaints of small lesions associated with itching and gradually spread and involved whole body. The scales are white silvery in nature. Patient presented with body pains and fever. On cutaneous examination multiple scaly plaques are present all over the body but face is not involved pitting of nails is seen and auspitz sign and koebnar's phenomenon were positive. Thus diagnosed as Psoriasis vulgaris. The treatment given to the patient was Tab. cetirizine- 25mg, Inj. cetirizine Tab.chlorpheniramine maleate 25 mg Liquid paraffin, Tab. Calcium, Betamethasone ointment, Cap. Amoxicillin, Tab. Methotrexate 2.5 mg, Tab. Iron folic acid 5mg. The treatment was started on 13-12-13 and given till 5-1-13 and then patient recovered.

On pharmacist's intervention there were few medication errors found.

**Unnecessary medication:** Two different dosage forms of same drug i.e. Inj cetirizine and Tab.cetirizine is given.

Anti-histamines have no significant role in psoriatic itch. But two kinds of them were given that is chlorpheniramine maleate and cetirizine. They have a side effect of insomnia and is reported in patient which adds on with insomnia due to itch and decrease the quality of life of the patient.

**Untreated indication:** patient has presented with fever which is left untreated. Paracetamol – 500mg has to be given

**Incomplete monitoring:** when methotrexate is given in elderly patients hepatic and renal functions are to be monitored which was not done.

### Discussion

Medication errors and drug-related adverse events have important implications – from increased length of hospitalization and costs to undue discomfort and disability or increased mortality. In order to build safer systems we must be able to learn from previous errors [6], and detection is the first crucial step. Detection of errors in the very first state may prevent the condition from worsening. The frequency and severity of medication errors are not evenly distributed in the population, and there are clusters of patients, drugs, and settings that are associated with higher risks;

however, these can generally be attributed to common underlying contributory/latent factors. As most of the medication errors are preventable, the major step is to cross check the regimen of the patient regularly and counsel the patient properly so that the awareness in them regarding the drugs help the health care professionals by the information they give regarding new symptoms they observe so that their quality of life is improved by reducing the unwanted effects and expenses.

In a study, the authors reviewed to clarify the status of Medication errors, where they aimed to review current available literature to find studies on adults and children about prescription, transcription, dispensing, and administration errors. They found, most of studies did not report the overall frequency of MEs aside from ME types, & Most of studies (15; 83.3%) reported prevalence of administration errors between 14.3%-70.0%. Prescribing error prevalence ranged from 29.8%-47.8%. The prevalence of dispensing and transcribing errors were from 11.3%-33.6% and 10.0%-51.8% respectively. Finally, they have found most reported types of and the highest percentages for any type of ME's were administration errors.

It is the responsibility of health care professionals to minimize the errors in their settings. By this, the patient can be benefited from decreasing the hospital stay, and health care costs. Pharmacist has a role to regularly monitor the patient's medication chart. Early detection and audit may help to prevent the errors to some extent. It is the responsibility of health care authorities & regulatory bodies to regularly monitor for these unwanted effects & minimize them, thereby promoting patient's QOL.

### Recommendations:

**Training and education of nurses:** Basic nursing education provides the foundation and necessary skills to be able to handle critical patient's condition and safe medication administration. Practice and continued education programs have placed a heavy emphasis on the administration stage of the medication. This helps the nursing station a better knowledge on medication use.

**Drug name confusion:** To minimize confusion between drug names that look or sound alike must be listed at the nursing station. Educate staff to be watchful of look-alike medications. Post facility-specific list at all nurses/medication stations

**Pharmacist training:** Pharmacists must be trained properly to dispatch proper drug. If prescription is unclear then pharmacist should not dispatch drug by judging the medicine. Computerisation will help eliminate many of the errors that occur when

pharmacists misunderstand or mis record medication names or dosages conveyed messily on paper.

**Reported events** should be analysed promptly and timely

### Conclusion

Errors are common in any system but as far as medication errors are concerned they turned as a major threat to patient safety. They not only lead to increased hospital stay, cost of treatment and hospital stay but also increase the morbidity and mortality rates. Therefore identifying the causes and attempting to prevent medication errors got a great demand. Clinical pharmacist is the only trained professional in giving information to the patient and to intervene the prescribed regimen for better patient care.

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