

Prospective Study: Identification of incidence and types of medication error

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Abstract

Medication process comprises with many steps, which demand the involvement of various inter-departmental healthcare professionals that can raise the chances for medication error in any stage. A prospective study was carried out to identify the incidence and types of medication error in selected tertiary care hospital, Indore. 250 medication records of patients, admitted in selected tertiary care hospital, Indore were evaluated. Data was collected by examining patient's medication record, their feedback and observation of medication administration practice of their concerning nurses through medication prescription, transcription and administration checklist as per the NABH norms. Data reveals Prescription faults and errors (71.16%) are more common in comparison to transcription (10.62%) and administration (20.2%) related to medication errors. Prescription errors all the parameters ranged above 60% that indicates more corrective steps and strategies has to be adopted for reducing the risk related to wrong processing of medication.

Introduction:

Medication errors are common in general practice and in hospitals⁽¹⁾. A Harvard study by Prof Jha shows that 5.2 million medical errors are happening in India annually⁽²⁾. Most of the studies in Middle Eastern countries evaluated medication error during the prescribing stage. The reported incidence of prescribing errors in this review ranged from 7.1% to 68.2% of medication orders⁽³⁾. Prescription errors and

prescribing faults due to erroneous medical decisions can result in harm to patients. Any step in the prescribing process can generate errors. Slips, lapses, or mistakes are sources of errors, as in unintended omissions in the transcription of drugs. Faults in dose selection, omitted transcription, and poor handwriting are common⁽¹⁾.

Khavane, Karna. et al. (2012) conducted a study to detect and evaluate the incidence, types of medication errors and to assess the severity of medication errors in the medicine wards of Basaveshwar teaching and general hospital, Gulbarga. Detected medication errors were documented and evaluated. A total of 500 cases of the patients were selected. 167 medication errors were detected in 127 patients. The overall incidence of medication error was found to be 33.4%. A total of 167 medication errors were observed, among them 30.5% were errors in medication ordering and transcription, 23.3% were errors in medication dispensing and 46.1% were nursing errors in medication administration. The causes of medication error were 61.6% were due to nurses, 22.1% were due to Pharmacists and 16.1% errors were due to physicians. Majority of medication errors were belonging to CNS drug class (19.7%). On evaluation of severity, majority of medication errors 89.8% were classified as category Error, No harm, followed by 7.7% were in category No Error and remaining 2.3% were in category Error, Harm. This study concluded that 33.4% medication errors were detected during study period and revealed that pharmacist can play a

major role in preventing these errors by early detection⁽⁴⁾.

Statement: A prospective study to identify the incidence and types of medication error in selected tertiary care hospital, Indore.

Objectives:

- 1 To evaluate the incidence of medication error in a tertiary care hospital.
- 2 To determine the types of medication error in a tertiary care hospital.

Methodology:

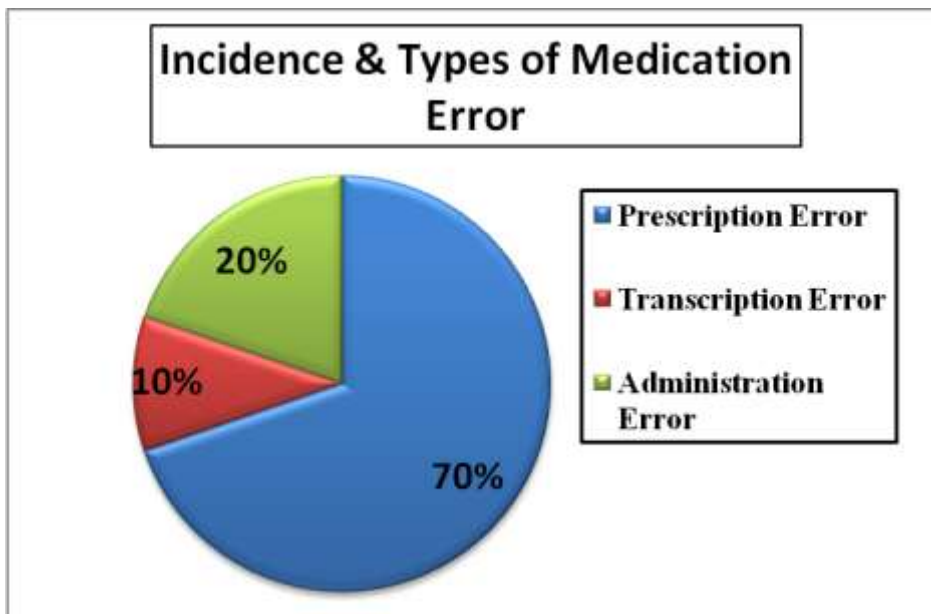
A quantitative approach with descriptive research design (prospective study) was carried out to identify the incidence and types of medication error in selected tertiary care hospital, Indore.

- Section -I Prescription related medication error
- Section- II Transcription related medication error
- Section- III administration related medication error

250 medication records of patients, admitted in selected tertiary care hospital, Indore were evaluated from 1/3/2018 to 30/03/2018. Data was collected by examining patient’s medication record, their feedback and observation of medication administration practice of their concerning nurses through medication prescription, transcription and administration checklist as per the NABH norms.

Findings & Result:

To achieve the objectives of the study, data was collected and analysis under following sections



Section –I Prescription related medication error

It is found that incidence rate of prescription related medication error was 71.16%. Prescription related medication error checklist's parameters revealed that among 250 medication records of patients,

- 83.5% prescriptions were not meeting correctly with patient's I.D. details whereas 50.4 % prescriptions did not have patient's name clearly. In 57.2% prescription orders, drug allergy was not mentioned.
- 99.2 % prescription orders were not written in capital letters whereas only 44.8% prescriptions were legibly written.
- In 79.2% prescriptions, doctors were not mentioning their signature, name, date and time whereas in 42% prescriptions, drug dose was not stated.
- 78.8% prescriptions, frequency of drug were not mentioned, whereas 74.4% & 62.4% had not stated number of days and route of drug administration respectively.
- 6.4% error was related to inappropriate abbreviation.
- 78% error was found in reconciliation of medication.

Section- II Transcription related medication error

The study findings reveals that incidence rate of transcription related medication error was only 10.62%, under following parameters,

- 12.5% Medicine orders were not transcribed correctly on medication chart.
- 2.8% was not written clearly, legible & in capitals letter.
- 22% transcription orders, error related to inappropriate abbreviation was found.

- In only 4% orders, drug start date & time were not stated whereas 6.8% orders were not mentioned drug stop date & time.
- 15.65% transcription orders, date, time, name and signature of concerning staff nurse was not mentioned.

Section- III Administration related medication error

It is found that incidence rate of administration related medication error was 20.2% collectively. Under following parameters, administration related medication error was;

- 0.8% error related to patient's identification,
- 3.2% error related to correct drug and 4.4% error in taken correct dose, where as 20.4% error in administering by right route,
- 28% error in administering at right time,
- 19.5% error in documenting – correctly,
- 25.6% error in documentation - time & initials same in documentation – legible,
- 36% error is in observing patient for reaction - drug reaction present,
- 32 % error in observing patient for reaction - drug discontinued soon,
- 2% error occurring in observing patient for reaction - reported immediately to doctor.

Implications:

Hospital Administration:

- The study findings enlighten the areas, nature & types of medication error. It can be helpful for hospital administrators those are involved in quality assurance and quality assessment activities to identify and bridge the Slips, lapses, or mistakes related to medication errors.

Medical & Nursing Education:

- On the basis of research findings, interventions & strategies should be primarily focused on physicians and nurse's education & training to minimize the incidence of medication error, to create a safe and cooperative working environment.

Medical & Nursing Practice:

- The study findings reveals the faults and errors in medication processing system (prescription, transcription and administration) that raise the demand for more focused medical and nursing practice to strengthen the defense systems of hospital and minimize the harms occurring to the patient.

Conclusion:

Prescription faults and errors (71.16%) are more common in comparison to transcription (10.62%) and administration (20.2%) related to medication errors. Prescription errors all the parameters ranged above 60% that indicates more corrective steps and strategies has to be adopted for reducing the risk related to wrong processing of medication.

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