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Longitudinal prospective study: Analyse the extend of medication error

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Abstract

Medication error are one of the most frequently occurring types of adverse events in hospitalized patients and potentially more harmful in children than in adults. A prospective study was carried out to identify the incidence and types of medication error in selected hospital, Indore. 16355 medication records of patients, admitted in selected hospital, Indore were evaluated. Prospective study aimed to evaluate the compliance, completion & accuracy of medication audit checklist in case files of patients admitted in selected accredited hospital of Indore City. 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 (62.3%) are more common in comparison to transcription (25.9%), administration (11.8%) & preservation of drugs (0%) 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. Data was analysed with descriptive statistics that is frequency and percentage.

Keywords: Longitudinal prospective, medication audit checklist, medication errors

Introduction

Errors that occur when administration high risk medication can critically harm patients, and the resulting malpractice liability falls on hospital as well as the nurses who administer the drugs. Thus, it is of vital importance to identify the causes of such errors and establish a preventive system and safety culture among the health care personnel especially nurses to prevent high risk medication errors in the hospital.

It was verified that a high number of medication error was involved in the occurrences, and they were categorized among 4 classes based on the type of medication errors, that is analysed through prescription audit, transcription audit, medication administration audit and preservation of drugs audit.

There are safety-oriented levels of reports

1. Incident reporting where this is in place, it is obligatory and restricted to severe unexpected events/deaths (sentinel event list). A timely narrative report of the incident must be sent, with root cause analysis, to the central organization, which issues regular statistical reports, capturing both adverse events and medication errors and raising concerns about quality improvement.
2. Patient monitoring, with interviews, using structured forms, by mail, telephone, or visits, or by satisfaction questionnaires and focus groups, can discover medication errors and associated adverse events in outpatients, where many errors arise from poor communication. In future the focus will be on long-

term care, primary care, and outpatients.

Clinical audit is generally retroactive, caused by the occurrence of near-miss events and adverse or critical events involving a multidisciplinary team. The team's discussion is confidential, anonymous, and blame-free; its aim is to monitor critical events, revisiting care actually provided and learning for the future. Recommendations from these reviewers are often not pursued, as there is no systematic method to follow. Users' views about quality of care, when available, are evaluated.

Need of the study

To reduce negligence in this area, medical institutions have begun to establish safety guidelines for the administration of high-risk medications. Abbott argues that nurses' awareness of the safe administration of high-risk medication has a considerable effect on patient safety. Identifying the causes of nurses' errors when administering high-risk medication may facilitate safer practices. It is essential to have important insights into the factors that lead to mistakes in the high-risk medication administration. Medication audit can also be used proactively, in the hope of avoiding medication errors or adverse events that have not yet occurred, or in order to pay attention to a known critical step.

Statement

A longitudinal prospective study to analyse the extend of medication audit in selected hospitals of Indore. (M.P.).

Objectives

1. To evaluate the incidence of medication error in a selected hospital.
2. To determine the types of medication error in a selected hospital.

Methodology

Study Approach

In this study Quantitative approach was used.

Research Design

Non-Experimental Longitudinal Prospective research design was used.

Setting

The study was conducted in different wards of Bombay Hospital, Indore.

Sample

Case files of patients Admitted from the month of December 2018 - June 2019

Sample Size

16,355.

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

Section-I Prescription related medication error.

Section- II Transcription related medication error.

Section- III Administration related medication errors.

Section- IV Preservation of drugs related medication errors.

Finding & Result

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

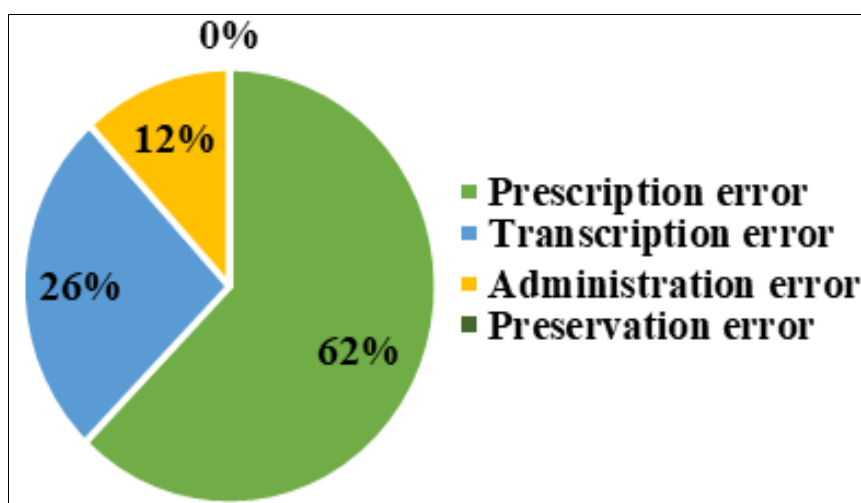


Fig 1: Types of medication error

Section-I: Prescription related medication error

It is found that incidence rate of prescription related medication error was 62.3%. Prescription related medication

error checklist's parameters revealed that among 16355 medication records of patients.

Table 1: Prescription related medication error

S.N.	Parameters	Errors percentage
1	Patient ID details (UHID, IP NO., NAME...)	78.60%
2	Patient's name clearly identified.	54.20%
3	Drug allergy mentioned	59.30%
4	Block capitals are used	99.10%
	Doctor's SMDT	79.30%
	Legibly written	48.80%
5	Drug dose started	45%
6	Frequency of dose started	76.20%
7	Number of days started	73.40%
8	Route started	62.60%
9	Use of inappropriate Abbreviation	6.40%
10	Reconciliation of Medication	69%

Section-II: Transcription related medication error

The study findings reveal that incidence rate of transcription related medication error was only 25.9%, under following parameters.

Table 2: Transcription related medication error

S.N.	Parameters	Errors percentage
1	Medicine order transcribed correctly on medication chart	43%
2	Clear, legible, & In capitals	9.80%
3	No. Inappropriate Abbreviation used	27%
4	Drugs started date & time stated	18%
5	Drugs ended date & time stated	13%
6	Name, date, sign, & time stated	37%

Section-III: Administration related medication error

It is found that incidence rate of administration related medication error was 11.8% collectively. Under following parameters, administration related medication error was;

Table 3: Administration related medication error

S.N.	Parameters	Errors percentage
1	Patient's identified correctly	1.30%
2	Taken correct drug	3.90%
3	Taken correct dose	5.30%
4	Administered by right route	0.80%
5	Administered by right time	69%
6	Documentation	52%
7	Observed patient reaction	38%
8	About reaction	5%

Section-IV: Preservation of drugs related medication errors

It is found that incidence rate of preservation related medication error was 0% collectively. Under following parameters, administration related medication error was;

Table 4: Preservation of drugs related medication errors

S.N.	Parameters	Errors Percentage
1	Open via labelled with patient details	0%
2	Vial preserved as per instruction	0%

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 defines systems of hospital and minimize the harms occurring to the patient.

Conclusion

Prescription faults and errors (62.3%) are more common in comparison to transcription (25.9%), administration (11.8%)

& preservation (0%) 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.

Conflict of Interest

Not available

Financial Support

Not available

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How to Cite This Article

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