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Study on Medication Prescription Errors in a Tertiary Care Center

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Abstract **Original Research Article**

Prescription error is one of the important aspect of medication error which could affect patient's health. Prescription audit helps in curbing such errors and gives a comprehensive review of prescribing patterns in a health care system. The aim of this study is to evaluate the prescribing pattern in a tertiary care centre. The observational study was carried out by collecting 50 prescriptions and assessing it on various parameters in a tertiary care center. Total 50 prescriptions were evaluated. Eight parameters were checked. Average number of drug prescribed per prescription is 3.58. Discrepancies related to prescriber's information, drug dosage form and handwriting were found. Drug Auditing will help in improvement of prescribing pattern by getting feedback from the data.

Keywords: Drug Auditing, drug dosage form, Handwriting, Prescription error, prescribing pattern.

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INTRODUCTION

There should be proper approach to the medication prescription and order process and a resource for practitioners in effectively providing pharmaceutical care for their patients. Wrong drug prescribed to the wrong dosage or administration schedule advised, dispensed, or administered, the impact of medication misadventures are a tremendously costly problem [1].

In 400 BC great philospher Hippocrates expressed the theme of patients care "Cure sometimes, treat often, comfort always". Good clinicians are asset to the society and they always maintain a systemic review of their daily work, recording their diagnosis, treatments and assessing its accuracy. This activity is called as medical audit and it is simply assessing the work done with the aim of improving patient care. Prescription auditing helps improving the quality of treatment given by the clinicians by documentation of the patient's details, diagnosis, treatment etc and to assess the justified utilization of hospital's resources. By studying the prescription pattern, we can monitor, evaluate and suggest any changes in current prescribing patterns and make it more rational and cost effective.

An ideal prescription has following sections: superscription, inscription, subscription, signa and signature of the prescriber [1].

In a study 16% of the patients reported a medication error with two third of them in outpatient department (OPD) patients [2]. These errors have a negative impact on patients' health and therefore should be minimized [3-5]. Medication errors can give rise to adverse events too. In one study, 11% of adverse events were due to medication errors [6].

The WHO has also proposed core prescribing indicators for prescription audit and drug utilization studies [7]. It includes average number of drugs per encounter, percentage of encounters with one or more antibiotics, percentage of drugs prescribed by generic name and percentage of antibiotics from essential drug list.

Prescription errors are an important form of medication errors. Prescription errors are so important but few studies have been done on this field. Most of the published studies have addressed the issue of medication errors in indoor admitted patients [8-10].

Hence, prescription auditing is clearly important in finding any lacunae in drug utilization in hospitals. The WHO has reported that around 50% of all medicines are inappropriately prescribed, dispensed, or sold [11]. In this observational study we have tried to assess few relevant parameters from prescription obtained from OPD attendees in RIMS, Ranchi.

MATERIALS AND METHODS

This study had been done in a tertiary care center of Jharkhand. A total of 50 prescriptions were collected in random way from hospital pharmacy center situated in this campus where prescriptions come from various departments. The prescriptions were audited on the basic guideline mentioned in standard pharmacology book for the parameter patient identification, inscription, subscription, signa and signature. Illegible handwriting was also included in this study. Patients were duly informed of the process.

RESULTS

Patient's details like name, age, sex, address and chief complains was present in all prescriptions. Doctor's details (name, unit, department) was present in 78% prescription. The average number of the drug prescribed was 3.58. Dose was missing in 60 percent prescription. In 4 percent of patients how many time the drug have to take was not mentioned. Prescriber signature was found in all prescriptions. 16 percent drugs was not readable due to handwriting.

Table-1: Different Parameter audited

Sr. No	Parameters	Number of Prescription (out of 50)
1	Patients details present in	50
2	Prescriber identification missing	11
3	Strength of preparation not mentioned	30
4	Use of brand names	50
5	Average no of drugs prescribed	3.58/ per prescription
6	Incomplete description of dosing schedule and dosing instruction	2
7	Illegible handwriting	8
8	Diagnosis mentioned	50

DISCUSSION

Prescription writing is a very significant step of clinical practice. It is the bridge between the clinician and the pharmacist. Hence, it is of utmost important for prescription to be easily comprehensible and extremely clear to both the pharmacist and patient. Prescription auditing helps in understanding an overall prescribing pattern of any clinical set up. In this study we have tried to evaluate few relevant parameters.

In this study the information related to patient's identification was complete. It is an essential part of a prescription. Prescriber's details are also very important for patients approach and consultation at the time of need. It becomes more important when patient is being treated in a tertiary care center where many clinicians provide health care to a large no of patients.

Studies auditing handwritten prescriptions have found that patient details were usually incomplete in almost all prescriptions [12]. Doctor's detail is absent in 22% prescription which highlights a very important shortcoming as it is highly significant for patient to have clear information (details like name, unit, department etc) about the clinician who is providing treatment for follow up, queries etc. The average number of drugs prescribed is quite high in our setting as compared to WHO standard. Number of drugs provided is an indirect reflection of the socio-economic condition of the area.

Also, the number of generic drugs prescribed is almost nil. But prescribing generic drug has also its own disadvantages as this give liberty to pharmacist for drug dispension. 60% prescription have one or more dose missing which is a major setback as dosage holds high importance in treatment process. High or low dose cause erroneous and faulty treatment and might be detrimental to the patient's health. Wrong dose, dose omission, and wrong duration were the most common types of prescribing errors found in many studies worldwide [13, 14]. But few drugs come in fixed dose combination and few brands have fixed dosage. In that scenario its not that significant. Signature is present in all the prescription. 16% have one or more incomprehensible handwriting of drug which should be of concern as faultily prescribed drug can deter health of the patient.

Overall, the prescribing pattern does need few amendments in our current set up. The study itself has few limitations as it does not take many significant parameters in account and the sample size is small as well which does not represent the pattern in broader sense. Hence, it's imperative that such studies should be carried out on regular basis for better resource utilization as well as profound health care results.

CONCLUSION

In the present study shortcoming in existing prescribing practices and on different part of prescription was found. Prescription error is dangerous for patient's health. There is scope of improvement in

present prescribing patterns by sensitizing and drawing attention of the prescriber for these errors.

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