RESEARCH ARTICLE

RETROSPECTIVE ANALYSIS OF COMPLETENESS AND LEGIBILITY OF PRESCRIPTION ORDERS AT A TERTIARY CARE HOSPITAL

Background: Medication errors contribute significantly to adverse drug events. These errors can occur at any step from prescribing to administering drug. While most of the prescribing errors can be prevented, administering errors seldom can be intercepted.

Aims & Objective: Prime objective was to analyze the quality of prescription writing, as a part of a continuous quality improvement program with emphasis on Completeness & legibility of prescriptions.

Materials and Methods: A retrospective cross-sectional study was conducted including 225 prescriptions. All prescriptions were evaluated for doctors' information: Name, address, specialty and signature, patient information: name, sex, weight, age, date and medication details: strength, quantity, frequency, dosage form and instructions for use.

Results: Doctors Name, specialty, sign were present in 17.77%, 90.22%, 91.11% prescriptions respectively. The symbol Rx was present in 99% while the patient's name and age was present in 100% cases. No prescription contained the patient's address while Sex and weight mentioned only in 42.66% and 3.11% respectively. Date was mentioned in 100% cases. Generic names were used in 58.49% cases. Strength, frequency of administration and quantity were present on 59.37%, 99.55% and 88.15% respectively. Instructions were mentioned in 8.44% of prescriptions.

Conclusion: There is a need to address the legibility of prescription, correct spelling with the correct strength and frequency, authorized abbreviations as well as all other information on a prescription concerned with patient, prescriber and drugs to minimize the occurrence of medication errors.

Key Words: Prescription; Legibility; Completeness; Tertiary Care Hospital

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INTRODUCTION

Adverse drug events (ADEs), usually defined as injuries caused by the use of a drug, are a major health concern.[1] It has been estimated that ADEs account for approximately 5% of all hospital admissions.[2] Some ADEs are caused by errors called medication errors.[3] A medication error can occur at any step i.e. at prescribing, transcribing, dispensing and administering. Prescribing and administering errors are the two most frequent types of medication errors, but while 48% of the former can be intercepted, only 2% of the latter are intercepted.[4,5] The reported frequency of prescription errors varies between 39% and 74% of all medication errors in specific settings.[6,7] A broad definition of prescribing error includes errors in decision making and errors in prescription writing.[8,9] Prescribing errors involving decision making include a wrong choice for the patient and prescription errors in prescription writing, involve illegibility, lack of an information such as date of prescription, strength, frequency of administration, etc.[10] Since Prescription errors can be more easily determined and detected through chart review, we focused our attention on them.

MATERIALS AND METHODS

A cross-sectional study was carried out in June 2012 including 225 prescriptions. Prescriptions were collected from dispensary of Govt. Medical College, Latur and photographs were taken after taking permission from institutional ethical committee.

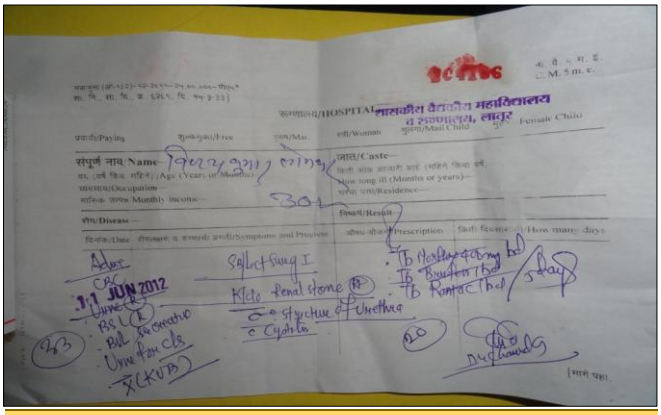

Figure-1: Photograph of prescription

All prescriptions were evaluated for: (A) Legibility: Drug name, dose, frequency of administration; (B) Completeness: (i) Doctors' information: name, address, specialty and signature; (ii) Patients information: name,

sex, weight, age, address and date; (iii) Medication details: strength, frequency, quantity, dosage form and instructions for use.

All prescriptions were analyzed in terms of percentages and proportions. The adopted definition of completeness was "having all necessary parts or components".[11] The adopted definition for legibility was "easily readable by someone who is not familiar with the context examined".[11]

RESULTS

Table-1: Analysis of legibility parameters (n=225)

Parameters	Legible Number	Present Percentage
Frequency	222	98.67
Dose	130	57.33
Drug name	153	68
		Avg. percentage – 74%

Table-2: Analysis of doctor's information (n=225)

Information	Number	Percentage
Address	225	100
Signature	205	91.11
Specialty	203	90.2
Name	40	17.77

Table-3: Analysis of patient's information (n=225)

Information	Number	Percentage
Name	225	100
Age	225	100
Sex	96	42.66
Weight	7	3.11
Address	0	0

Table-4: Analysis of drug information (n=225)

Information	Number	Percentage
Frequency	224	99.5
Dosage form	218	96.88
Quantity	158	70.22
Strength	130	57.7
Generic name	128	56.7
Instructions	19	8.44

Table-5: Analysis of legibility parameters (n=225)

Parameter	Average percentage
Legibility	74
Completeness	64.64

DISCUSSION

Medication errors at any step contribute to adverse drug events experienced by the patients. Amongst medication errors, prescribing errors are easier to intercept that administering errors. So, this study was an attempt to find the existing pattern of prescription order in tertiary care hospital, which caters to the health needs of the majority of the population.

In case of legibility of prescription, legibility of frequency was found to be better than that of drug name and dose. Total legibility percentage was 74% which was relatively similar to study conducted by Laura Calligaris and et al.[12] Completeness of prescriptions was analyzed for various components. Completeness of Doctor's information in address was best amongst other factors like specialty, signature & name. Date, pt. name and age were present in all prescriptions while sex and wt. were present only in few cases.

Unfortunately, none prescription was mentioned patient's address. Lack of information on the weight of the child on the prescription may lead to medication errors during dispensing. Absence of patient's address may lead to lack of epidemiological information. The relative lack of information about the patient and the prescriber, reported in this study, was showing variability in various components to that of other studies conducted by Mallet et al. and others.[11-13]

Low generic prescription of the drugs could reflect the dominating influence of pharmaceutical companies. Completeness of drug frequency and dosage form were good while there is a need of improvement in quantity, strength and instructions parameters. Overall completeness was 64.64%. It is reported that computerized physician order entry and computerized physician decision support, significantly reduces prescription errors.[14-16]

CONCLUSION

Our study shows prescription errors are frequent and need to be taken care of. As these errors are easy to correct, doctors should be educated about importance of legibility of prescription, correct spelling with the correct strength and frequency ,authorized abbreviations as well as all other information on a prescription concerned with patient, prescriber and drugs to minimize the occurrence of medication errors.

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