

## PRESCRIPTION PATTERN STUDY OF THE DRUGS USED IN TERTIARY HOSPITALS OF THE BILASPUR REGION

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### ABSTRACT

The following study had been done to find the common drug used in tertiary care hospitals of Bilaspur region of Chhattisgarh and costs of these drugs were also studied. In this study 8 hospitals were surveyed and data from 826 prescriptions were collected in a self designed data sheet over a period of 7 months according to inclusion and exclusion criteria. The study shows that analgesics (23.08%) were most commonly prescribed drugs followed by antimicrobials (22.76%), antacids and anti ulcers (21.79%), Anti diabetes drugs (11.43%), Anti hypertensive drugs (10.14%), drugs, antispasmodic drugs (8.19%) and miscellaneous drugs like CNS drugs, anti cancer drugs (2.58%). Method of drug administration is the most common factor missing in the prescription (55.2%). Drugs are mostly prescribed by the brand name and legibility of the most of the prescription is compromised. The study confirms that quality of prescriptions, both in terms of layout and the content of the drugs prescribed was inadequate and it should be rectified so that a proper and more effective drug system could be developed.

**Keywords:** Prescription Pattern, legibility, tertiary care hospitals.

### INTRODUCTION

A prescription (R) is a health-care program implemented by a physician or other medical doctors in the form of instructions that govern the plan of care for an individual patient.<sup>[1]</sup> Prescriptions may include orders to be performed by a patient, caretaker, nurse, pharmacist or other therapist. The term prescription is used to mean an order to take certain medications. Prescriptions have legal implications, as they may indicate that the prescriber takes responsibility for the clinical care of the patient and in particular for monitoring efficacy and safety. As medications have increasingly become pre-packaged manufactured products and medical practice has become more complex, the scope of meaning of the term "prescription" has broadened to also include clinical assessments, laboratory tests, and imaging studies relevant to optimizing the safety or efficacy of medical treatment.

Prescriptions are handwritten on preprinted prescription forms that are assembled into pads, or alternatively printed onto similar forms using a computer printer or are in an electronic format. Preprinted on the form is text that identifies the document as a prescription, the name and address of the prescribing provider and any other legal requirement such as a registration number (e.g. DEA Number in the United States). Unique for each prescription is the name of the patient. In the United Kingdom and Ireland, the patient's name and address must also be recorded. Each prescription is dated and some jurisdictions may place a time limit on the prescription. There is the specific "recipe" of the medication and the directions for taking it. *R* is a symbol meaning "prescription". It is sometimes transliterated as "Rx" or just "R<sub>x</sub>". This symbol originated in medieval manuscripts as an abbreviation of the Late Latin verb *recipe*, the imperative form of *recipere*, "to take" or "take thus". Literally, the Latin word *recipe* means simply "Take...." and medieval prescriptions invariably began with the command to "take" certain materials and compound them in specified ways.<sup>[2]</sup> Today, when a medical practitioner writes a prescription beginning with "R", he or she is completing the command.

A prescription should consist of the following seven parts:

- 1) Date, Identification of the prescriber
- 2) Name of the patient and information as to age.
- 3) Superscription or heading.
- 4) Inscription or main body of the prescription.
- 5) Subscription or directions to the compounder.
- 6) Signatura or directions for the patient.
- 7) Prescriber's signature, seal of the prescriber.

In a prescription audit study we generally used to look for these parameters presence or absence, more the number of the parameters absent more inconsistent are the prescriptions. Parameters like legibility of any prescription would also studied under the prescription pattern, legibility of any prescription could be score on 3 point Likert scale as follows :-

1. Legible, can read the medication order without consulting other health care professional or references.
2. Legible with effort can read the medication order after consulting with one or more health care professionals and/or references.
3. Illegible cannot read the medication order, despite consultation with one or more health care professionals and/or references.

Erasures study is also a part of legibility study which deals with over writing in a prescription. Prescription study also analyzes the name i.e. brand or generic name by which drug are prescribed.

A generic drug (generic drugs, short: generics) is a drug defined as "a drug product that is comparable to brand/reference listed drug product in dosage form, strength, route of administration, quality and performance characteristics, and intended use."<sup>[3]</sup> It has also been defined as a term referring to any drug marketed under its chemical name without advertising.

Generic drugs are usually sold for significantly lower prices than their branded equivalents. One reason for the relatively low price of generic medicines is that competition increases among producers when drugs no longer are protected by patents. Companies incur fewer costs in creating generic drugs (only the cost to manufacture, rather than the entire cost of development and testing) and are therefore able to maintain profitability at a lower price. The prices are low enough for users in many less-prosperous countries to afford them.

Study of this parameter is important as it will help to understand how many of the prescriptions are prescribed by brands name because more the prescription in branded more is the cost of the drug and more is the economical burden on the subjects.

The cost of drug prescription poses problems in developing countries such as India, which allocates only 0.9% of its Gross Domestic Product (GDP), i.e. Rs. 200 per capita.<sup>[4]</sup> to health. The allocation for meeting the cost of the drugs is even meager. Moreover, the production of pharmaceutical preparations in India is grossly imbalanced and there is cut throat competition among drug companies, which breeds malpractice. Indian markets are flooded with over 70,000 formulations, as compared to about 350 listed in the WHO essential drug list, and pharmaceutical companies

encourage doctors to prescribe branded medicines, often in exchange for favors.

Prescription Pattern helps as a auditing tool which would help in developing of a more comprehensive medical system having more benefits and less errors.

### Materials and methods

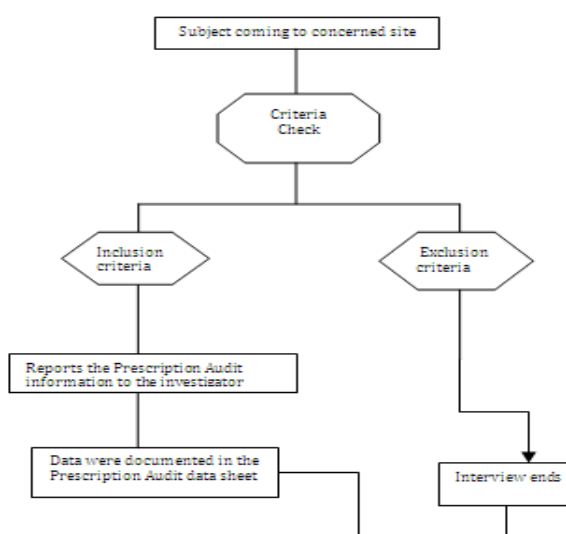
The subjects were enrolled in the study at the 8 tertiary hospitals according to the inclusion and exclusion criteria. The subjects were educated about the study by the investigator, the subject were informed what was the objective of the study, what was importance of such type of study, why they were asked to participate in the study, how to participate in the study, what were the information subject had to give to the investigator, the subjects confidentiality clause, what were the benefits they were going to be get from the study and after explaining all the parameters mentioned above the informed consent was asked from the subjects and subjects giving

the informed consent were enrolled in the study. During enrollment of subjects any types of pressure on the subjects to participate in the study were no given. The subject has given the freedom to give or to not give the consent for the study. Each of the steps mentioned above like enrollment of subjects, informed consent procedure, and subjects confidentially study was in accordance with standard guidelines used in clinical study like GCP, Schedule Y of Drugs and Cosmetics Act, Principle of Helenski. [5], [6], [7]. Subjects were selected on the basis of the inclusion and exclusion criteria. The inclusion and exclusion criteria of the study were as follows:-

### Inclusion criteria

- a) Subjects coming to the selected site.
- b) Subjects giving the consent for the Study
- c) Subjects ready to share the information in the prescription.
- d) Adult subjects having age equal to or over 18 was included in the Study

Figure 1



### RESULTS

The study shows that analgesics (23.08%) were most commonly prescribed drugs followed by antimicrobials (22.76%), antacids and anti ulcers (21.79%), Anti diabetes drugs (11.43%), Anti hypertensive drugs (10.14%), drugs, antispasmodic drugs (8.19%) and miscellaneous drugs like CNS drugs, anti cancer drugs (2.58%). [Figure 2]

The Presence of the methods of administration for the medication is the most common parameter absent from prescription (55.2%) followed by Authorized stamp (51.21%) and pharmaceutical form in which it was dispensed (48.42%). In considerable no of prescription (25.66%) presence of frequency of taking medicine is absent. [Figure 3]

### Exclusion criteria

- a) Subjects not giving the consent for the Study
  - b) Subjects having age less than 18 Years
- Following parameters were studied in each prescription:-

- 1) Presence of date
- 2) Identification of the patient and the prescriber
- 3) Presence of the methods of administration for the medication
- 4) Presence of pharmaceutical form

- 5) Presence of dosage Frequency
- 7) Authorized stamp
- 8) Signature of the prescriber
- 9) Duration of treatment

The frequency of number of cases was calculated.

Following parameters were also studied when prescription were audited

- Gender study- It was carried out by auditing the prescription to find the frequency of male and female subjects.

Legibility criteria: - Legibility of each prescription was checked and the prescription were divided into 3 classes namely: - [8-15]

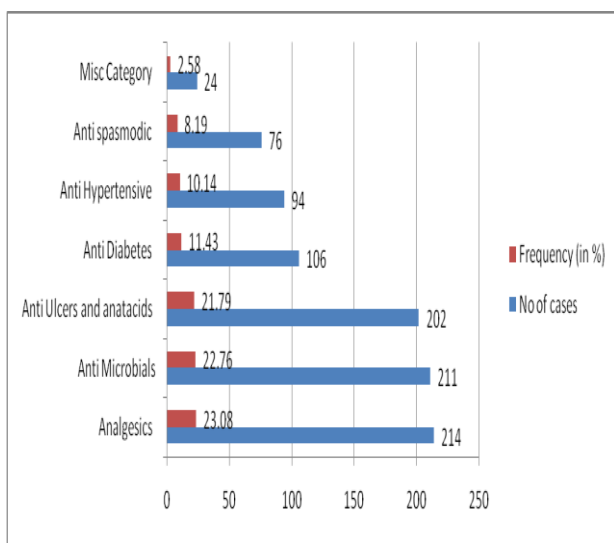
- a) Legible: - Can read easily.
- b) Legible with effort: - Can read with some difficulty.
- c) Illegible: - Prescription which can't be read at all.

- Erasures: - Erasures in each prescription were also noted and frequency was calculated.

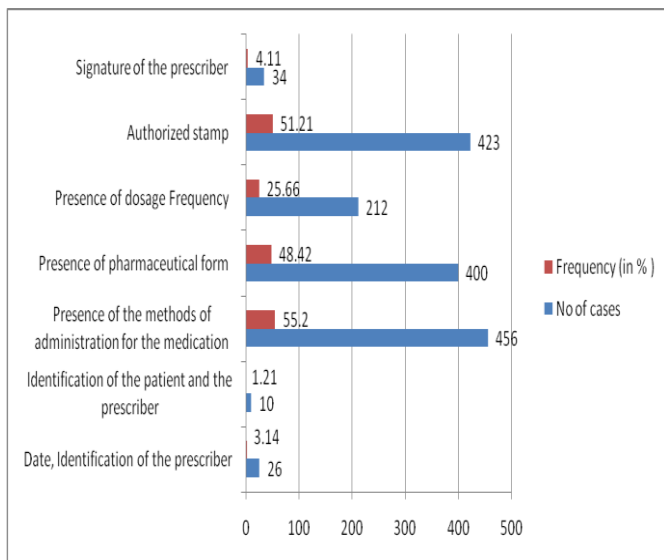
Drugs whether prescribed by generic or brand names are studied.

The methodology used for this study can be explained by following flowchart [Figure 1]

**Figure 2 : The drugs commonly used in the Tertiary Hospitals of Chhattisgarh**

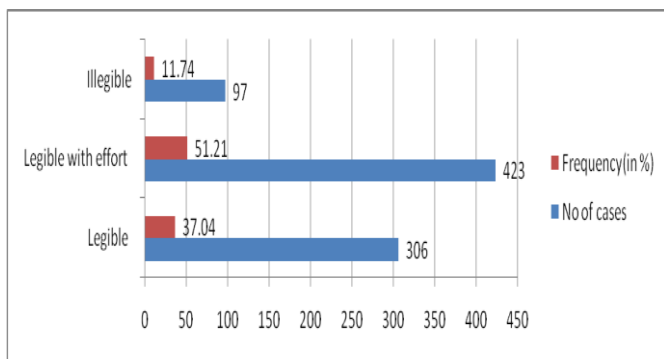


**Figure 3: The parameters absent from the Prescription Audited,**



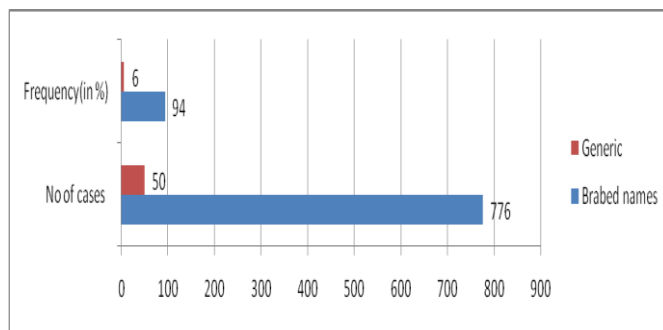
The most of the prescriptions are difficult to read as the no of prescription in Legible with effort (51.21%) Illegible category (11.74%) [Figure 4]

**Figure 4 : Legibility criteria of Prescription Audited,**



The drugs prescribed by branded name (94%) are significantly more than the generic name (6%). [Figure5]

**Figure 5 : Brand and Generic name study of Prescription Audited**



**DISCUSSION**

From the above results we find that analgesics are most commonly prescribed drug so the cases related to various type of pains are the most commonly encountered in tertiary hospital of Chhattisgarh. The Presence of the methods of administration for the medication is the most common parameter absent from prescription (55.2%), this type of prescription error could lead to problem of wrong administration of the drug which may lead to the problem of adverse reaction, under medication. Another problem that comes into the notice during this study is absence of authorized stamp in a considerable number of prescriptions which may lead to misuse of the prescription.

In the most of the prescription the legibility was found not up to the mark as the no of the prescription was legible with effort (51.21%), the difficulty in the prescription legibility could lead to wrong interpretation of the prescription by the subjects as well as the pharmacist or any health professional worker dispensing the prescription.

Most of the drugs were prescribed by brand name (96%), prescribing by brand name increase the medication cost on the common people.

**CONCLUSION**

From we could conclude that certain aspects of the prescription writing is to be improved so that a health system could be developed that would have more benefits and less unwanted effects.

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