# Prescription Audit In Outpatient Department Of A Tertiary Care Teaching Hospital Of North India

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**ABSTRACT**
**Introduction:**
Prescription audits, based on guidelines from the World Health Organization, help to reduce drug-related errors that are one of the common sources of preventable harm, therefore improving patient care. Irrational drug prescriptions have become a global phenomenon and India is no exception, as it tops the list in the sheer usage of antibiotics. This observational study intends to assess and analyse the prescribing patterns of the prescriptions drawn at a tertiary care teaching hospital in North India against the core indicators from the World Health Organization.
**Materials and Methods :**
A prospective, observational study was conducted in the OPDs of a tertiary care hospital for three months. 150 prescriptions were randomly picked for this study and analysed using WHO-prescribing indicators. The data were collected during regular hours in the OPDs and analysed by descriptive statistics.
**Results:**
Superscription analysis revealed most of the prescriptions recorded essential patient details, but a diagnosis was mentioned in only 26% of them. The inscription analysis showed that 96% of prescriptions conformed to the standard treatment requirements. Majority of prescriptions mentioned the brand names and generic names accounted for only 4% of prescriptions. Brief medical history was provided in 42% and clinical examination findings in 78% of the prescription. Subscription analysis revealed that all prescriptions were signed, but the prescribers' registration numbers were not included.
**Discussion:**
There were numerous shortcomings highlighted about prescriptions practice such as antibiotic misuse and failure to provide generic names. The 74% of prescriptions where no diagnosis was included exposes a possible result in the error chain, and poor documentation of patient history may disrupt continuity of care.
**Conclusion:**
Results reveal that though most of the prescriptions broadly conformed to the WHO-prescribing indicators, there are critical lapses in prescription quality like lack of recording of diagnoses, over-prescription of antibiotics, and lesser use of generic drugs. It's very important to deal with these issues to implore patient safety and promote rational drug use.

**Keywords:**
Prescription audit, antibiotic resistance, WHO core indicators, generic drugs, outpatient department.

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## INTRODUCTION:

A prescription, according to the World Health Organization is a set of instructions from a qualified health care provider to a patient or to a pharmacist for the provision of a treatment for patient for their personal use.[1] It enables a pharmacist to dispense specific medications for a patient, consistent with corresponding elements of a prescription directive. Besides, it is also considered a part of clinical audit for the implementation of quality assurance on an ongoing basis. particularly in outpatient (OPD) settings.[2]

Improve patient care by identifying and reducing potential and real medication related errors is primarily what prescription audit is meant for. It's just a part of a bigger clinical audit process, with an objective of checking and correcting these errors with a focus on medications which usually takes place in OPD. The high level of interest surrounding medication safety in discourse, education and research underscores its importance.

The irrational drug prescription is a growing concern worldwide. The situation in India is especially alarming because it has one of the highest rates of antibiotic usage in the world.[3] When drugs are not administered properly, not only does this affect patients by increasing financial burden due to delay in treatment but it also leads to a situation where patients don't adhere fully to the prescribed treatments.[4]

Prescription errors are still a major source of concern globally, as the medication errors processing through the health systems is riddled with opportunities for errors either by the healthcare provider, pharmacist or patient and this can lead to a mistake. Medication errors are probably the most frequent and preventable sources of harm in healthcare.[5] It has been estimated that majority of adverse drug events might have been avoided (with some studies estimating more than 50% of those related to prescribing)[6,7].

In recent years, medication errors have been a major focus of interest in the health care sector, as it has accounted for majority of the preventable morbidity and mortality. These errors stemmed from prescribing errors are a cause of serious concern. Different factors influence to the prevalent of irrational prescribing such as inadequate training of the staff, wrong diagnosis, pharm company's influence, patient's demand of specific drugs, over use of multiple drugs i.e. polypharmacy[8].

In present study, we built on the existing efforts by analyzing prescriptions based on WHO (World Health Organisation) core indicators. Over the span of three months, we assessed 150 prescriptions as a part of an ongoing effort for promoting rational drug use and quality care enhancement.

## MATERIALS AND METHODS:

A total of 150 prescriptions were collected from various outpatient departments (OPDs), regardless of specialty.

## STUDY DESIGN:

This was a prospective observational study conducted in the outpatient department of the tertiary care teaching hospital of Northern India. The study was started after clearance from Institutional Ethics Committee. The study was approved after taking informed consent from the patient and maintained strict confidentiality of the participants. A total of hundred fifty prescriptions irrespective of patient's profiles or diagnosis were randomly selected from the various O.P.D's (Out Patient Department)

Data from these prescriptions was accurately entered in database. Using Microsoft Excel, we used the routine descriptive Statistics to compare the indicators. This prescription audit study adhered to the laid directives for prescription audit by National Health System Research Centre of Medical and Health Sciences, Ministry of Health and Family Welfare, Govt. of India as recommended by World Health Organization prescribing guidelines.[f]

## INCLUSION CRITERIA:

1. All patients attending the OPD, regardless of age or gender.
2. Patients who voluntarily provided written consent to participate in the study.

## EXCLUSION CRITERIA:

1. Patients attending the OPD for vaccinations.
2. Patients who declined to provide written consent.

Data was collected during regular OPD hours, from 8:00 AM to 2:00 PM, and was recorded using a questionnaire (Annexure-I). A copy of each prescription was kept for record-keeping purposes. The data was compiled into numbers and percentages and presented in tables. Quantitative and categorical data were visually represented using bar graphs to facilitate a clearer understanding of the findings.

## RESULTS:

## SUPERSCRIPTION ANALYSIS

Among the 150 prescriptions analyzed, all Superscriptions were complete (100%) as these had the general details, i.e. name, age, gender, date of consultation, symbol Rx was mentioned but diagnosis was included in only 26% of the prescriptions.

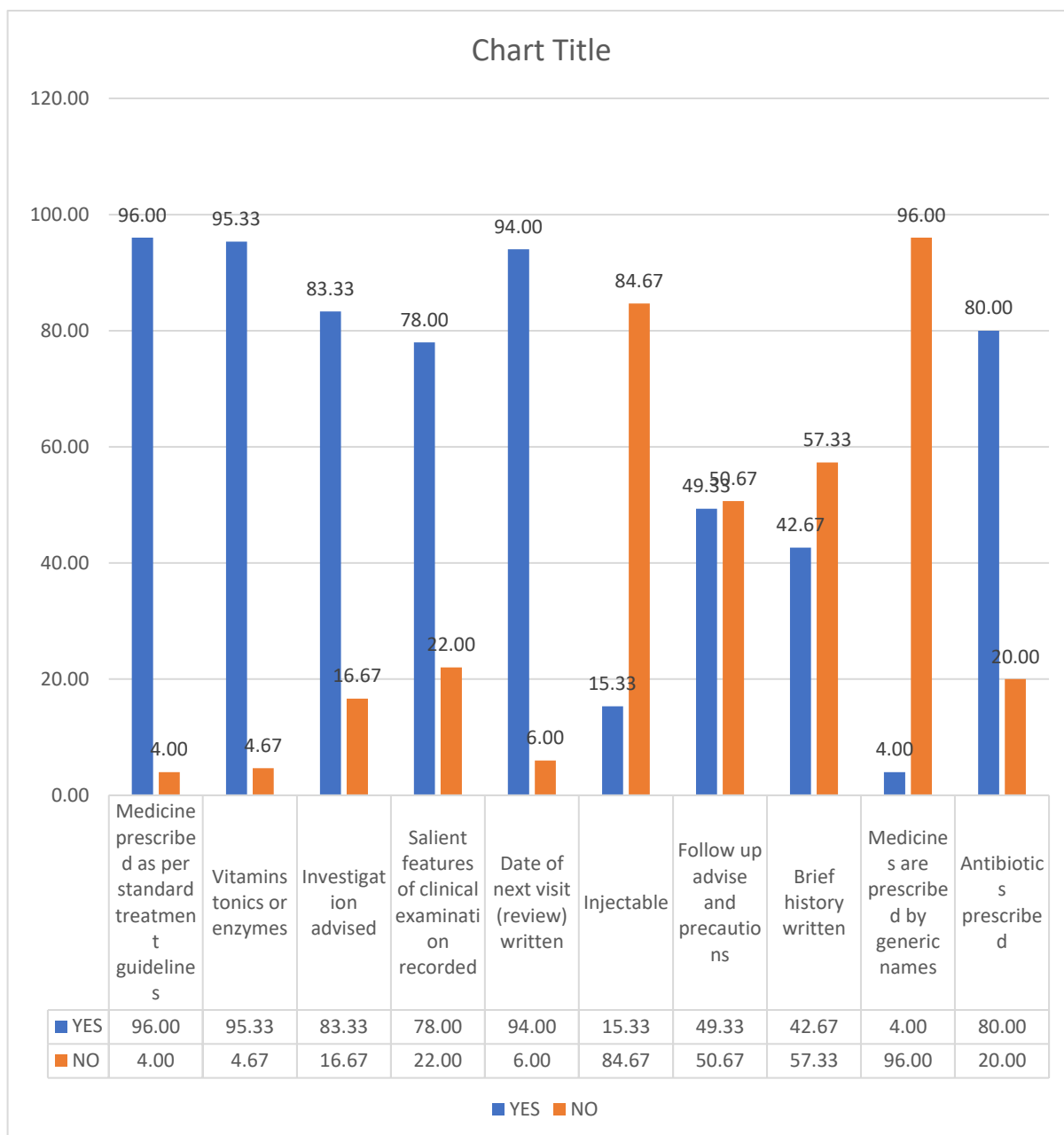| Superscription Analysis | Yes (Percentage) | No (Percentage) |
|---|---|---|
| OPD registration number mentioned | 100.00 | 0.00 |
| Complete name of the patient is written | 100.00 | 0.00 |
| Age of the patient in years | 100.00 | 0.00 |
| Gender of the patient | 100.00 | 0.00 |
| Date of consultation | 100.00 | 0.00 |
| Symbol Rx mentioned | 100.00 | 0.00 |
| Presumptive/definitive diagnosis | 26.67 | 73.33 |

**Table 1: Superscription analysis**

## INSCRIPTION ANALYSIS:

During the inscription analysis it was found that 100% of patients knew the correct dosage schedule ( Strength, dosage form, duration, route) of the drugs they had received. Antibiotics were prescribed in 80% of cases. Only 15% had injectables prescribed. Only 4% of drugs were prescribed by their generic name.

83% had been advised investigations. 78% of the prescriptions recorded salient features of clinical examination , while brief history was mentioned in few 42% of them. No referral was mentioned. Although the date of next visit was written in 100% of the prescription but few 42% of them had a written advice and precaution. Legible signature was found in 100% of prescriptions.

| Inscription Analysis | Yes (Percentage) | No (Percentage) |
|---|---|---|
| Medicine prescribed are in line with standard treatment guidelines | 96.00 | 4.00 |
| Vitamins, Tonics or enzymes | 95.33 | 4.67 |
| Investigation advised | 83.33 | 16.67 |
| Handwriting is legible in capital letters | 99.33 | 0.67 |
| Salient features of clinical examination recorded | 78.00 | 22.00 |
| Date of next visit (review) written | 94.00 | 6.00 |
| Injectable | 15.33 | 84.67 |
| Brief history written | 42.67 | 57.33 |
| Follow up advise and precautions | 49.33 | 50.67 |
| Medicines are prescribed by generic names | 4.00 | 96.0 |
| Antibiotics prescribed | 80.00 | 20.00 |

**TABLE 2: INSCRIPTION ANALYSIS**

## Chart Title

| | Medicine prescribed as per standard treatment guidelines | Vitamins tonics or enzymes | Investigation advised | Salient features of clinical examination recorded | Date of next visit (review) written | Injectable | Follow up advise and precautions | Brief history written | Medicines are prescribed by generic names | Antibiotics prescribed |
|---|---|---|---|---|---|---|---|---|---|---|
| ■ YES | 96.00 | 95.33 | 83.33 | 78.00 | 94.00 | 15.33 | 49.33 | 42.67 | 4.00 | 80.00 |
| ■ NO | 4.00 | 4.67 | 16.67 | 22.00 | 6.00 | 84.67 | 50.67 | 57.33 | 96.00 | 20.00 |

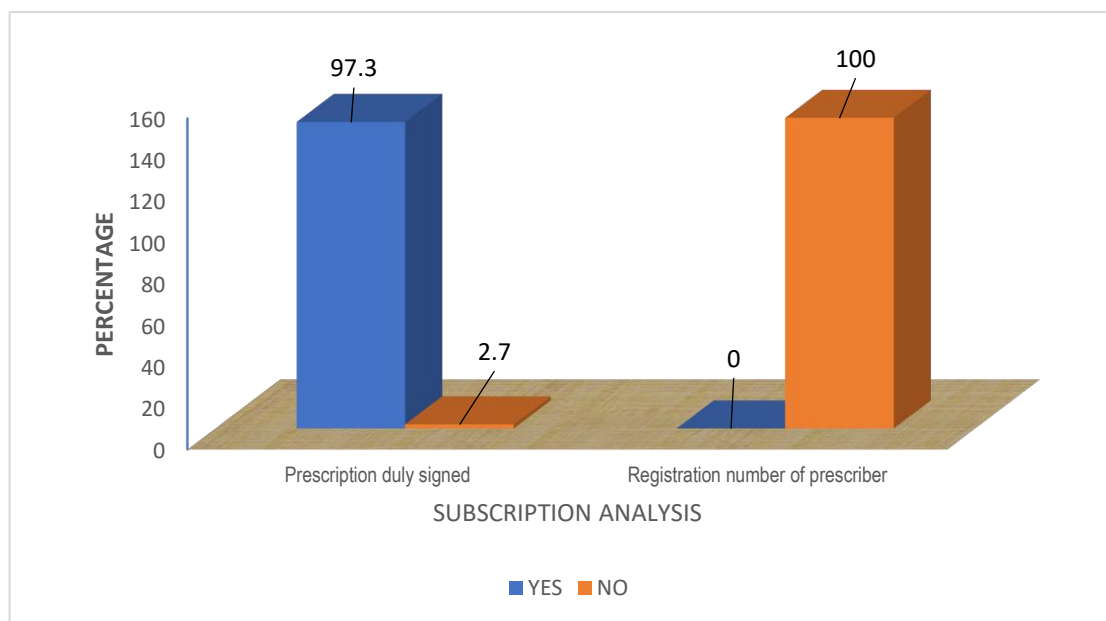■ YES ■ NO

**GRAPH 1: Inscription analysis**

**SUBSCRIPTION ANALYSIS:**
The subscription analysis revealed that almost all prescriptions were duly signed, but doctor's registration number was not mentioned.

**Graph 2: Subscription analysis**

**DISCUSSION:**

This analysis of medication prescriptions revealed key deficiencies in prescribing pattern at a teaching hospital in North India, with areas for some focus to make medications even safer and more efficient.

Another important fact is that seventy-four percent of prescriptions made no diagnosis. A diagnosis is important in communicating vital information clearly for the administration of proper treatment. In the absence of this important key piece of information, it then raises the possibility that some doctors may be disregarding the importance of including the diagnosis, contributing to unnecessary confusion or errors in patient treatment.

On prescription analysis, it was found that every patient knew his drug timings but the shocking 80% rate of antibiotic prescriptions is dreadful. Excessive use of antibiotics leads to antibiotic resistance, and this trend must be stopped. The generic names of drugs were used in only 4% of prescriptions. Doctors should therefore adopt more conservative prescribing practices, knowing that generics are cheaper and dependable. It further indicated a lack of proper recording of patient medical history and clinical exam results. Only 42% of the prescriptions provided a short patient history, while 22% didn't mention important clinical examination information. In such practices, the lack of proper documentation will likely affect the level of care in the next rounds of appointments and might increase chances of making a mistake. Such patients require a better health provider who can make better decisions for the patient's safety.

Another problem was that there were no prescribers' registration numbers on any prescriptions. Such information is important in adding prescribers to any negative results attributed to them.

**CONCLUSION:**

This study has shown that the prescriptions largely conformed to the WHO-prescribing indicators but many had deficiencies in recording the patient details and dosage instructions. Most striking feature was the poor score in writing the diagnosis and generic drugs in prescriptions given at a teaching hospital in North India.
74% prescriptions had no diagnosis risking the patient trending on error line. High percentage of antimicrobial prescriptions revealed urgent crisis in curbing antimicrobial resistance. In addition to this only 4% prescriptions gave generics names and key information like history and examination of patients invariably missed. Neither were prescribers' registration numbers mentioned that helped blot any accountability.
From these findings it appears that prescribers need to be aware and trained to prescribe according to the standard prescribing guidelines.

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