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**INDO AMERICAN JOURNAL OF  
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1154127>Available online at: <http://www.iajps.com>**Research Article****A STUDY OF PRESCRIPTION AUDIT IN INPATIENT  
DEPARTMENT OF TERTIARY CARE HOSPITAL, PUNE****Megha M. Ahuja, Shantanu M Deshmukh, Shruti M Pachpohar, Asmita Sagat, Komal  
Nawale, Pratik Shinde**Pharm D Student, Government College of Pharmacy, Kathora Naka, Amravati, Maharashtra  
444604**Abstract:**

**Background** – Prescription is a written medical order by health care professionals that demands safety of patient through appropriate prescribing. Inappropriate prescribing leads to medication errors that can be detected through prescription auditing. Our study was conducted with the aim of evaluating, monitoring, and modification of prescribing methods if necessary. **Method-** A prescription audit tool kit was designed that includes elements needed to be monitored. These elements were monitored for completeness of the of prescription format. **Results-** Total 95 patients were evaluated for prescription audit out of which clinical assistant wrote 95-medication order, Resident Wrote 81, and Consultant wrote 62 medication orders. According to the checklist provided by the hospital 16 parameters was assessed. 88.64percentage medication orders were compliance with the assessed parameters in case of Clinical Assistant. While, In case of Resident Doctor and consultant 78.87% and 77.5% compliance was observed resp. **Conclusion-** Our Study Shows that many of the prescribing habits of the residents and consultants needs attention and should be modified. Training Prescribers for Rational Prescribing can help to improve prescribing practices and thereby reducing prescribing errors safeguarding safety of the patient.

**Keywords:** Auditing, Prescription Audit Tool Kit, Rational Prescribing, Medication Errors, Drug-Drug Interactions

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**INTRODUCTION:**

Prescription is a written medical order by a registered medical practitioner that authorises the treatment given to the patient. [1] Rational prescribing involves input of therapeutic intervention through various sources like academic literatures, communication with healthcare professional, regular scientific updates etc. [2] Irrational prescribing governs the need for prescription audit. One of the methods to assess rationality of prescribing is prescription audit<sup>1</sup>.

An 'audit' is defined as the review and the evaluation of the health care procedures for comparing the quality of care that is provided, with the accepted standards<sup>2</sup>. Prescription audit is a quality improvement process that seeks to improve patient care and outcomes through systematic review of case against explicit criteria and the implementation of change<sup>3</sup>. Errors can arise from spurning the seven rights of drug administration. [3] Prescriber must take into account 7R's of drug administration before prescribing that includes Right dose, Right medication, Right patient, Right reason, Right route, Right time, and Right documentation. Apart from the 7R's of medication administration legibility should be taken into consideration while writing a prescription order to avoid misinterpretation of prescription.

To ascertain the medication errors in the prescription order a simple and supreme prescription audit tool is used to monitor, evaluate, and update the prescription practices of healthcare professionals. [4] The present study was conducted with the goal of analyzing the

medication orders of the IPD patients. In addition, the principle intention was to evaluate medication orders and create awareness among the healthcare professionals regarding rational prescribing.

**Aim & Objectives-**

- To analyze the medication orders of the IPD patients
- To determine whether the medication orders are written as per hospital standards
- To find out the rationale of the drug use
- To evaluate & create awareness among the health care professionals about probable health hazards to patients due to medications errors, drug-drug, food-drug interactions, adverse drug reaction

**Plan of work**

For achieving the objectives of the research work, study was planned as follows:

- Literature Review
- Design of Prescription audit form
- Collection of data
- Data analysis

**METHODOLOGY:**

**Study design-** It was an observational, non interventional study carried out at a tertiary care hospital, Pune

**Study duration-** 25 November to 15 December 2017  
The present study was aimed to provide an insight into the prescriptive pattern of the clinical assistants, resident doctors, and consultant doctors.

**Prescription Audit Tool Kit**

		Demographic Details		Diagnosis	Clinical Assistant/Registrar													Remarks
S. No.	Reg No. / UHID No.	Known allergy	documented		Date and Time on Order-sh	Name of the drug	Dosage form of drug	Strength of the drug	Route of the drug	Frequency of the drug ad	Legibility	Verbal order documented,	Use of Unauthorised Abbreviations	Name& sign	Uniform location of treatment	Prescription in Capital letter		
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

Please tick ✓ for Yes, x for No and - for NA

AUDITOR'S NAME AND SIGNATURE : \_\_\_\_\_

MONTH : \_\_\_\_\_

Consultant Doctor													
Date and Time on order-dh	Name of the Drug	Dosage form of the drug	Strength of the Drug	Route of the drug	Frequency of the drug administration	Legibility	Use of unauthorised abbreviations	Name and Sign	Uniform location of treatment	Prescription in capital letter	Therapeutic Duplication	Drug-Drug interactions	Remarks
D T													

Resident Doctor													
Date and Time on order-sh	Name of the drug	Dosage form of the drug	Strength of the drug	Route of the drug	Frequency of drug Administration	Legibility	Use of unauthorised abbreviations	Name and Sign	Uniform location of treatment	Prescription in capital letter	Therapeutic Duplication	Drug Drug Interaction	Remarks
D T													

**RESULTS:**

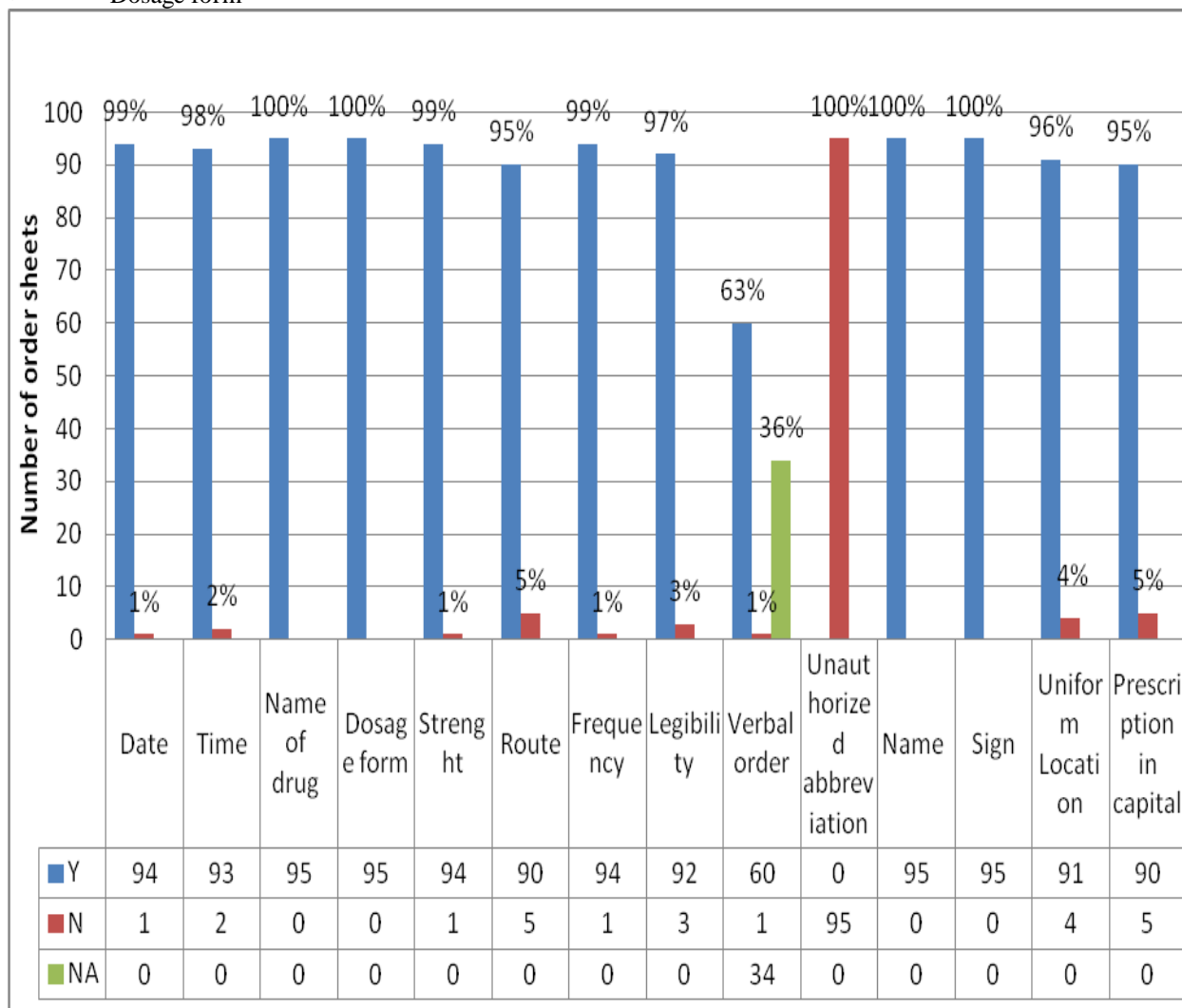
**1) Clinical Assistant**

The parameters, which were meticulously present in all the medication orders by clinical assistant, are as follows:

- Date & Time on order sheet
- Name of drug
- Dosage form

- Strength
- Frequency
- Name and sign

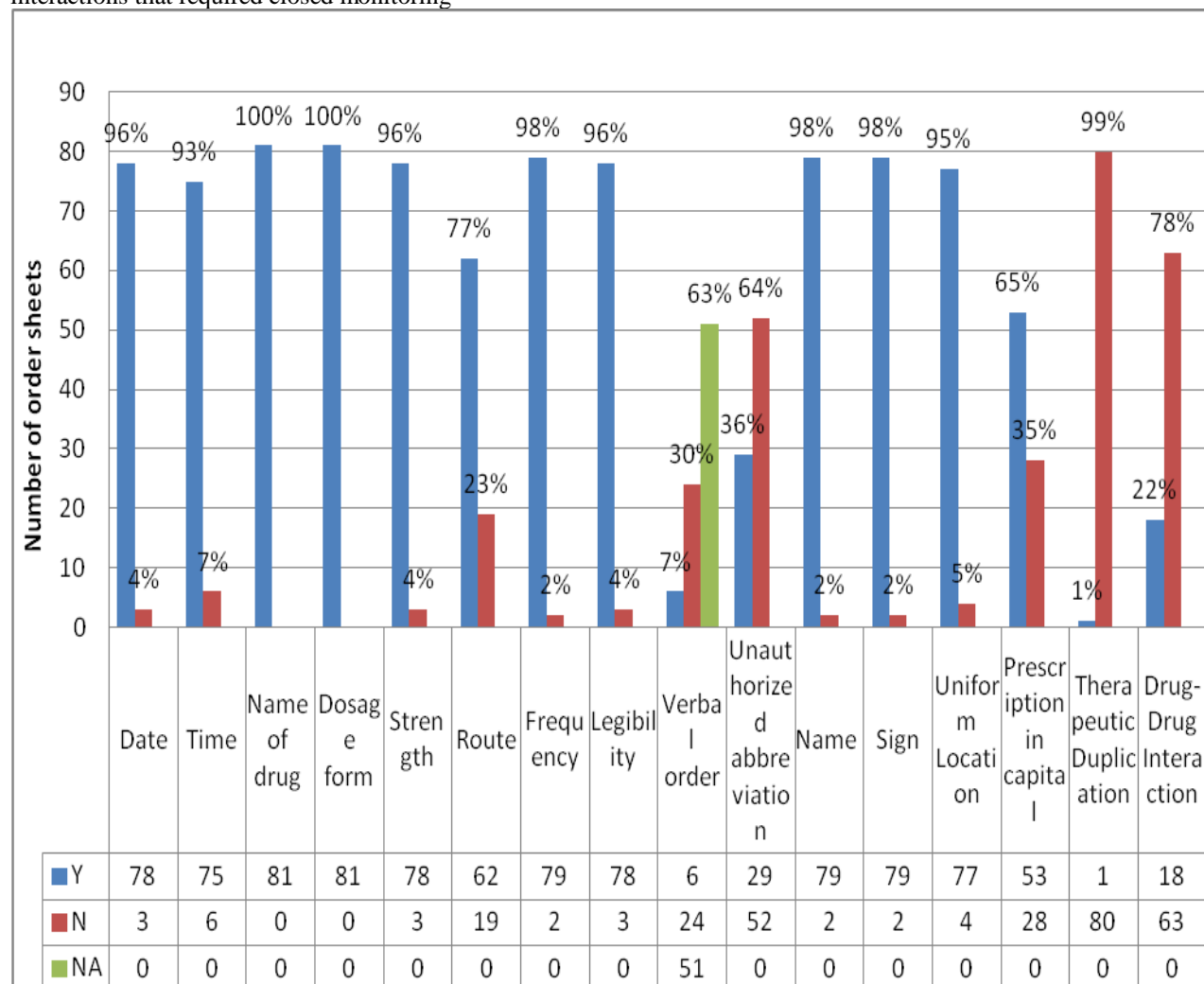
Clinical Assistants did not use unauthorised abbreviations in any of the medication orders. The 'route' of drug was not present in about five cases out of 95 medication orders. The route such PO was not mentioned.



**Fig. 1: Analysis of parameters in medication orders by Clinical Assistant**

## 2) Resident

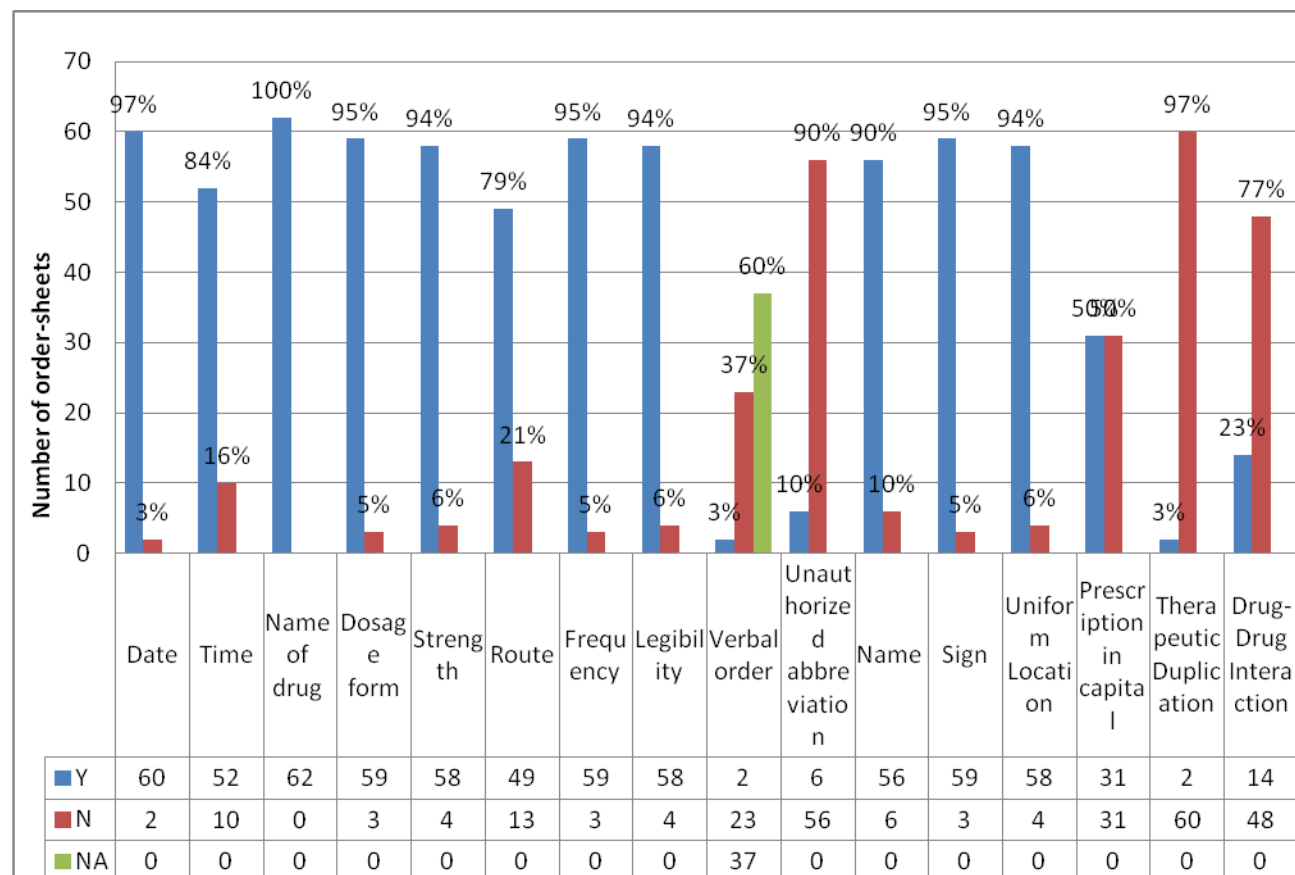
Name and dosage form of drug were present in all order-sheets while there was lack of date, strength, and legibility in three cases out of 81. In two orders 'name and sign' was not present and in six cases 'time' was not mentioned. Verbal order was countersigned in only six cases out of 30. Use of unauthorised abbreviations such as 'MgSO<sub>4</sub>, cc' and lack of route such as 'PO' was found in 29 and 62 cases respectively. Drug-drug interactions were found in about 18 cases out of 63 of medication orders among which majority were severe interactions and were moderate interactions that required closed monitoring



**Fig. 2: Analysis of parameters in medication orders by Resident Doctors**

## 3) Consultant

Name of the drug was mentioned on all medication orders. Date, time, strength, and legibility were lacking in approximately 2, 10, 4, and 4 cases respectively. About 3 out of 62 medication order sheet were deprived of dosage form, frequency of dosing, and sign of the respective consultant in-charge Use of unauthorised abbreviations such as 'cc, OD, BD' was found in 6 out of 62 cases. Route such as 'PO, IV' was not mentioned in 13 cases and capital letters were not used in 31 cases out of 62. Verbal order was not countersigned in about 23 out of 25 cases. Drug-drug interactions were found to be present in about 14 out of 62 cases.



**Fig. 3: Analysis of parameters in medication orders by Consultant Doctor**

### CONCLUSION:

The study found 100% compliance to standard protocol regarding parameters such as name of drug, dosage form, no use of unauthorised abbreviation, name, and sign by clinical assistant

Among all the parameters studied it seems that drug-drug interactions in the medication order were present in about 23% medication orders by consultant and 22% medication orders by resident which could have been avoided by using alternative drugs or changing the time of drug administration. Drug-drug interactions may worsen patient's health and hence, it is a field of concern. Therapeutic duplication was present in only 1% and 3% of medication orders by resident and consultant respectively. Clinical assistant, resident, used capital letters to write prescription and consultant in about 95%, 65%, and 50% medication orders respectively and in remaining cases, they were not used uniformly. Almost all of clinical assistants signed verbal orders, whereas residents did not countersign 30% of verbal orders out of 37% and 37% verbal consultant did not countersign orders out of 40%. Other fields of

concern are strength of drug (not mentioned in 4% and 6% medication orders by resident and consultant resp.) and route of administration (not mentioned in 19% and 13% medication orders by resident and consultant respectively). Thus, this prescription audit study shows that many of the prescribing habits of the residents and consultants needs attention and should be modified.

### Limitations

The presence of food-drug interactions could not be assessed in this study, as the exact diet which patient had could not be known.

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