

# A Review on Prescribing Indicators and Prescription Auditing

Aseem Sethi<sup>1</sup>, Mandeep Kaur<sup>2</sup>, Megha Garg<sup>3</sup>

<sup>1</sup>Student, Department of Pharmacy Practice, Indo-Soviet Friendship College of Pharmacy, Moga, Punjab, India.

<sup>2</sup>Assistant Professor, Department of Pharmacy Practice, Indo-Soviet Friendship College of Pharmacy, Moga, Punjab, India.

<sup>3</sup>Intern, Department of Pharmacy Practice, Teerthanker Mahaveer College of Pharmacy, TMU, Moradabad, U.P., India.

Received: April 2019

Accepted: April 2019

**Copyright:** © the author(s), publisher. It is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

## ABSTRACT

Prescription auditing is a quality improvement process that seeks to improve patient care. Medical Audit may be defined as a process with the aim of making improvements in patient care and proper use of resources. The most important part of healthcare system is to deliver the right medicine to the right people. Prescription auditing is one of the important tools to avoid misuse of drugs and improve rational use of drugs. The performance of the health care providers related to the appropriate use of drugs can be accessed by analysing different prescribing indicators. The parameters which have to be analysed in the process of prescription auditing are Patient demographics, Clinical diagnosis, Department, Prescribing standards, Doctor's name and signature. A total of 25 national and international articles were collected to see the prescribing pattern of drugs. Various studies showed that majority of practitioners do not follow the guidelines while writing prescriptions and usage of drugs. There is a need to standardize the prescribing patterns in India so that all essential information is included and will be helpful for the better patient care. Irrational prescribing and improper dispensing leads to unnecessary expenditure for the patient. The present study could serve as a frame work upon which further studies can be launched in prescription auditing to investigate the scope for educational intervention and improvement in prescribing patterns.

**Keywords:** Medical Audit, Patient Care, Prescribing Indicators.

1

## INTRODUCTION

A prescription is a written communication from a registered medical practitioner to a pharmacist regarding instructions on dispensing of prescribed medication. Prescription audit is a quality improvement process that seeks to improve patient care.<sup>[1]</sup> Medical Audit may be defined as a process with the aim of making improvements in patient care and proper use of resources. It is a systematic and critical analysis of the quality of medical care. It is a continuous cycle implementing changes and to develop a new practice. Thus, medical audit is a systematic approach which gives a clear review of medical care. Effective prescription audit is important for health care professionals and managers, patients, and the public. It also supports the health professionals in making sure that the patients receive the best care. Prescription audit or medication audit involves observation, evaluation, and further recommendation on the prescribing practice of physicians, in turn promoting rational

prescribing and cost-effectiveness of drugs.<sup>[2]</sup> The most important part of healthcare system is to deliver the right medicine to the right people. Worldwide it is estimated that over half of all medicines are prescribed, dispensed or sold inappropriately, and that half of all patients fail to take their medicines correctly.<sup>[3]</sup> Examples of irrational use of medicines include: poly-pharmacy, inadequate dosage, use of antimicrobials even for non-bacterial infections, excessive use of injections when oral forms are available, self-medication and noncompliance to dosing regimens.<sup>[4]</sup>

### Parameters Analyzed In Prescription Auditing

The parameters which should be analysed in the process of prescription auditing are:

1. Patient demographics
  - a. Patient name
  - b. Sex
  - c. Age
  - d. Body weight
  - e. Date of prescription received
2. Clinical diagnosis
3. Department
4. Prescribing standards
  - i. Dose
  - ii. Dosage form

### Name & Address of Corresponding Author

Dr. Mandeep Kaur  
Assistant Professor,  
Department of Pharmacy Practice,  
Indo-Soviet Friendship College of Pharmacy,  
Moga, Punjab, India- 142001

- iii. Generic name
  - iv. Brand name
  - v. Duration of treatment
  - vi. Time of administration
5. Doctors name and signature

#### **Demographic Details (Superscription):**

Superscription includes the date of prescribing, name, address, weight, age of the patient; and Rx. The symbol "Rx" is said to be an abbreviation for the Latin word recipe, meaning "take" or "take thus" as a direction or order to a pharmacist, preceding the physician's "recipe" for preparing a medication.<sup>[1]</sup> The patient's name and address are needed on the prescription order to ensure that medication goes to the correct patient. For the dose calculation, a patient's weight, age, or body surface area should also be listed on the prescription.

#### **Clinical Diagnosis**

It is defined as a diagnosis made on the basis of medical signs and patient reported symptoms, rather than diagnostic tests. Clinical Diagnosis plays an essential part in the delivery of quality health care. It helps the pharmacist to check if there is any error in the prescription order written by the physician.

#### **Department**

Mentioning the department in a prescription by the physician helps the pharmacist to clarify any possible doubts in the prescription order. By considering the department in auditing, researchers can get a clear view on the percentage of patients visiting each department.

#### **Prescribing Standards**

The prescribing standards include dose, dosage form, generic name, brand name, duration of treatment, and time of administration. Prescribing standards have to be followed as per the prescribing guidelines which aids in rational prescribing. Poor handwriting is a well-known and preventable cause of dispensing errors. Also, accuracy as per patient condition and legibility of the prescribed drugs are essential.<sup>[1]</sup>

#### **Doctor's Name And Signature**

Prescriber identity, name, address, and registration number are the pre-requisites of any prescription, especially in cases where controlled drugs are prescribed.<sup>[1]</sup> Prescriptions lacking physician's information are one of the major risk factor for the occurrence of medication errors.<sup>[2]</sup>

#### **Who Core Prescribing Indicators**

The performance of health care providers relates to appropriate use of drugs and can be assessed by analysing different prescribing indicators. The indicators that can be included in the study are based on the practices observed in a clinical setup. These

indicators can be analysed either retrospectively, from data recorded in patient medical records or prospectively, data from a group of patients visiting on daily basis. The degree to which prescribing practice conformed to the essential drug list, formulary or standard treatment guideline should also be measured by searching for the number of drugs prescribed from essential drug list available.<sup>[5]</sup> Prescribers can only treat patients in a rational way if they have access to an essential drug list, which is available on a regular basis.<sup>[6]</sup> The various prescribing indicators are meant to elucidate prescribing characteristics relating to polypharmacy, level of antibiotic use, injection use, and adherence to guidelines relating to generic and Essential Medicine List prescribing.<sup>[7]</sup> Usually the core prescribing indicators will not be specific in the collection of any information on signs and symptoms, since the samples obtained from the clinical encounters cover a broad spectrum of health problems. The core prescribing indicators measure general prescribing tendencies within a given setting, independent of specific diagnoses. It has been estimated that 50% or more medicine expenditure is being wasted through irrational prescribing, improper dispensing, and incorrect patient use of medicine.<sup>[8]</sup>

The study was explored on perspectives of healthcare practitioners on current issues about medication safety in hospitals and community settings, and to identify challenges and explore the future of medication safety practice. The report is based on a literature review on prescription auditing in various tertiary hospital settings. This study involved the collection of data related to prescription guidelines in different areas, for rational prescribing of drugs, poly-pharmacy, physician information (stamp, diagnosis, signature), patient information (demographic details), drug information (strength, frequency, generic name, legible), and for the general content of the prescription.

25 national and international articles were analysed to verify whether the standard prescribing guidelines were used in these tertiary care hospitals. The studies showed that majority of the practitioners are not following the guidelines while writing the prescriptions. There is a need to standardize the prescribing patterns in India so that all essential information is included and thus, it will be helpful for better patient care.

Farnoud and Shekar screened a total of 3000 outpatient prescriptions in a tertiary care hospital in Bangalore for the essential elements of prescriptions according to published guidelines and reported that the average number of drugs prescribed per patient ranged between 1-7, and 90.8% of prescriptions included 3 or fewer drugs. Most commonly prescribed drugs were anti-diabetics and anti-hypertensives (30.3% and 28.3%, respectively), followed by analgesics and antimicrobial agents.<sup>[9]</sup>

Bandyopadhyay analysed 4500 prescriptions in a tertiary care teaching hospital of eastern India and observed that proportion of male patients was higher (54.80%) than female, and children constituted about 25.11% of the total number included. Average age of the patients ranged between 12-75 years. However, age and sex was not mentioned on many of the prescriptions analysed (2.17% and 2.03%, respectively). Majority of the patients were unemployed and not at the level of higher secondary education. Most of the patients belonged to General Medicine Out Patient Department (45.38%), followed by Paediatrics, Surgery, and Gynaecology & Obstetrics.<sup>[10]</sup>

Ahsan et al stated that among the 1274 prescriptions analysed, all of them had the date, details of the patient such as name, age, sex and address. Weight was written on all paediatric prescriptions, but not on prescriptions for adults. Name of all the unit doctors and hospital address was printed on the prescriptions, but none mentioned the doctor's registration number and 17% prescriptions did not have the physician's initials. Complete diagnosis was written in only 56% of prescriptions. In the inscription part of the prescription, the dosage form such as Tablet (Tab.), Capsule (Cap.), Syrup (Syp.), or Injection (Inj.) was missing in 15% of the total prescriptions analysed. 9% of the prescriptions had incorrect dosage and 13% of prescriptions omitted the duration of treatment. Directions for drug use was not mentioned in 35% of prescriptions, while follow up advice was written in only 23% of prescriptions.<sup>[11]</sup>

According to the prescribing guidelines, prescriptions will not be complete without writing the dose, dosage form, generic name, brand name, duration of treatment, time of administration, and doctor's name and signature.

## CONCLUSION

Many of the prescribing trends are a cause of concern and need attention. The value of such prescription audits in generating and testing hypothesis on inappropriate prescribing will definitely create an environment to improve prescribing habits, ultimately leading to enhanced patient care. The present study could serve as a frame work upon which further studies in prescription audit can be launched to investigate the scope for educational intervention and improvement in prescribing patterns. Prescription audit is an important tool to improve the quality of patient care. Data created on the morbidity pattern coupled with present practice of prescription will help in the generation of an action plan in order to improve the quality of patient care, and recommendations for changing the present prescribing practices. Comparing the current usage of drugs with the standard treatment guidelines will enhance the

effectiveness of treatment and render it most cost effectiveness.

## REFERENCES

1. Patel N, Desai M, Shah S, Patel P, Gandhi A. A study of medication errors in a tertiary care hospital. *Perspect Clin Res* 2016;7(4):168-73.
2. Sirisha S, Thomas SM, Varghese A, Reddy R, Baby B, Gudur SP. A descriptive study on prescription audit in India- A review. *Indo American J of Pharm Sci* 2015;2(3):641-7.
3. Hogerzeil HV. Promoting rational prescribing: An International perspective. *Br J Clin Pharmacol* 1995;39(1):1-6.
4. Abidi A, Gupta S, Kansal S, Ramgopal. Prescription auditing and drug utilization pattern in a tertiary care teaching hospital of western UP. *Int J Basic Clin Pharmacol* 2012;1(3):184-90.
5. WHO. How to investigate drug use in health facilities: Selected drug use indicators- EDM research series No. 007 1993;1-92.
6. Karande S, Sankhe P, Kulkarni M. Patterns of prescription and drug dispensing. *Indian J Pediatr* 2005;72(2):117-21.
7. Ofori-Asenso R. A closer look at the World Health Organization's prescribing indicators. *J Pharmacol Pharmacother* 2016;7:51-4.
8. Mao W, Vu H, Xie Z, Chen W, Tang S. Systematic review on irrational use of medicines in China and Vietnam. *Plos One* 2015;10(3):e0117710.
9. Farnoud MG, Shekar HS. Audit of prescriptions in a tertiary care hospital- A retrospective study. *World J Pharm Pharm Sci* 2016;5(10):886-94.
10. Bandyopadhyay D. A study of prescription auditing in a tertiary care teaching hospital of eastern India. *J Drug Deliv Ther* 2014;4(1):140-9.
11. Ahsan M, Shaifali I, Mallick AK, Singh HK, Verma S, Shekhar A. Prescription auditing based on World Health Organization (WHO) prescribing indicators in a teaching hospital in North India. *Int J Med Res Rev* 2016;4(10):1847-52.

**How to cite this article:** Sethi A, Kaur M, Garg M. A Review on Prescribing Indicators and Prescription Auditing. *Ann. Int. Med. Den. Res.* 2019; 5(3):MC09-MC11.

**Source of Support:** Nil, **Conflict of Interest:** None declared