PRESCRIPTION AUDIT AND PRESCRIBING INDICATORS: A REVIEW

Panayappan L, Jomcy Maria Jose, Jomin George Joseph, Krishna Jayapal, Susan Saju & KrishnaKumar K

Department of Pharmacy Practice, St. James College of Pharmaceutical Sciences, Chalakudy, Kerala
St. James Hospital Trust Pharmaceutical Research Centre (DSIR Recognized), Chalakudy, Kerala

(Received on Date: 8th May 2017 Date of Acceptance: 21st July 2017)

ABSTRACT

Prescription audit 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 tool to avoid misuse of drugs and improves rational use of drugs. The Performance of the health care providers related to the appropriate use of drugs can be accessed by analyzing the different prescribing indicators. The parameters which has to analyzed in the process of prescription auditing are, Patient demographics, Clinical diagnosis, Department, Prescribing standards, Doctors name and signature. A total of 25 national and international articles collected to see the prescribing patterns of drugs by the physician. The studies shown that majority of practitioners are not following the guidelines while writing the 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. The irrational prescribing, improper dispensing and patient use of medicine will lead to unnecessary expenditure for the patients. 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.

Keywords: Medical Audit, Polypharmacy, Better healthcare,

No: of References: 11

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[1]. Medical Audit may be defined as a process with the aim of making improvements in patient care and proper use of resources. It is 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 also supports the health professionals in making sure the patients receives the best care. Prescription audit or medication audit seeks observation, evaluation and further recommendation on the prescribing practices of medical practitioners to make rational prescribing and cost-effective[2]. The most important part of healthcare system is to deliver the right medicine to the right people. Prescription auditing is one of the important tool to avoid misuse of drugs and improves rational use of drugs. 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 medicine correctly.[3] Examples of irrational use of medicines include: poly-pharmacy, inadequate dosage, and use of antimicrobials even for non-bacterial infections, excessive use of injections when oral forms are available and inappropriate, self-medication and noncompliance to dosing regimes[4].

Parameters analyzed in prescription auditing

The parameters which has to analyzed in the process of prescription auditing are,

1. **Patient demographics**

i. Patient name
ii. Sex
iii. Age
iv. Body weight
v. Date of prescription received

2. **Clinical diagnosis**
3. **Department**
4. **Prescribing standards**

i. Dose
ii. Dosage form
iii. Generic name
iv. Brand name
v. Duration of treatment
vi. Time of administration

5. **Doctors name and signature**

DEMOGRAPHIC DETAILS (Superscription): The superscription includes the date of prescribing; the name, address, weight, and age of the patient; and the 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[1]. The patient's name and address are needed

on the prescription order to ensure that the correct medication goes to the exact patient. For the dose calculation, a patient's weight, age, or body surface area, also should be listed on the prescription.

CLINICAL DIAGNOSIS: 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. The clinical diagnosis helps the pharmacist to check whether if there is any error in the prescription order written by the physician.

DEPARTMENT: Mentioning a 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 visited per department.

PRESCRIBING STANDARDS: The prescribing standards include: Dose, Dosage form, Generic name, Brand name, Duration of treatment, Time of administration. Prescribing standards has to be tailed as per the prescribing guidelines which aids in rational prescribing. Poor handwriting is a well-known and preventable cause of dispensing errors. Accuracy and legibility are essential[1].

DOCTORS NAME AND SIGNATURE: Prescriber identity, name, address and qualification. It requires that prescriptions for controlled substances include the name, address, and registration number of the physician[1].Most of the prescriptions lacking the physician's information are one of the drawback and chance to get medication errors[2].

WHO core prescribing indicators:

The Performance of the health care providers related to the appropriate use of drugs can be accessed by analyzing the 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 analyzed either by retrospectively, from data recorded in patient medical records or can be prospectively, data from a group of patients visiting on the day. The degree to which the prescribing practice conformed to the essential drug list, formulary or standard treatment guideline were also measured by searching for the number of drugs prescribed from essential drug list available[5]. Prescribers can only treat patients in a rational way if they have access to an essential drugs list and essential drugs are available on a regular basis[6]. The various prescribing indicators are meant to elucidate peculiar prescribing characteristics relating to polypharmacy, level of antibiotic and injection use and adherence to guidelines relating to generic and Essential Medicine List prescribing[7].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, dispensing and patient use of medicine[8].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 the prescription auditing in various tertiary hospital setting. This study involved the collection of data related to prescription guidelines in different areas which is audited 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. Inclusion and exclusion criteria: 25 articles including national and international were analyzed to verify whether the standard prescribing guidelines were used in these tertiary care hospitals. The study results indicated that total of 25 national and international articles collected to see the prescribing patterns of drugs by the physician. The studies shown that majority of practitioners are not following the guidelines while writing the 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. DR. MARYAM GHANADI FARNOUD AND SHEKAR H. S. done an audit of prescriptions in a tertiary care hospital and reported in *World journal of pharmacy and pharmaceutical sciences* that a total of 3000 outpatient Prescriptions from a tertiary care hospital in Bangalore were screened for the essential elements of prescriptions according to published guidelines. The number of drugs prescribed ranged between 1 and 7 and 90.8% of prescriptions included 3 or fewer drugs. Most commonly prescribed drugs were diabetic and antihypertensive drugs 30.3% and 28.3% respectively followed by analgesic and antimicrobial drugs[9]. Debasis Bandyopadhyay et.al testified the prescription auditing in a tertiary care teaching hospital of eastern India that total 4500 prescriptions collected during the study period. Out of that only 4180 prescriptions analyzed. Proportions of male patients were higher (54.80%) than female while children constituted 25.11% and the patients aged between 12 years to 75 years constituted 72.70%. But age was not mentioned in 2.17% of patients, while in 2.03% of patients sex was not written. Majority of the patients were unemployed and not at the level of higher secondary education. Majority of the patients (45.38%) found from the General Medicine out Patient Department (OPD), followed by Pediatrics, Surgery and Gynecology & Obstetrics[10]. Ahsan M. et al stated in Prescription auditing based on World Health Organization (WHO) prescribing indicators in a teaching hospital in North India that among the 1274 prescriptions

analyzed, all of them had the date, details of the patient such as name, age, sex and address. Weight was written on all pediatric 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 Tab, Inj was missing in 15%. Nine percent of prescriptions had incorrect dosage and 13% of prescriptions omitted the duration of treatment. Direction for drug use was not mentioned in 35% of prescriptions while follow up advice was written in only 23% of prescriptions[11].

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 doctors name and signature.

CONCLUSION

The irrational prescribing, improper dispensing and patient use of medicine will lead to unnecessary expenditure for the patients. 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 intervention to improve prescribing habits and ultimately patient care will be improved. 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 action plan also in order to improve the quality of 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 effective

REFERENCES

Patel N, Desai M, Shah S, Patel P, Gandhi A. A study of medication errors in a tertiary care hospital. Perspectives in Clinical Research. 2016;7(4):168-173.

Sirisha S, Shibi Mary Thomas, Anand Varghese, Rama Reddy, Benny Baby, Shreya P Gudur. A Descriptive Study Oon Prescription Audit in India-A Review. Indo American Journalof Pharmaceutical Sciences, 2015; 3(4): 641-647.

Hogerzeil HV. Promoting rational prescribing: An International perspective. British Journal of Clinical Pharmacy, 1995; 39: 1- 6.

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- 190.

WHO. How to investigate drug use in health facilities: selected drug use indicators, 1993; 1: 1-92.

Sunil K, Punam S, Madhuri K. Patterns of prescription and drug dispensing. Indian J Pediatr , 2005; 72: 117-121.

Ofori-Asenso R. A closer look at the World Health Organization's prescribing indicators. J Pharmacol Pharmacother. 2016;7(1):51–4.

Binu M, Sabbu R, Surendra K, Hiremath D. Assessment Of Drug Prescribing Practices Using Who Prescribing Indicators In A Private Tertiary Care Teaching Hospital. International Research Journal for Inventions in Pharmaceutical Sciences, 2013; 1: 26-31.

Maryam Ghanadi Farnoud, Shekar HS. Audit of Prescriptions in a Tertiary Care Hospital- a Retrospective Study, World Journal of Pharmacy and Pharmaceutical Sciences, 2016; 5(10): 886-894.

Debasis Bandyopadhyay, Chandra Nath Banerjee , Suman Chattopadhyay , Prasanta Singha, A study of prescription auditing in a tertiary care teaching hospital of eastern india, Journal of Drug Delivery & Therapeutics; 2014, 4(1), 140-149

Ahsan M, Shaifali I, Mallick A.K, Singh H.K, 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- 1852