

Prescription audit of outpatients in tertiary care government hospital**Nuthan Kumar U. S.*, Nalini G. K., Deepak P., Prema M., Geeta Rathod, Mohith N.**

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ABSTRACT

Background: Prescription audit is a tool as well as a technique by its application, all professionals will improve the quality of prescribing drugs. Standards of medical treatment can be assessed by prescription audit. It is based on documented evidences to support diagnosis, treatment and justified utilization of hospital facilities. Prescription audit is a quality improvement process that seeks to improve patient care. In this background the present study was conducted. The objectives of the study were to know the frequently prescribed drugs in OPD, number of the drugs used per prescription and to find out the rationality.

Methods: Study was conducted at Sri Chamarajendra Hospital, HIMS, Hassan in OPD of General Medicine. 1000 prescriptions were collected and noted down the frequently used medication, number of drugs prescribed and their type of formulations for the particular diagnosis.

Results: From the study it is noted that 1910 drugs out of 1000 prescriptions were prescribed which is approximately 1.91 drugs per prescription about 55% of the prescriptions contained single drug. Very few received 4-5 drugs (7%). Almost all the drugs in prescriptions were in Generic names. Around 95% of prescriptions doses were mentioned in mg, ml etc. The most commonly prescribed drugs in order are Antibiotics, antidiabetics antihypertensives, bronchodilators, steroids antiemetics and ORS were prescribed.

Conclusions: Polypharmacy was not found in our prescriptions which indicates our prescriptions improved the patient conditions. This type of study will ensure to know the 'P' drug development and select the essential medicine list for various levels of health care.

Keywords: P drug, Prescription auditing, Rationality

INTRODUCTION

Prescription audit is the systematic, critical analysis of the quality of medical care, including the procedures used for diagnosis and treatment, the use of resources, and the resulting outcome and quality of life for the patients and it is a continuous cycle, involving observing practice, setting standards, comparing practice with standards, implementing changes and observing new practice.¹

Good clinicians have always organized some kind of systemic review of their daily work, recording and assessing the accuracy of their diagnosis and the outcome of their treatment. We have learnt to call this kind of activity as audit. Quality of medical care rendered can only

be assessed by prescription audit, because it is based on documented evidence to support diagnosis and treatment. It is an objective and systemic way of evaluating quality of treatment and care provided by the physicians. Prescription audit is a tool designed for a particular purpose that is the objective documentation by and to the doctors of how far their care conforms to their own standards. Hence prescription audit is a tool as well as a technique and its application is science as well as an art.²

Irrational prescribing is a global problem. The rationality of prescribing pattern is of utmost importance because bad prescribing habits including misuse, overuse and underuse of medicines can lead to unsafe treatment, exacerbation of the disease, health hazards, economic burden on the

patients and wastage of resources.² Examples of irrational use of medicines include: polypharmacy, 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 non-compliance to dosing regimens.³

The World Health Organization (WHO) has formulated a set of “core prescribing indicators” for improvement in rational drug use in outpatient practice. It includes the prescribing indicators, the patient care indicators and the facility indicators. Based on these indicators, studies have been carried out all over the world and even in India.⁴

The study of prescribing patterns seeks to monitor, evaluate and if necessary suggest modifications in prescribing practices of medical practitioners to prescribe rational and cost effective. Auditing prescriptions also forms part of drug utilization studies, by using prescribing indicators like average consultation time, average dispensing time, % of drugs actually dispensed, % of drugs adequately labelled, patients’ knowledge of correct dosage and facility indicators like availability of copy of essential drugs list or formulary, availability of key drugs.⁵

The prescription audit studies have been conducted in different settings like OPD or IPDs in hospitals, in hospital pharmacies, in medical stores and by private medical practitioners attached to hospitals with the aim of improving the standards of medical care. As such studies are not conducted in our hospital set up therefore we aimed to measure these indicators in our setting to obtain data for promoting rational drug use. Hence the present study was carried out.²

Objective

- To know the frequently prescribed drugs in OPD.
- Number of the drugs used per prescription
- To find out the rationality

METHODS

Study was conducted after the approval of proposal from IEC.

The Patients were from Department of General Medicine of Sri Chamarajendra Government Hospital attached to Hassan Institute of Medical Sciences at Hassan. Study was conducted during 15th June to 30th June 2015.

It was Prospective observational cross sectional study. Ethical Consideration: Prior to conduct of the study.

Data collection

The study was done prospectively over a period of fifteen days in department of General medicine at Sri Chamarajendra Government Hospital attached to HIMS (Hassan Institute of Medical Sciences) at Hassan. By

attending the OPD at the department of general medicine the drugs prescribed were noted. Irrespective of age of the patients and diagnosis 1000 prescriptions were collected and noted down the frequently used medication, number of drugs prescribed and their type of formulations for the particular diseases as per the guidelines of WHO core prescribing indicators.

Inclusion criteria

- OPD patients
- Prescription with more than 2 drugs

Exclusion criteria

- Inpatients
- Patients with less than 2 drugs in the prescription
- Patients attending OPD for injections

Data was categorised based on sex, diagnosis and number of drugs per prescription and represented the same on bar graph on percentage basis.

Statistical analysis

Data were analysed by descriptive statistics.

RESULTS

A total of 100 patients were studied during the period of 1 From the study it is noted that 1910 drugs out of 1000 prescriptions were prescribed which is approximately 1.91 drugs per prescription.

Gender wise distribution of diseases is shown in Figure 1. Hypertension was more commonly found disease condition among prescriptions out all the disease the number of male patients were 60% and females were 40%. Least commonly found condition was URТИ.

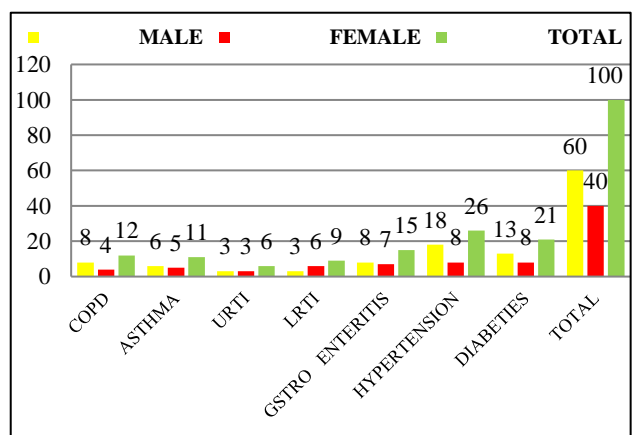


Figure 1: Gender wise distribution of diseases.

Figure 1 shows the gender wise distribution of diseases in which hypertension being the most common condition seen in sample i.e. 25.24% and least common is upper

respiratory tract infection i.e. 5.80 % and mostly males are affected more than females in most of the conditions.

About 55% of the prescriptions contained single drug. Very few received 4-5 drugs (7%) depicted in Figure 2. Almost all the drugs in prescriptions were in Generic names. Around 95 % of prescriptions doses were mentioned in units like mg, ml etc.

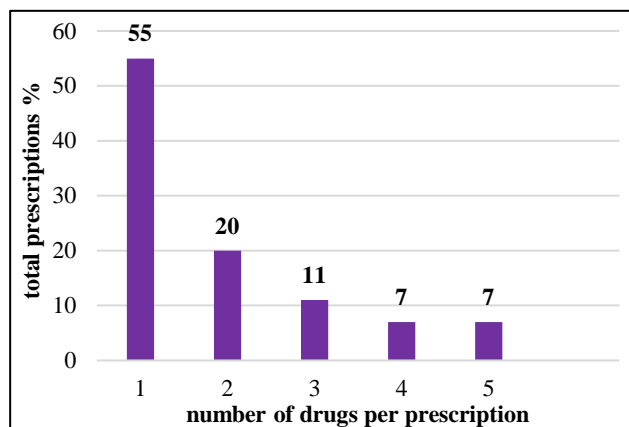


Figure 2: Number of drugs per prescription.

Figure 2 shows number of drugs prescribed per prescription, of which highest number of prescription contains single drug i.e. 55% and least number of prescriptions contains five and four drugs i.e. 7% Most commonly used drugs

Antibiotics [(Cefixime 200mg (240), Ofloxacin 200mg (110), Ciprofloxacin 500mg - (50)] antidiabetics [(Metformin 500mg- (170), Glimipride 2mg (130)], antihypertensives [(Amlodipine 5mg (160), Atenolol 50mg (80), Furosemide 40mg (20)], bronchodilators [(Etofylline 200mg (150), Theophylline 150mg (150), Salbutamol 4mg (240)] and steroids [Hydrocortisone 100mg (240)] were prescribed most commonly while antiemetics [(Ondansetron 4mg (160)] and ORS were less commonly prescribed as shown in Figure 3.

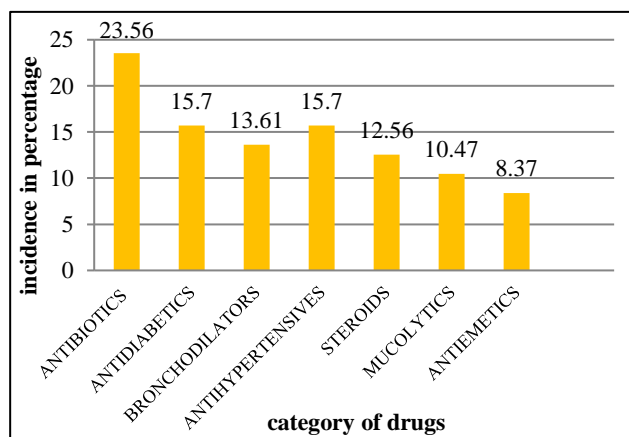


Figure 3: Category wise number of prescribed drugs.

Figure 3 shows category wise number of prescribed drugs out of which antibiotics being the most commonly used drugs i.e. 23.56% and antiemetics being the least prescribed i.e. 8.37% out of 191 prescribed drugs

Among all the prescribed medications Amlodipine, Glimepiride, Metformin, Cefixime are most commonly used drugs where Theophylline and Salbutamol are the least prescribed drugs as represented in Figure 4.

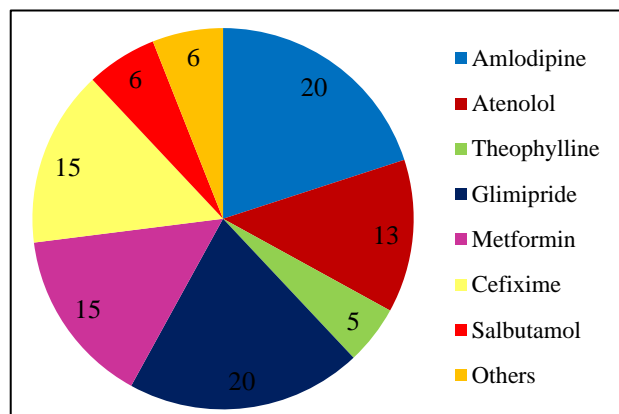


Figure 4: Most commonly prescribed drugs.

Figure 4 shows drugs prescribed of which Amlodipine, Glimepiride, Metformin, Cefixime are most commonly used drugs where Theophylline and Salbutamol are the least prescribed drugs.

DISCUSSION

Looking at the results of the study, average of about 1.91 drugs per prescription whereas the similar studies showed 3.1, 6.49 and 8.8.⁶⁻⁸ This shows in our centre the number of drugs per prescription were rational when compared to others.

As per the data observed 90% of the drugs were prescribed in generic names. Whereas the other studies showed only about 60%, 63.34% and 4.16%.^{6,8,9} Since in our tertiary care centre all doctors prescribe generic drugs and combination of drugs are not prescribed. Whereas other studies showed 23% and 35.87% in combination without generic names.^{6,9}

As per the prescriptions of our study only oral drugs were prescribed with better patient compliance. Whereas similar studies showed about 75%, 70% and 84.40% of the prescriptions contained at least one injection.⁶⁻⁸ Present study shows most of the prescriptions containing antibiotics (24%), 21.15%, 11.24% and 22.24%.⁷⁻⁹ Antidiabetic drugs were 15.7%, 5.17, followed by antihypertensive drugs 15.7%, 7% and bronchodilators 13.16%, 10.31%.^{8,10,11}

Current study showed individual drugs prescribed for common conditions. Amlodipine 20%, 24% and 15%,

Glimipiride 20%, 22%.¹²⁻¹⁴ Followed by Metformin 15%, 27%, Cefixime 15%, 21.62% and Atenolol 13%, 10.9418.^{14,15} A large number of medication errors have been blamed on illegible writing of the prescriber. Illegible writing creates ambiguity and can potentially lead to dispensing of wrong drugs which can result in serious adverse events and even death.^{16,17} To investigate the drug use in health facilities, the WHO has recommended core prescribing indicators. These indicators aim to measure the performance of health care providers in several important areas pertaining to appropriate or rational use of drugs. These indicators have been developed by WHO after observing prescribing practices at outpatient facilities for the treatment of acute and chronic illnesses.¹⁸⁻²⁰

CONCLUSION

Polypharmacy was not found in our prescriptions which indicates our prescriptions improved the patient conditions, the prescribed antibiotics, antihypertensives and antidiabetics were prescribed rationally based on investigations and clinical symptoms. This type of study helps in evaluating the existing drug use pattern and in planning appropriate treatment. Evidence based standard treatment influenced by comparative pharmacokinetic properties and cost effective available drugs in generic names.

This type of study will ensure to know the 'P' drug development and select the essential medicine list for various levels of health care.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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