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Original Research Article

Prescription Auditing at a Tertiary Care Teaching Hospital of Western Odisha: A Cross-Sectional Study

Khushbu Agrawal[1], Sachchidanand Pandey[2], Bhabagrahi Rath[3]

[1]Assistant Professor, Department of Pharmacology, VIMSAR, Burla
[2]Associate Professor, Department of Pharmacology, VIMSAR, Burla
[3]Professor, Department of Pharmacology, VIMSAR, Burla

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Corresponding author: Dr. Sachchidanand Pandey
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Abstract:

Prescription audit is one of the important tools to assess drug utilisation and rationality of prescription which can facilitate improvement in the quality of health care provided. Irrational prescribing is a global problem and in developing country like India, inappropriate use of drugs can lead to ill-effects on health and health-care expenditure. To promote rational drug use, standard policies on use of drugs must be set and this can be done only when the current prescription practices are audited. This cross-sectional study was carried out over a period of three months (June 2017 to Aug 2017) in various outpatient departments of our teaching hospital. 900 prescriptions were selected randomly and analysed using WHO prescribing indicators and Odisha state 'Niramaya' guidelines. Total drug prescribed were 3471. Average number of drugs per prescription was 3.8. 77.4% of total drugs were prescribed by generic name. 62.8% of prescription had an antibiotic prescribed among which 6.8% of prescriptions had two or more antibiotics. The number of injectable prescribed was 9% in this study. 74.6% of drugs were from EDL. 63.8% of drugs were dispensed from our free-drug dispensing hospital pharmacy (Niramaya) counters and 32.6% of drugs were purchased from outside. 88.8% of prescriptions had the diagnosis of the disease and 95.8% of prescriptions were complete in terms of drugs having required strength, dose, frequency, and route of administration. Only 0.4 % of prescriptions had the full name of the prescriber. Positive aspects were significant use of drugs in generic names (77.4%), satisfactory usage of drugs from EDL (74.6%), high rates of prescriptions with diagnosis mentioned (88.8%) and also completeness of prescriptions as regards the mention of strength, dose, frequency and route of administration (95.8%). However, the negative aspects that need improvement are polytherapy (3.8 drugs per prescription) and high prescription of antibiotics (62.8%).

Keywords: Prescription Auditing, VIMSAR, Niramaya.

Introduction

A prescription order is a written instruction of doctors to pharmacist to supply drugs in particular form to a patient and the directions to the patients regarding the use of medicines. Prescription is an important transaction between the doctor and the patient [1]. Prescription writing is a skill acquired through training. The quality of a prescription indicates the competence of a physician and his attitude towards rational prescribing.

Prescribing error is a common problem and can affect from 4.2 to 82% of prescription [2]. Error in a prescription can arise from any step of prescribing such as the choice of drug, dose, and route of administration and wrong frequency or duration of treatment. Inaccuracy in writing and poor legibility of handwriting or incomplete writing of a prescription can led to misinterpretation, thus leading to errors in dispensing and administration. There are numerous ways to get rid of prescription errors like establishment of drug therapeutic committees to co-ordinate policies on drug usage, appropriate implementation and enforce regulation of clinical guidelines, development and use of national essential medicine list, public education about medicines and avoidance of financial incentives from drug companies. Medical education in clinical Pharmacology should include in the form of problem based learning and interactive sessions is an another important method to ensure auditing which gives them an accurate feedback on their prescribing pattern.

Prescription auditing is a type of vigilance activity which is beneficial in clinical practice in terms of reducing the burden of disease because of medication errors. Rational use of drug is multifaceted. Its medical, social and economic

aspect is well reflected in WHO definition "Rational use of drugs requires that patient receive medication appropriate to their clinical needs in doses that meet their own individual requirement for an adequate period at the lowest cost to them and their community"[3]. Worldwide it is estimated that over half of the medicines are prescribed, dispensed, or sold inappropriately and that half of all patients fail to take their medicine correctly [4].

It is well documented that safe and effective drug therapy is possible only when the patients are well informed about the medications and their use [5]. Every member of the health care team should practice rational drug therapy. Confusion over brand name, overwhelming workload of doctors and pharmacist, cost factor, patient attitude, erratic supply of drugs, lack of institutional formulary etc. can lead to irrational use of drugs. Irrational drug use can lead to reduction in quality of drug therapy, increase rise of unwanted effects, drug resistance etc. The World Health Organisation (WHO) 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 health care facility indicators [6]. Government of Odisha has its own free-drug distribution scheme for promoting rational drug use known as "Niramaya". Under this scheme the prescriptions are scanned daily and the drugs are provided free of cost to the patients.

Objective: To analyse the prescriptions of outpatients for rational prescribing and dispensing using WHO prescribing indicators and Odisha state "Niramaya" guideline.

Methods

This cross-sectional study was carried out at our tertiary care teaching hospital over a period of three months from June 2017 to August 2017. Total 900 prescriptions were randomly selected from the pool of scanned prescriptions. These prescriptions were analysed based on the objective of the study.

Results

Among the 3471 prescriptions analysed, all of them had the date, details of the patients such as name, age, sex and address. Weight was written on all paediatric prescriptions but not on prescriptions for adults. Only 0.4% of the prescriptions had the full name of the prescriber, but not mentioned the doctor's registration number. Complete diagnosis was written on 88.8% of prescriptions. 95.8% of prescriptions were complete in terms of drugs prescribed with required strength, frequency and route of drug administration (Table – 1).

Table 1: Analysis of Prescription Audit Indicators (as per Odisha Government's mandate)

Sl. No.	Prescription Audit Indicators	Total Numbers	Total per Prescription	Percentage
1	Numbers of Prescriptions audited	900	-	-
2	Number of drugs prescribed in all auditor prescriptions	3471	3.8	-
3	Number of drugs prescribed in generic names	2689	2.9	77.4
4	Number of drugs prescribed from essential drug list	2590	2.8	74.6
5	Number of drugs dispensed in all audited prescriptions	2217	2.4	63.8
6	Number of drugs not dispensed if available at DDC sub store warehouse of the institution on that day	0	0	0
7	Number of drugs prescribed for purchase from outside	1254	1.3	36.1
8	Number of prescriptions having the full name of the prescriber	4	-	0.4
9	Number of prescriptions having the diagnosis of disease	800	-	88.8
10	Number of prescriptions having antibiotics	566	-	62.8
11	Number of prescriptions having dual antibiotics	62	-	6.8
12	Number of prescriptions having required strength dose frequency and route of administration	863	0.95	95.8

Table 2: Data based on WHO Prescribing Indicators

Sl. No.	Parameters	Number of prescriptions (%)
1	Average number of drugs per encounter	3.8
2	Drugs prescribed by generic name	2689 (77.4%)
3	Prescriptions having antibiotic	566 (62.8%)
4	Prescriptions having injection	81(9%)
5	Drugs prescribed from EDL	2590 (74.6%)

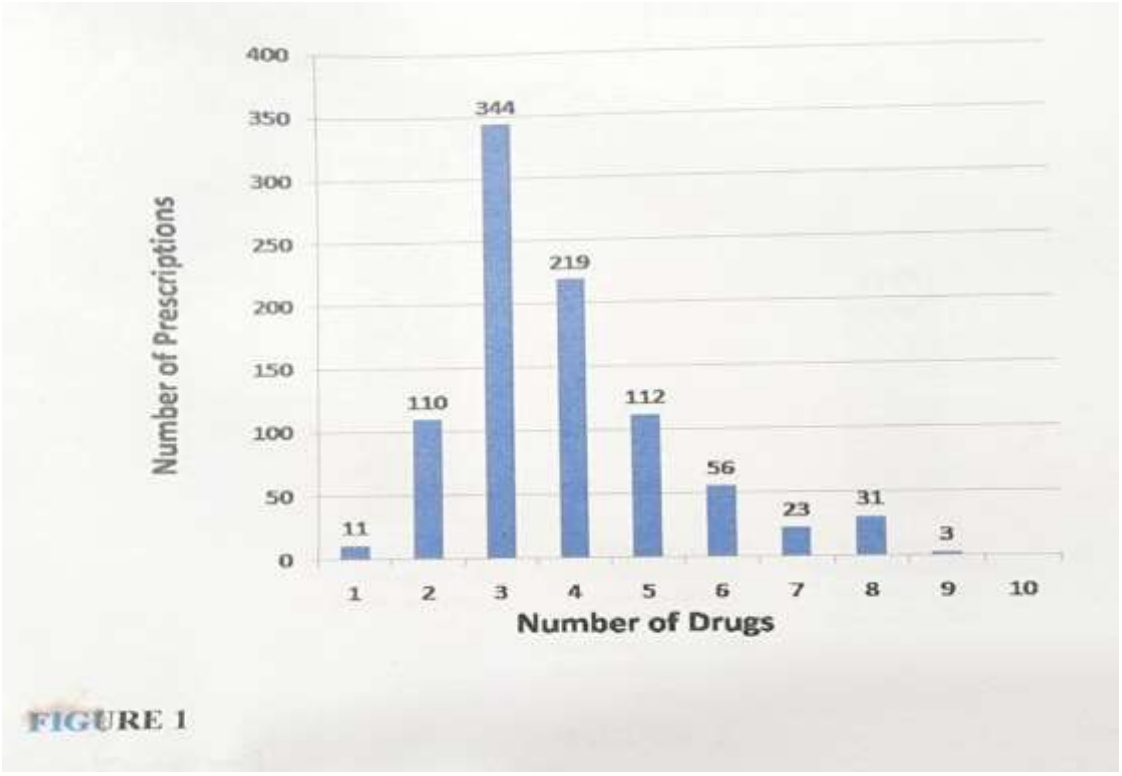

Figure 1: Number of prescriptions showing number of drugs prescribed

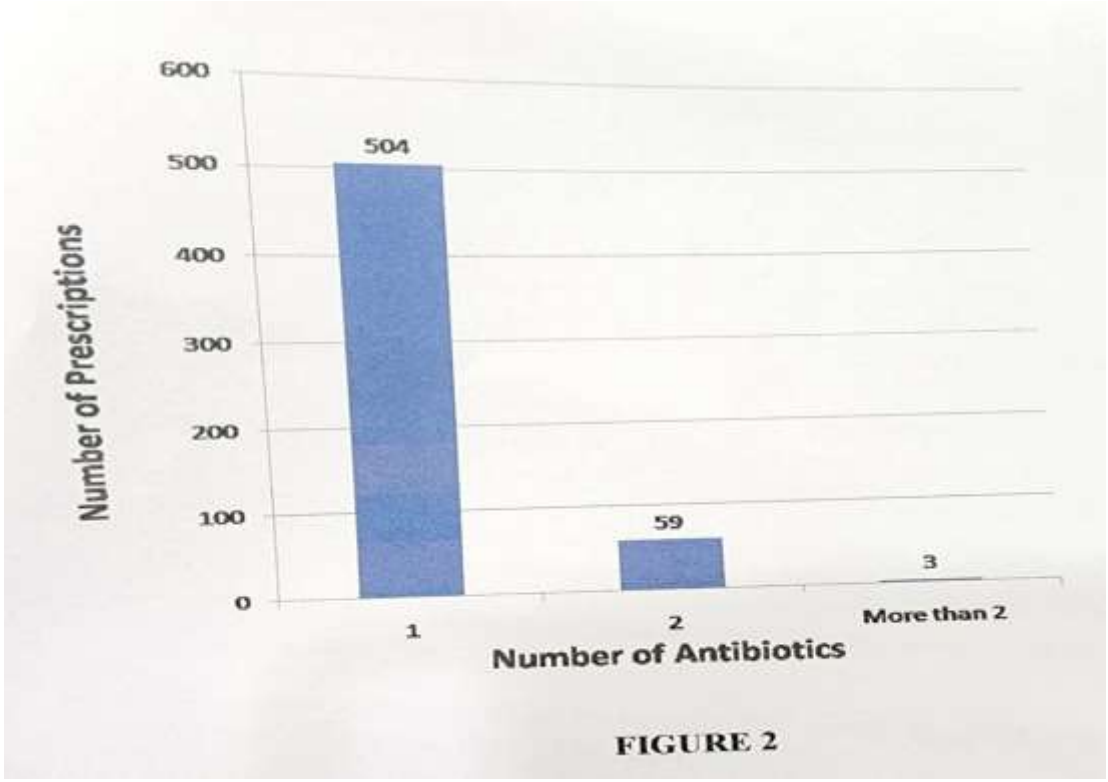

Figure 2: Number of antibiotics prescribed against number of prescriptions audited

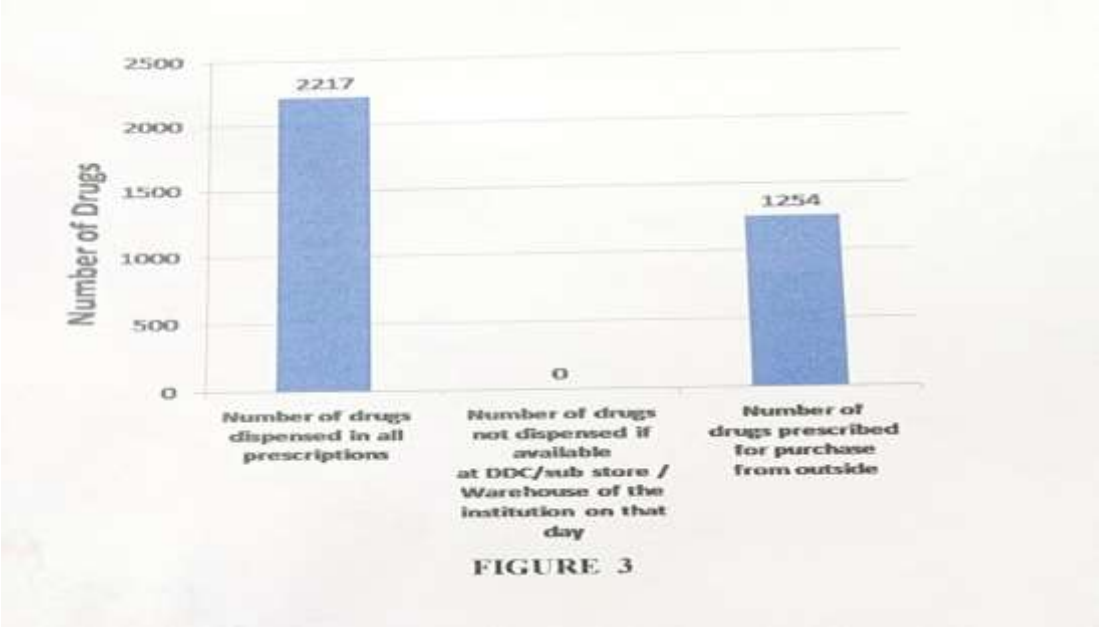

Figure 3: Comparison of number of drugs dispensed, drugs not dispensed even if available and drugs prescribed for purchase from outside

Conclusion

A total of 3471 drugs were prescribed in 900 prescriptions. The average number of drugs per prescription was 3.8 and ranged from one to nine drugs (Figure: 1). A total of 2689 (77.4%) number of drugs were prescribed by generic name. (Table-2). Among the total prescriptions, 566 had antibiotics of which 62 had two or more than two antibiotics (Figure 2). Out of the total prescriptions, 81 (9%) had injection prescribed. Among the total drugs, 2590 (74.6%) drugs were prescribed from EDL. Number of drugs dispensed in all audited prescription where 2217 (63.8%) and the number of drugs prescribed for purchase from outside were 1254 (36.1%) (Figure 3).

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