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DO WE CARE? AN AUDIT OF OPD PRESCRIPTIONS TO EVALUATE THE PRESCRIBING PATTERNS AT A TERTIARY CARE HOSPITAL

Medical Science

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ABSTRACT

A cross sectional descriptive study was conducted in Out Patient Department of a tertiary care teaching hospital in India. A total of 1200 prescriptions were randomly collected over 14 days and recorded over a 'prescribing indicator form'. The data was analyzed using WHO 'prescribing indicators'. Average number of drugs per encounter was 4.47. Encounter with an antibiotic prescribed was 56%, with a FDC it was 62.5% and with an injection it was 7.4%. The most common group of drug prescribed was Vitamins and Minerals (25.6%), followed by Analgesics (14.2%), Antimicrobials (14%), Antidiabetics (13.8%), Antihypertensives (13.5%) and Antiulcer drugs (12.8%). Most commonly prescribed drugs were Ranitidine (14%), followed by Vitamin B complex (10.8%) and Paracetmol (10.34%) [Graph 2]. The most common antibiotics prescribed were Flouroquinolones (3.8%), followed by macrolides (3.7%) and antifungals (2.3%). The prescribing practices in this study are not satisfactory. The study was undertaken to give feedback to the prescribers, so as to create awareness about the rational use of drugs.

KEYWORDS

Prescription pattern, Outpatients, Tertiary care teaching hospital, Maharashtra, WHO prescribing indicators, rational drug use

INTRODUCTION

Medicines play an important role in health care delivery and disease prevention. The availability and affordability of good quality drugs along with their rational use is needed for effective health care. However, irrational drug use is prevalent, especially in the developing countries due to irrational prescribing, dispensing, and administration of medications [1]. Also, the World Health Organization (WHO) reports that more than half of all medicines are prescribed, dispensed or sold inappropriately and that half of all patients fail to take them correctly [2].

Drug utilization study, as defined by the WHO, is a structured process which is used to assess the quality of drug therapy by engaging in the evaluation of data on drug prescribing, dispensing and patient use in a given health care environment, against predetermined, agreed upon criteria and standards, with special emphasis on the resulting medical, social, and economic consequences [3].

Drug utilization studies seek to monitor, evaluate and suggest modifications in the prescribing practices with the aim of making the medical care rational and cost effective [3]. A study of prescription patterns is an important tool to determine rational drug therapy and maximize utilization of resources. To improve the overall drug use, especially in developing countries, international agencies like the World Health Organization (WHO) and the International Network for the rational use of drugs (INRUD) have applied themselves to evolve standard drug use indicators [4]. These indicators help us to improve our performance from time to time [5].

The present study was undertaken with an aim to develop baseline data on drug prescribing pattern and evaluate the rationality of the prevalent prescribing practices using WHO prescribing indicators6 for adoption in drug utilization studies.

MATERIALS AND METHODS

A cross sectional descriptive study was conducted in Out Patient Department of a tertiary care teaching hospital. Twelve hundred prescriptions (average daily OPD attendance) were randomly collected over a period of 14 days and were recorded over a WHO Prescribing Indicator Form. The data was then analyzed to find out the prescribing pattern in the hospital using the WHO prescribing indicators [6].

WHO Prescribing Indicators

1. Average number of drugs per encounter: Average, calculated by dividing the total number of different drug products prescribed, by the number of encounters surveyed. It is not relevant whether the patient actually received the drugs.
2. Percentage of drugs prescribed by generic name: Percentage, calculated by dividing the number of drugs prescribed by generic name, by the total number of drugs prescribed, multiplied by 100.
3. Percentage of encounters with an antibiotic prescribed: Percentage, calculated by dividing the number of patient encounters during which an antibiotic is prescribed, by the total number of encounters surveyed, multiplied by 100.
4. Percentage of encounters with an injection prescribed: Percentage, calculated by dividing the number of patient encounters during which an injection is prescribed, by the total number of encounters surveyed, multiplied by 100.
5. Percentage of drugs prescribed from essential drugs list or formulary: Percentage, calculated by dividing the number of products prescribed which are listed on the essential drugs list or local formulary (or which are equivalent to drugs on the list), by the total number of products prescribed, multiplied by 100.

RESULTS

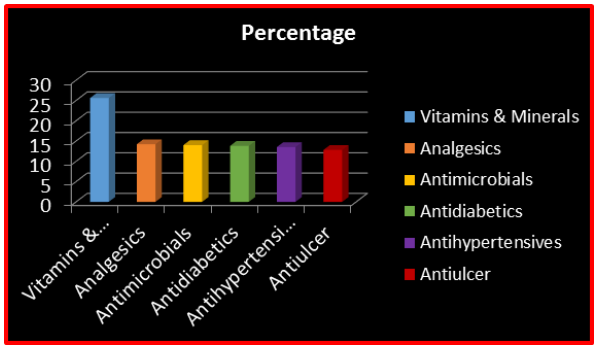
A total of 1200 prescriptions were randomly collected and analyzed. A total of 5362 drugs were prescribed [Table 1]. Average number of drugs per encounter was 4.47. Drugs prescribed from essential drugs list (India) was 70%. Drugs prescribed from essential drugs list (WHO) was 57.2%. Total number of prescriptions with an antibiotic was 56%. Total number of prescriptions with an injection was 7.4%. Total number of prescriptions with a Fixed Dose Combination (FDC) was 62.5%.

Table 1 : Prescribing Indicators

S.No	Prescribing Indicators	No. (%)
1.	Total number of prescriptions analyzed	1200
2.	Total number of drugs prescribed	5362
3.	Average number of drugs per encounter*	4.47
4.	Drugs prescribed by generic name	4119 (76.8%)
5.	Drugs prescribed from essential drugs list (India)*	3754 (70%)
6.	Drugs prescribed from essential drugs list (WHO)*	3224 (57.2%)
7.	Total number of prescriptions with an antibiotic*	672 (56%)
8.	Total number of prescriptions with an injection	89 (7.4%)
9.	Total number of prescriptions with a FDC	750 (62.5%)

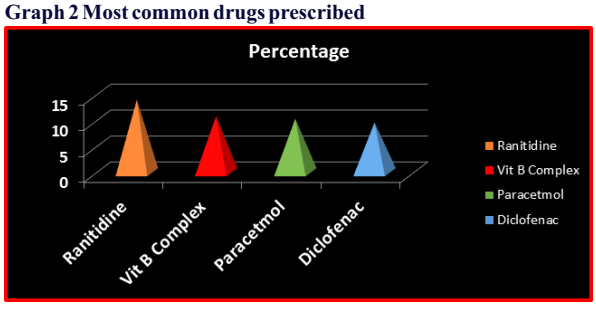
The most common group of drug prescribed was Vitamins and Minerals (25.6%), followed by Analgesics (14.2%), Antimicrobials (14%), Ant diabetics (13.8%), Antihypertensive (13.5%) and Antiulcer drugs (12.8%) [Graph 1].

Graph 1 : Most common groups of drugs prescribed

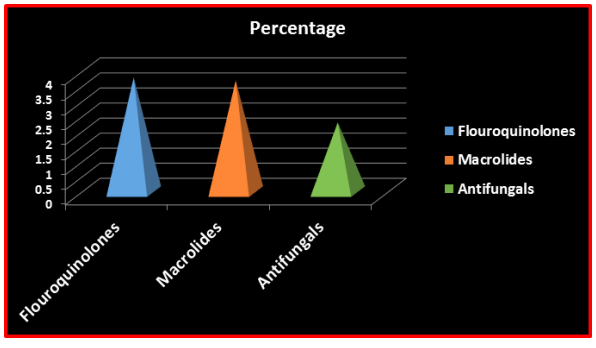


Most commonly prescribed drugs were Ranitidine (14%), followed by Vitamin B complex (10.8%) and Paracetmol (10.34%) [Graph 2]. The most common antibiotics prescribed were Flouroquinolones (3.8%), followed by macrolides (3.7%) and antifungals (2.3%) [Graph 3].

Graph 2 Most common drugs prescribed



Graph 3 Most common antibiotics prescribed



DISCUSSION

The average number of drugs prescribed per encounter was 4.47. It was more than that reported in most of the studies in government setups across Indian cities, the closest being Ansari et al with 3.52 at Allahabad city [7] followed by Tawani et al conducted in Nagpurwith 3.40 [8] and Biswas et al conducted at Delhiwith 3.03 [4]. International studies report values ranging from 1.3 in Hogerzenil et al study conducted at Zimbabwe [9] to 4.51 in Das et al conducted at a Southeast Asian country [10].A staggering 65.2% of prescriptions had 4 or more drugs suggesting a trend of poly pharmacy. This may be due to treatment based on symptoms rather than the diagnosis. Such irrational poly pharmacy leads to reduction in quality of drug therapy, wastage of resources, emergence of resistance, increased cost of therapy and increased adverse reactions. Most commonly prescribed drugs were Ranitidine (14%), followed by Vitamin B complex (10.8%) and Paracetamol (10.34%). This shows that there is a tendency to prescribe the antacids, vitamins & analgesics.

The percentage of prescriptions with antibiotics was 56%. According to WHO, 15- 25% of prescriptions with antibiotics is expected in most of the developing countries where infectious diseases are more prevalent [6]. This figure is very high in some of the developing countries like Nepal in Rauniar et al study (79.9%) [11]. Various studies from India also report a high rate ranging from 40 to 80%by Kumari et al study [12]. The most common antibiotics prescribed were Flouroquinolones (3.8%), followed by macrolides (3.7%) and antifungals (2.3%). This may be due to overestimation of severity of illness, pressure due to demand of rapid symptomatic relief by patients, and tendency towards empirical therapy rather than personalized therapy. The prescribers need to be extra cautious before prescribing any antibiotic to avoid unnecessary burden on patient and development of resistance.

The percentage of drugs prescribed from the essential drugs list of India was 70%. Although good this was low as compared to that reported by Sutharson L et al, where it was 94.48% [13]. Also the percentage of drugs prescribed from the essential drugs list of WHO was only 57.2%. This may be due to lack of awareness of Essential Drug List.

CONCLUSION

The prescribing practices in this study are not satisfactory, as suggested by poly pharmacy, over prescription of antibiotics and lack of awareness of essential drugs list. The efforts of the prescriber can be successful and patient satisfaction can be achieved only if the patient receives rational treatment for his disease or illness. This study will act as a feedback to the prescribers, so as to create awareness about the rational use of drugs.

The hospital formularies should be formed based on local requirement, mainly of essential drugs, and prescribers should be encouraged to prescribe from the same. This will help to curtail unnecessary expenditure on costly drugs. Medical community should prescribe with social perspective in mind and should stay away from practices which will be detrimental to the society at large.

CONFLICTS OF INTERESTS: NONE
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