

Prescription pattern in OPD of a tertiary care hospital in a rural area of Jalna Dist, Maharashtra, INDIA

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Abstract

Introduction: Drug utilization studies are playing an important role in detecting flaws in therapy and thus helping in rectifying and rationalizing prescriptions. The indicators of prescription in practice measure the performances of health care provider in several key dimensions related to appropriate use of drug. Therefore, the present study was undertaken to analyze the prescription written by doctors in a Tertiary Care Hospital in a rural area. **Materials and methods:** The study was conducted in a rural tertiary, teaching hospital at JIU's Indian Institute of Medical Science and Research, Warudi, Taluka Badnapur. From September 2013 to January 2014 for duration of 5 months. Data was obtained from 250 prescriptions. It is a cross sectional, prospective and observational study. Data was analyzed as per WHO prescription indicators. **Result:** Average number of drugs in the present study was found to be (2.82). Percentage of drugs prescribed by generic name 14.54%. Percentage of encounters with an antibiotic prescribed 42.4%. Percentage of encounters with an injection prescribed 14%. Percentage of drugs prescribed from essential drugs list 66.72%. **Conclusion:** This type of studies helps to design policy for rational use of drugs and stimulation of physician for rational use of drugs.

Keywords: Prescription pattern, Drug utilization studies, WHO prescribing Indicators, Polypharmacy, Essential drugs.

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INTRODUCTION

Drug utilization studies are playing an important role in detecting flaws in therapy and thus helping in rectifying and rationalizing prescriptions. *Poison is everything and nothing is without poison, the dosage makes it a poison or a remedy. Paracelsus.*¹ The boost in the marketing of new drugs, the wide variations in the pattern of drug prescribing and consumption, the growing concern about the delayed adverse effects, and the increasing concerns regarding the cost of drugs, as reflected in the increase of

both the sales and the volume of prescriptions all contributed to the increasing importance of drug utilization studies.² Medicine should be used only when essential, but in practice they are used too readily. Irrational prescription is a common occurrence throughout the globe.³ The indicators of prescription in practice measure the performances of health care provider in several key dimensions related to appropriate use of drug.⁴ Therefore, the present study was undertaken to analyze the prescriptions written by doctors for the patients attending OPD of a teaching hospital in rural area. The indicators are based on the practices observed in a sample of clinical encounters taking place at outpatient health facilities for the treatment of acute or chronic diseases. The study was carried out in accordance with the WHO Prescribing indicators⁴ that are

1. Average number of drugs per encounter, this is to measure the degree of polypharmacy.
2. Percentage of drugs prescribed by generic name, to measure the tendency to prescribe by generic name.
3. Percentage of encounters with an antibiotic prescribed.

4. Percentage of encounters with an injection prescribed, to measure the overall level of use of two important, but commonly overused and costly forms of drug therapy.
5. Percentage of drugs prescribed from essential drugs list, to measure the degree to which practices conform to a national drug policy, as indicated by prescribing from the national essential drugs list.

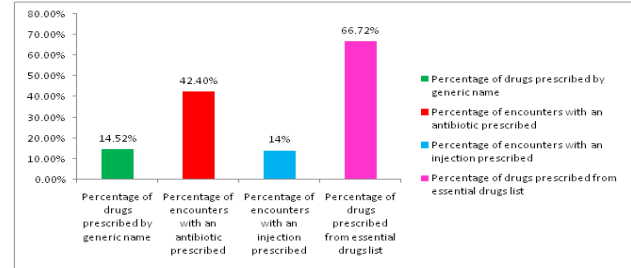


Figure 1: Prescribing trend

MATERIAL AND METHODS

The study was conducted in a rural area at JIU’s Indian Institute of Medical Science and Research, Warudi, Taluka Badnapur, Dist. Jalna from September 2013 to January 2014 for duration of 5 months. The study included prescriptions collected randomly from all OPDs. Prescriptions were scanned for the record purpose. Data was obtained from 250 prescriptions. It was a cross sectional, prospective and observational study. Data was analyzed as per WHO prescription indicators. Average number of drugs per encounter was calculated by dividing the total number of different drugs prescribed, by the number of encounters surveyed. It is not relevant whether the patient actually received the drugs. Percentage of drugs prescribed by generic name was calculated by dividing the number of drugs prescribed by generic name by the total number of drugs prescribed, multiplied by 100. Percentage of encounters with an antibiotic prescribed and Percentage of encounters with an injection prescribed were calculated by dividing the number of patient encounters during which an antibiotic or an injection are prescribed, by the total number of encounters surveyed, multiplied by 100. Percentage of drugs prescribed from essential drugs list was calculated by dividing the number of products prescribed which are listed on the essential drugs list by the total number of products prescribed, multiplied by 100(WHO).⁴ For analysis of average number of drugs per encounter, combinations were considered as single drug and for the rest of indicators combination were split into individual drugs and counted separately. Abbreviation or short forms used by doctors were not considered as generic for example: (Paracetamol written as PCM). Multivitamin prescription was counted as one, for example B-complex.

RESULTS

Table 1:

Indicator	Result
Average number of drugs per encounter	2.82
Percentage of drugs prescribed by generic name	14.54 %
Percentage of encounters with an antibiotic prescribed	42.4 %
Percentage of encounters with an injection prescribed	14 %
Percentage of drugs prescribed from essential drugs list	66.72 %

DISCUSSION

Average number of drugs per encounter in the present study was found to be 2.82. In several other studies average number of drugs per encounter was (3.42) Ajapuje P *et al*⁵, (2.3) Sanz EJ⁶ and (2.22) Janaki R⁷, (3.28) Simpson⁸ in non teaching clinicians and (2.82) in teaching clinicians Simpson⁸. The findings of the present study are similar to that of teaching clinicians in the study by Simpson⁸. The results of the present study is more as compared to (2.3) and (2.22) Sanz EJ and Janaki R⁷ respectively and the results were less as compared to (3.42) Ajapuje P⁵ and non teaching clinicians 3.28 Simpson⁸. Polypharmacy increases the cost of therapy unless the prescribed drugs are genuinely necessary. Also it decreases compliance of the patient so the drugs should be used judiciously. Percentage of drug prescribed by generic name, in present study was 14.54%. The results of several other studies were (30.70%) according to Mohanty BK *et al*⁹, while in a study conducted by Simpson⁸ it was (5.75%) in teaching clinicians and by Ajapuje⁵ was 5.41%. The finding of the present study was less than Mohanty BK⁹ and was more than Ajapuje⁵. Prescribing medicines by generic name avoid the confusion and makes therapy rational and cheaper. Moreover in the teaching institutions world over, in textbooks, in scientific journals and in the research publications, medicines are always mentioned by generic names.⁵ Encouraging prescriptions by generic names is always recommended by various national and international bodies to promote rational use of drugs Bajait CS *et al*¹⁰. The drugs if prescribed by generic name also gives the advantage to the pharmacist to dispense the cheaper drugs to the patients, this helps to reduce the economic burden on patients. Also this practice will certainly help to check the luring practices if offered by some of the pharmaceutical companies to the practioners for promoting their costlier brands. But implementation of this practice of prescribing by generic names is not always satisfactory and requires motivation of prescribers and strong regulatory interventions¹⁰. The result of the present study showed that the percentage of encounters with an antibiotic prescribed was found to be 42.4%. In several other studies, it was seen that percentage of

encounters with antibiotic was 78.15%⁵. Use of antibiotic can be further reduced as Antimicrobial resistance is a global problem and particularly pressing in developing countries where the infectious disease burden is high and cost constrains the replacement of older antibiotics with newer more expensive ones¹¹. Further the appropriate use of antibiotics will also help to reduce emergence of resistance. Based on studies of resistant infections, findings show that resistance level has been high.¹¹ This can lead to emergence of antimicrobial resistant diseases, for example the recent emergence of Multi Drug Resistance Tuberculosis. WHO also has been trying to control the emergence of resistance to antibiotics and also spread the message for rational use of antibiotics. For this WHO on world health day i.e. April 7th, 2011 said “*No action today, no cure tomorrow.*”¹² In our study 14% of encounters had an injection prescribed. According to Bhatnagar T *et al*¹³ the percentage of encounters with an injection was 10% and another study conducted by Manju Toppo¹⁴ (14.10%) Parenteral route (injection) should be used only when it is a must, otherwise it may become a vehicle for transmission of blood borne disease like Hepatitis B and C, HIV, Malaria etc. Also skilled person is required for such a route of administration of drug. Incidence of acute adverse drug reactions is more compared to oral route. It also increases the cost of therapy. WHO has defined “Essential medicines are those that satisfy the priority health care needs of the majority of population.”⁸. In the present study, results showed that the percentage of drugs prescribed from essential drug list was (66.72%), analysis was done with reference to Tripathi KD¹⁵. In other study conducted by B.K. Mohanty⁹(57.70%), Nazia. Y (77.61%)¹⁶, both results being lower than the present study. Prescription from the Essential drug list gives maximum benefit from limited resource, promotes rational use of drugs, assists the development of standard use of standard treatment protocol and rational prescribing policies and also increases economic advantages like lowering the cost of therapy.

CONCLUSION

Thus, there is an ample scope of improving the prescribing pattern by keeping the number of medicines as low as possible, prescribing medicines by generic names, using medicines appropriately after selecting and consciously keeping the cost of therapy low.⁵ From above finding and results it can be concluded that such type of study will help in promoting, to design policy and stimulation of physician for rational use of drugs.

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