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Original Research Article

Prescription pattern at outpatient department in a tertiary care hospital of Gujarat: a cross-sectional study

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ABSTRACT

Background: Evaluation of drug prescription prototype is a significant feature of patient care, which also provides as an estimate of the quality of care provided. Thus, the current study was carried out to analyze the prescriptions of patients attending outpatient department (OPD) of a tertiary care teaching hospital.

Methods: Present cross-sectional study was performed in the OPD of our tertiary care teaching hospital. The study was carrying out for duration of two years. Data was obtained from 850 prescriptions. Data was analysed as per WHO prescribing indicators.

Results: Total 1700 prescriptions were analysed, that includes 55.8% males and 40.1% females. The highest numbers of prescriptions were from the age group of 18-40 (53.6%) years of age. Average number of drugs in the current study was found to be (2.1). Percentage of come across with an antibiotic prescribed was 17.12%. Percentage of come across with an injection prescribed was 11.81%.

Conclusions: There is necessitate of recuperating the prescribing pattern by maintaining the number of medicines as little as possible, prescribing medicines by generic names, using medicines properly after selecting and deliberately keeping the charge of treatment low.

Keywords: Generic drugs, Medicine, Prescribing indicators, Rational prescribing

INTRODUCTION

The World Health Organization (WHO) has defined drug consumption research as the advertising, allocation, prescription and utilizes of drugs in a society, with particular importance on the resulting medical, social, and economic cost. WHO highlights two associated exertion concerning the drug position in the developing world: one out of three people living in the developing world are in require of necessary drugs though there are simultaneous superior rates of unsuitable 4 drug-use and drug resistance.¹

Evaluation of drug prescription prototype is a significant feature of patient care, which also provides as an estimate

of the quality of care provided. One recent study has resolute that prescribing reputation is dimensions need steady appraisal. The rational use of drugs is essential for an efficient and disciplined health-care system. However, irrational drug use, considered as a universal risk is mainly common in the developing countries due to irrational prescribing, stipulation, and management of medications.^{2,3}

Medical prescription is a significant document of medico legal value too, that can be kept as proof in medico legal cases in court of law and thus should be cautiously and critically considered. More than 50% of all medicines global are prescribed, dispensed, or sold improperly and 50% of patients not succeed to take them perfectly. On

the other hand, about one third of the world's population be deficient in access to critical medicines.⁴

Carry out sporadic studies of pattern of drug use in different hospital settings or patient populations is thus necessary to significantly examine the present hospital drug policies and to create suggestions based on different guidelines to get better upon the present drug usage pattern in the future, if required.^{5,6}

The indicators of prescription in exercise calculate the recitals of health care provider in quite a few key magnitudes related to suitable use of drug. Therefore, the present study was carrying out to analyze the prescriptions of patients attending outpatient department (OPD) of a tertiary care teaching hospital.

METHODS

The study protocol was approved by the Institutional Ethics Committee. The research was conducted as a cross-sectional study in the OPD of Shantabaa Medical College & General Hospital, Amreli, Gujarat. The study was conducted in Medical College and Research centre, for duration of two years from November 2017 to November 2019.

Inclusion criteria were the study included prescriptions collected randomly from all OPDs.

Well calibrated clinical pharmacists were involved in data collection on prescribing indicators. Every prescription was considered as single-patient come upon for calculation of the necessary parameters. Prescriptions of patients attending medical OPD and treated on outpatient basis for their disease were included irrespective of the co morbidities. Collection of data was done on the demographic particulars of age, gender, diagnosis, and the treatment prescribed which were bring up in the prescription. The prescribing indicators were studied in accordance to the standard guideline advocated by the WHO. Average number of drugs per meet: Average was considered by separating the total number of different drug products prescribed, by the number of encounters surveyed. Whether the patient really go the drugs was not considered applicable in calculating this indicator, percentage of encounters with an antibiotic prescribed. Percentage was calculated by dividing the number of patient encounters during which an antibiotic was prescribed, by the total number of encounters surveyed and expressed as a percentage. Percentage of drugs prescribed by generic name, percentage was calculated by dividing the number of drugs prescribed by generic name, by the total number of drugs prescribed and expressed as a percentage. Percentage of drugs prescribed from essential drugs list or formulary, percentage was calculated by dividing the number of products prescribed which were on the essential drugs list or local formulary, by the total number of products prescribed and multiplied by 100. Percentage of

encounters with an injection prescribed, percentage was calculated by dividing the number of patient encounters during which an injection was prescribed, by the total number of encounters surveyed, multiplied by 100.

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. Multivitamin prescription was counted as one, for example B-complex.

Statistical analysis

The recorded data was compiled and entered in a spreadsheet computer program (Microsoft Excel 2007) and then exported to data editor page of SPSS version 15 (SPSS Inc., Chicago, Illinois, USA). Descriptive statistics included computation of percentages.

RESULTS

The male to female ratio was found to be 1.5:1. Total of 1700 prescriptions were included in the study. Total of 980 prescriptions were of male and 720 prescriptions were of females. The male proportions were slightly more than females. Majority of the patients belongs to the age group of 40-60 years (Table 1 and 2).

Table 1: Distribution of gender.

Gender	No. of prescription
Male	980
Female	720

Table 2: Distribution of age group.

Age group in years	No of prescription
<18	104
19-39	906
40-59	594
60-79	86

It was found that a total number of 3899 drug products had been prescribed in the 1700 patient encounters, and thus, the average number of drugs per prescription was 2.10 and the standard deviation was 1.45. Moreover, the median number of drugs per prescription was 3, which unlike the mean, would not be unduly influenced by the outliers. Overall, the study revealed a higher value for this indicator than the reference standard. Analyzing the patient encounters lacking the data for specified variables, it was found, (88.32%) prescriptions did not have any generic names, whereas only 17 patient encounters lacked at least one drug from essential drugs list. It was evident that 82.17% prescriptions did not have any antibiotics and likewise, a high percentage of 89.45% did not have any injections prescribed.

It was interesting to find that among the total drug products prescribed, the highest percentage of prescribed drugs were supplements which ranked first followed by the antidiabetic, antiplatelet, hypolipidemic, and anti-hypertensive drugs, whereas the overall percentage of antibiotics prescribed was only 17.56%, and hence lower in comparison to the former groups of drugs.

Table 3: Trend in prescribing.

Indicator	Result
Average number of drugs per encounter	2.10
Percentage of drugs prescribed by generic name	11.68
Percentage of encounters with an antibiotic prescribed	17.46
Percentage of encounters with an injection prescribed	11.56

DISCUSSION

Standard number of drugs per encounter in the present study was found to be 2.1. Another study conducted by Geetha et al in tertiary care hospital, Chennai reported 3.68 which are higher from our observation.⁴ Slightly lower results had been observed from a study conducted in a rural hospital in Jalna i.e. 1.82.

The high average number of drug products per prescription more than the WHO reference range is affectionate of a high degree of polypharmacy prevalent in our study locale. The reasons that could be ascribed to this is the change in the epidemiological trend of violently increased prevalence of non-communicable diseases such as diabetes, hypertension, dyslipidemia, and coronary artery disease which are often synchronized contributing to the require for treating numerous disease entities in the same patient concurrently.⁷ Concomitance of such cardio metabolic circumstances in a solitary patient further entails the mandatory for prescribing more than a single drug for a known clinical indication which is frequently opposed to treatment in the face of several diseases presenting simultaneously. Present study also stands witness to this fact as a high percentage of participants (68.6%) had the analysis of non-communicable disease with diabetes ranking highest with 34.4%.

The percentage of drugs prescribed by generic name in current study was 11.68% which is too little contrast with the standard derived to serve as perfect, which is 100%. Wang et al described that elevated the doctor's teaching and training experience, the proportion of drugs that they prescribed by generic names showed a decline.⁸ furthermore, attitudinal difference have also been shown to be among consultant in low- and middle-income countries contrast to those in high-income countries.⁹ The probable description for the low percentage of generic prescribing could be owing to frequent and influential encouragement of the propriety products by pharmaceutical companies and in certain case, clinicians

are bound to concede to the resolve of wealthy patients demanding pacesetter drugs for treatment.³

In the present study 11.93% of encounters had an injection prescribed which is somewhat higher than Bhatnagar et al (10%) but lower than the study carry out (14%) and another study conducted by Simpson et al reported 38% and Mittal et al 80% use of injectables.¹⁰⁻¹² Injectable drugs are connected with trouble of administration and medication errors. Therefore, the require to switch over to other routes of administration as soon as possible needs to be emphasised.

CONCLUSION

Our study on prescribing indicators has clearly delineated that the prescribing practices for antibiotics and injections are appropriate and rational; conformity to essential drugs list is considerably good, though scope for improvising is certainly evident. Appropriate measures to reduce polypharmacy and increase generic prescribing by clinicians have to be implemented by the administrative team and policymakers to ensure rational and safe prescribing.

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Conflict of interest: None declared

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

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