



## The prescription pattern in a primary health care centre in rural area of Jammu & Kashmir, Northern India

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### ABSTRACT

**Background:** WHO has defined drug use research as the marketing, distribution, prescription and use of drugs in a society with special emphasis on the resulting medical, social and economic consequences. Various studies have documented irrational drug use in many developed as well as developing nations.

**Objectives:** To assess drug use pattern in primary health centre (PHC) of Northern India.

**Methods:** This was a prospective, cross-sectional, observational study conducted in PHC of Jammu district. Data was analysed as per WHO prescription indicators.

**Results:** The average number of drugs per encounter was 2.7. Number of drugs prescribed by generic name was 142. Drugs prescribed from EDL were 628 out of a total of 729.

**Conclusion:** The results of this study will help formulate policy to promote rational use of drugs.

**KEYWORDS :** Generic Name, Irrational Drug Use, Prescription Pattern, WHO Prescribing Indicators.

### Introduction

Appropriate use of drugs is an essential element in achieving quality of health and medical care for patients and the community as a whole<sup>1</sup>. Rational use of medicines has been defined by the World Health Organization WHO in 1985 as: "Rational use of drugs requires that patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements for an adequate period of time, and at the lowest cost to them and their community"<sup>2</sup>. The irrational use of medicines is a serious problem worldwide<sup>3</sup>. WHO and the International Network of Rational Use of Drugs (INRUD) have developed a set of drug prescribing indicators to be used as measures of prescribing performance in primary care<sup>1</sup>.

### Material and methods

This study was carried out in a Primary Health Centre of Jammu & Kashmir from 1st January to 20th April 2017. This was a cross sectional, prospective and observational study. The total number of prescriptions included for analysis in the study were 270. The following WHO prescribing indicators were used in this study and were calculated using standard methods<sup>1</sup>:

- Average number of drugs prescribed per encounter (whether the patient actually received the drugs or not).
- Percentage of drugs prescribed by generic name.
- Percentage of patient encounters with an antibiotic prescribed.
- Percentage of patient encounters with an injection prescribed.
- Percentage of drugs prescribed from the national EDL.

### Results

The average number of drugs per encounter was 2.7. Number of drugs prescribed by generic name was 142. A total of 108 antibiotics were prescribed. Injections were prescribed in 43 encounters. Drugs prescribed from EDL were 628 out of a total of 729 (Table 1).

Table 1

S.No	Indicator	Result	Number
1	Average no of drugs per prescription	2.7	729
2	%age of drugs prescribed by generic drug	19.47%	142
3	%age of prescriptions with an antibiotic	40%	108
4	%age of prescriptions with an injection	15.93%	43
5	%age of drugs prescribed from essential drug list	86.15%	628

### Discussion

Irrational use of drugs has become a worldwide problem leading to

many adverse effects. The total number of drugs prescribed was 729. Average number of drugs per prescription was 2.7. Studies by Ajapuje P et al<sup>1</sup> and Sanj EJ<sup>5</sup> have calculated this number to be 2.3 and 2.2 respectively. This practice of polypharmacy increases the cost of therapy and also leads to decrease in compliance of the patient. Hence, rational prescribing is advocated to avoid wastage and also possible adverse effects. The percentage of drugs prescribed by generic name in this study was 19.47%. Study by Mohanty BK<sup>6</sup> et al has shown this to be 30.70%, whereas in study by Ajapuje P et al<sup>1</sup>, it is 5.41%. This low rate of prescribing drugs by generic names is partly due to luring practices offered by some pharmaceutical houses to the practitioners for brand promotion. WHO highly recommends prescribing medications by generic name as a safety precaution for patients because it identifies the drug clearly, enables better information exchange and allows better communication between health care providers<sup>7</sup>. The percentage of encounters with an antibiotic prescribed was 40%, slightly higher than the optimal value proposed ( $\leq 30\%$ ). In several other studies, it was seen that percentage of encounters with antibiotic was 78.15%<sup>1</sup>. This overuse and misuse of antibiotics is becoming a threat to the public health world over, as there is a risk of emergence of antibiotic-resistant strains of bacteria. This study had 15.93% of injection prescriptions. In study by Bhatnagar T et al<sup>8</sup> the percentage of encounters with an injection was 10% and in another study conducted by Manju Toppo et al<sup>9</sup> it was (14.10%). Use of injections when oral formulations are more appropriate is an irrational use of medicines, making the therapy costlier. Moreover, there is an increased risk of transmitting infections with use of non-sterile apparatus. This study showed the percentage of drugs prescribed from EDL to be 86.15% whereas it was 57.70% in study by Mohanty Bk et al<sup>6</sup> and 77.61% in study by Nazima Y<sup>10</sup>. Prescribing drugs from the EDL issued by WHO provides a framework for rational prescribing; drugs on the list are well-established drugs, already tested in practice, with established clinical use and lower cost than newer drugs<sup>11</sup>.

### Conclusion

This study has shown trend of irrational drug use mainly in the form of antibiotic use and non-generic prescribing. Thus, the results of this study will prove to be helpful in designing policy which will lead to rational use of drugs among physicians, leading to lowering of cost of therapy and also prevent adverse outcomes associated with irrational use of drugs. Further studies are needed to investigate reasons behind the irrational use of drugs.

**Conflict of interest:** None

Source of support: None

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