PRESCRIBING PATTERN FOR OUTPATIENTS IN GOVERNMENT HOSPITALS OF ALMORA LOCATED IN INDIA

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Summary

The objective of the study is to find out the current status of the 'prescribing practices' in the government hospitals of Almora located in India. The survey was conducted in three hospitals of Almora. Consecutive random sampling method was applied for collection of prescriptions from the health facilities. Overall the average number of drugs prescribed per prescription was very high which indicates a trend towards polypharmacy. The most commonly prescribed drugs were NSAIDs, antimicrobials and antiulcers. Drugs prescribed by brand name were 75%. The study showed that the prescribing practices of the Almora is more of an irrational types like polypharmacy, overuse of antibiotics, less number in generic name, so there is an urgent need for some interventions to improve the situation.

Key words: rational use of drug, brand name, polypharmacy

Introduction

Irrational prescription is very common in clinical practice. Such irrational drug use leads to adverse clinical consequences that may have real risks but no objective benefits. Rational use of drugs is defined by World Health Organisation (WHO) as "patients receive medicine appropriate to their clinical needs, in doses that meet their own individual requirements for an adequate period of time, at the lowest cost to them and their community" (1). Rational use of drugs is mainly concerned with three major aspects of health care which includes appropriate medications for the respective disease, proper dose regimens and cost aspects of treatment. But in real life situations prescription patterns do not always obey these guidelines, which in turn leads to irrational prescribing. The assessment of drug utilization is important for clinical educational and economic reasons. It is necessary to define the prescribing pattern and to target the irrational prescribing pattern and to target the irrational prescribing habits for sending a remedial message. The number of brands, combination and units should be restricted to achieve rational use of drug (2). Evaluation of drug use in health facilities not only describes drug use patterns but also helps in the identification of polypharmacy and problems associated with it. One important condition where polypharmacy is a major problem is diseases related to cardiovascular system. This is because cardiovascular diseases are associated with a variety of other co-morbid conditions like diabetes mellitus. So there is a need for periodic review of patterns of drug use in health care setup to ensure safe and effective use of drugs (3). Data about drug usage patterns in Kumaun region of Uttarakhand are lacking. Keeping these facts in consideration the present study was conducted to obtain such information from government hospitals situated in Almora.

Methods

All the prescription collected from the OPDs of government hospitals of Almora over a period of three months from October to December with sample number of 270 were taken for analysis. Out of this a total number of 795 drugs were audited. Any fixed dose combination was counted as one. The number of drugs prescribed in each prescription was taken into account to calculate the incidence of polypharmacy.

Results

In the present study the average number of drugs per prescription in government hospitals 1, 2 and 3 were 3.5, 4, 4.25 respectively, which is in agreement with study conducted in Jaipur (4). The number of drugs per prescription is significantly high in hospital 3 as compared to other two (Table 1). Our study reflects towards polypharmacy (as per WHO the average number of the drug per prescription should be 1.6 to 1.8) (5), this is because the treatment is based on symptom instead of diagnosis. Out of 795 drugs prescribed to the patients, 75 % were prescribed by brand names. Overall the most common drugs prescribed were NSAIDS (30.44%) followed by antimicrobials (18.86%) and antiulcer drugs (11.69%) (Figure 1). From the data of all the three hospitals we found that in case of NSAIDs, 75 patients were prescribed more than one NSAIDs and 81 patients were given only one NSAID. In case of AMA, 43 patients were prescribed more than one antimicrobial and 61 patients were prescribed only one antimicrobial. The duration of therapy was generally 5 to 7 days. Various categories of antibiotics prescribed were analyzed, which revealed that the prescribing frequency was higher for ciprofloxacin and ofloxacin among antimicrobial agents. There was a slight difference in percentage of antimicrobials prescribed in government hospitals 1 and 2. The percentage of prescriptions containing one antimicrobial is 54% in hospital 1 (Figure 2), 55% in hospital 2 (Figure 3) and 100 % in hospital 3 (Figure 4).

In case of antiulcer drugs, H_2 blockers were prescribed most frequently.

Category of drugs	Hospital 1 n=100	Hospital 2 n=70	Hospital 3 n=100
NSAID	108 (28.8)	84 (32.30)	50 (31.05)
Antimicrobial	80 (21.3)	60 (23.07)	10 (6.211)
Antiulcer Drugs	55 (14.70)	38 (14.61)	_
Vitamins	45 (12.03)	20 (7.69)	25 (15.52)
Antidepressants	29 (7.75)	19 (7.30)	_
Enzymes	10 (2.67)	15 (5.76)	50 (31.05)
Diuretics	20 (5.34)	8 (3.07)	_
Laxatives	15 (4.0)	9 (3.46)	20 (12.42)
Miscellaneous	12 (3.20)	7 (2.69)	6 (3.72)
Total drugs	**374**	**260**	**161**

Table 1: Distribution of drugs in the prescriptions collected from various hospitals. "n" represents the number of prescriptions. Values in parentheses are percentages.
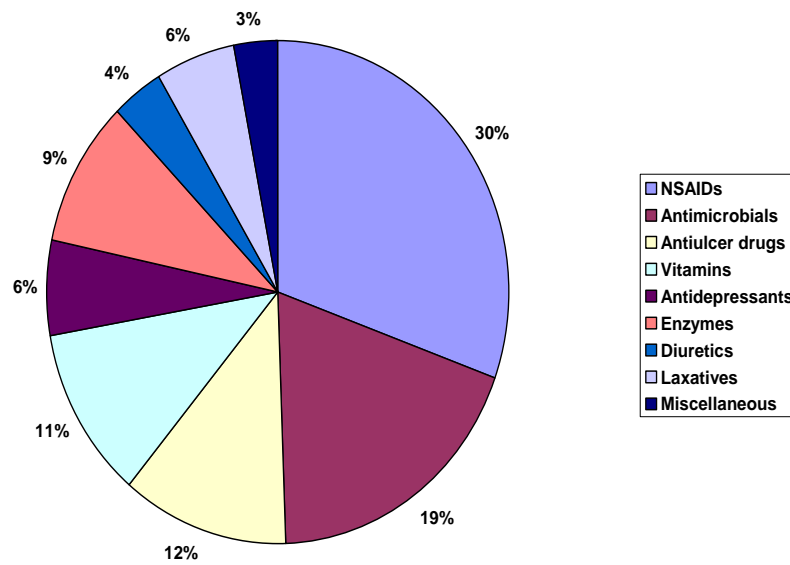
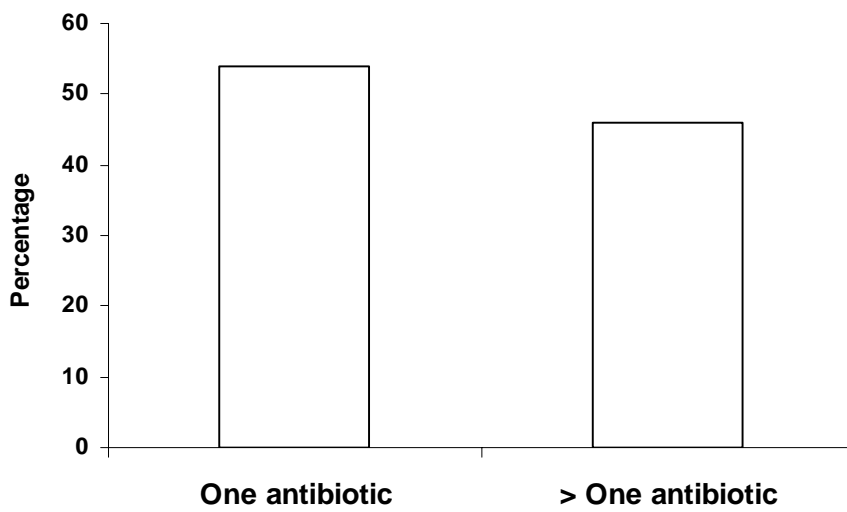**Figure 1**: Percentage of total drugs prescribed in all the three hospitals

Figure 2: Percentage of prescriptions containing one and more than one antimicrobials in hospital 1.
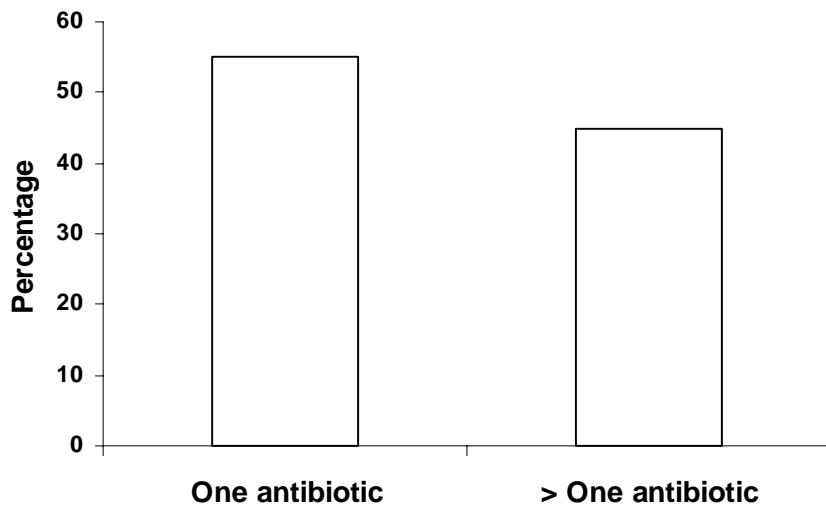
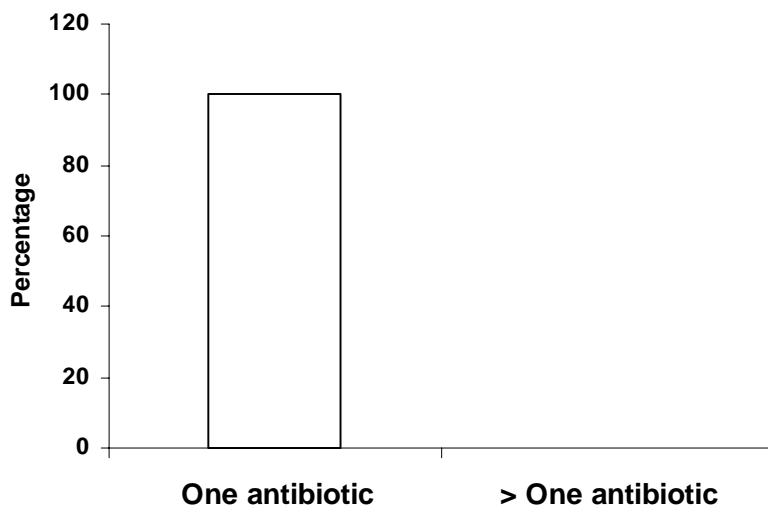**Figure 3**: Percentage of prescriptions containing one and more than one antimicrobials in hospital 2.

Figure 4: Percentage of prescriptions containing one and more than one antimicrobials in hospital 3.

Discussion

A prescription by a doctor reflects the attitude of physician to the disease. It also provides an insight into the nature of the health care delivery system. The study indicated that the average number of drugs per prescription were high in all the three hospitals which indicates a trend towards polypharmacy. Polypharmacy increases the risk of drug interactions (6) and errors in prescribing (7). The category of drug most commonly prescribed was NSAIDs followed by antimicrobial agents and then antiulcer drugs.

The prescribing frequency is higher for antimicrobials and it is in accordance to reports from other developing countries (8, 9). One reason for this is because developing countries exists under conditions of poverty, inadequate medical care, poor hygiene and nutrition which can lead to microbial infections. The other reason for overuse of antibiotics may be the overestimation of the severity of illness to justify antibiotic prescribing by physicians. They are also under pressure from patients, who are seeking a rapid symptomatic relief of disease. In hospital 1 and 2 more than 50 % of prescriptions contain only one antimicrobial while in hospital 3 percentage of prescriptions containing one antimicrobial are 100%. Though antibiotic combination therapy may be effective as an initial approach to resistant organisms, it should be confirmed by sensitivity pattern studies. As greater percentage of drugs were prescribed by brand names this shows the inclination to brand name whereas prescribing by generic names would have reduced the cost of treatment

Conclusion

The study indicated irrational prescribing habits of doctors working in health care systems of Almora. The average number of drugs per prescription should be as low as possible to reduce the risk of drug interaction, bacterial resistance, non-compliance and cost. Such studies underline the need for suitable interventions to improve rational prescribing.

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