



DRUG UTILIZATION STUDY IN SURGERY OPD OF A TERTIARY CARE HOSPITAL: RECOMMENDATION FOR IMPLEMENTATION OF RATIONAL USE OF DRUGS

Pharmacology

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ABSTRACT

Objective- To determine drug utilisation pattern in outpatient departments in surgery OPD of King George's Medical University, Lucknow
Material and methods- This was an open label, prospective, cross-sectional, observational study conducted in Outpatient Department (OPD) of surgery. The sample size was kept 400 in department in accordance with the World Health Organization manual Study. Data was expressed as mean \pm SD, frequency, range and percentages. No statistical hypothesis was tested
Result: After compiling the data, overall review shows average number of drugs as 5 and standard deviation with \pm 1.4. Drugs by generic name as 1%. Antibiotics prescribed are 45% and 19% drugs from essential drug list. Counters with injection prescribed are 4%. According to the data, maximum numbers of drugs were greater than four. Maximum percentage of drugs prescribed per prescription is greater than four i.e., 49% and minimum is 2% with zero number of drugs in a prescription in surgery OPD.

KEYWORDS

Rational drugs, generic name, cross sectional study.

INTRODUCTION-

A drug utilization study is a study designed to describe-quantitatively and qualitatively-the population of users of a given drug (or class of drugs) and /or the conditions of use (for example, indications, duration of treatment, dosage, previous or associated treatments and compliance)[1].

Studies on the process of drug utilization focus on factors related to prescribing, dispensing, administering and taking of medication and its associated events. Drug utilization play a significant role in helping the health-care system to understand, interpret and improve the prescribing administration and use of medications[2].

The term rational drug use is in this overview limited to the medical therapeutic view accepted at the WHO conference of 1985 in Nairobi: rational use of drugs requires that patients receive medications appropriate to their clinical needs, in doses that meet their own requirements, for an adequate period of time, and at the lowest cost to them and their community.

Irrational prescribing is a global problem, particularly affecting the developing countries[3]. Generalized irrational drug utilization involving marketing, distribution, prescribing, dispensing and use of drugs further aggravates the situation in less developed countries[4].

The rationality of prescribing pattern is of utmost importance because bad prescribing habits including misuse, overuse and underuse of medicines can lead to unsafe treatment, exacerbation of the disease, health hazards, economic burden on the patients and wastage of resources[5].

There may be a striking variation in the pattern of drug use from country to country and in different areas of an individual country[6]. Even in developed countries like USA possessing an elaborate medical facility, the prescribed treatment was not found to correlate with the diagnosis in 20-40% cases[7].

There is enough evidence to demonstrate that the prescribing of the drugs has shifted from generics to branded and prescribing out of National List of Essential Medicines (NLEM)[8].

The rational prescribing skills of clinician can be assessed by conducting periodic prescription audit[9].

The experience from developed countries has provided evidence that drug utilization based operational research is valuable for the provision and maintenance of adequate pharmaceutical services matching the needs of the majority of population[10].

So in our present study we will observe the drug utilisation pattern in surgery OPD of a tertiary care hospital and further its recommendation for implementation of rational use of drugs.

MATERIAL AND METHODS- STUDY SITE:

- Outpatient Department of Surgery of King George's Medical University, Lucknow.

Study design:

- Study is designed to be an observational cross-sectional study.

Study subject:

- Patients registered in the OPDs of surgery of King George's Medical University, Lucknow will be randomly selected.
- This was an open label, prospective, cross-sectional, observational study conducted in Outpatient Department (OPD) of surgery. The sample size was kept 400 in the department in accordance with the World Health Organization manual. [11]
- Data were analyzed for; indication of OPD check up, total number of drugs prescribed per patient; proportion of common group and particular drugs used; the total number of antimicrobials used per patient; use of generic and brand drugs. [12]

Statistical analysis:

Data was expressed as mean \pm SD, frequency, range and percentages. No statistical hypothesis was tested.

RESULTS-

In this study four hundred prescriptions in the department ($n = 400$) were analyzed. During this study, the number of drugs per prescription varied from zero to \geq four and the average number of drugs per prescription was 5. Drugs were prescribed in different dosage forms.

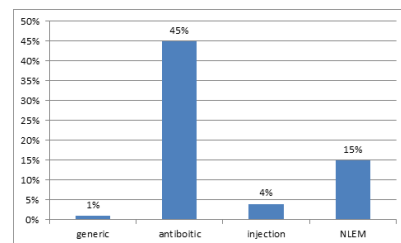


Fig.1 Details of drug utilization based on WHO/INRUD indicators in surgery OPD n=400

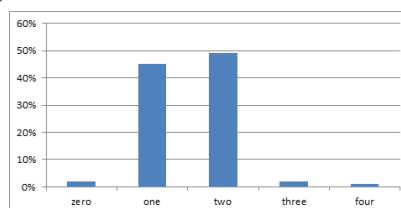


Fig.2 Number of drugs prescribed per prescription in surgery OPD n=400.

Table 1 Different types of drug products prescribed in surgery OPD n=400

Sr. no.	Antimicrobial Classes	Number (Out of 400)	Percentage
1	Fluoroquinolone	282	70%
2	Penicillin	37	9%
3	Tetracycline	8	2%
4	Chloramphenicol	5	1%
5	Macrolide	9	22%
6	Aminoglycoside	22	5%
7	Polypeptides and others	4	1%

CONCLUSION-

- Relatively large number of patients is getting extra futile drugs which are not related with the treatment of the present condition.
- Majority of the drugs prescribed were of different brands. This habit of practitioners needs to be changed.
- Large number of drugs are not from essential list of medicine.
- More than one antibiotics are prescribed to the patient which is not required for the treatment of that particular disease.

DISCUSSION-

Drug utilization studies are important for obtaining data about the patterns and quality of use, the determinants of drug use, and the outcomes of use. The WHO drug use indicators are highly standardized and are recommended for inclusion in drug utilization studies [12]. The present study attempts mainly to describe the current prescribing pattern and drug utilization with the WHO core prescribing indicators in Outpatient Department.

Average number of drugs per prescription is an important index as it tends to measure the degree of polypharmacy [13]. It provides scope for review and educational intervention in prescribing practices. In this study the average number of drugs per prescription was 5, which demonstrated a restraint on over prescribing and polypharmacy to avoid risk of drug interactions.

The percentage of drugs prescribed by generic name was 1% which was very low compared to other studies [13]. Most of the drugs were prescribed by brand name in this study, which suggests popularity of brands amongst the practitioners and the influence of pharmaceutical companies. They are reluctant to prescribe drugs by generic name presumably because it may result in the purchase of drugs of variable potency and underpotent generic antibiotics which may contribute to drug resistance and variability in clinical response. However, prescribing drugs by generic name makes the treatment low cost and rational as it avoids prescription writing errors and confusion of dispensing of different brand names which sound alike and spell similar.

Antibiotics were frequent and number of encounters with antibiotics was 45%. The high use of antibiotics may reflect the severity of infections and low sanitation in the region.

Patient's knowledge of correct dosage schedule ensures adherence to treatment compliance without indiscriminate use and promotes rational drug use.

Antibiotics constituted 45% of the total drugs prescribed. Out of which 70% (282) were fluoroquinolones only and rest were prescribed as other antibiotics, nonsteroidal anti-inflammatory drugs (NSAID), and glucocorticoids.

Fluoroquinolones were the most common group of antibiotics prescribed which were similar to reports of previous studies.

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