

Prescription analysis of drugs used in outpatient department of dermatology at tertiary care hospital

M.H.Sumana and Santoshkumar A Shetti.

Department of Pharmacology, Mandya Institute of Medical Sciences, Mandya, India

Research Article

Article Info:

Received on: 19/03/2015
Accepted on: 18/07/2015
Published on: 27/07/2015



QR Code for mobile



ABSTRACT :

Objectives: To observe the prescribing pattern & to evaluate the rationality of drugs used in dermatology outpatients.

Methods and materials: A Prospective, observational study was conducted in out-patients department of dermatology at Mandya Institute of Medical sciences, Mandya over a period of 3 months. Rationality of drug usage was evaluated by analysing the drug prescriptions. Data was analyzed by descriptive statistics.

Results: A total of 310 prescriptions of patients attending the Dermatology OPD were included for analysis. Among the 310 prescription studied 124 (40%) were males & 186 (60%) were females. Among 310 Patients, majority were between the age group of 20-60 yrs. 945 drugs were prescribed, with an average of 3.04 drugs per prescription. Out of all drugs 92.6% were from National essential drug list. Only 290(30.68%) drugs were prescribed under generic names while brand names were used for 655(69.31%) drugs. Drugs prescribed by parenteral route were 65 (6.87%), oral route were 410 (43.38%) and topical 470 (49.73%). Out of all the topical agents, 94.2 % were given as single preparations and 5.8% as combination agents. Antihistaminics were the most commonly prescribed group of drug.

Conclusions: Periodic therapeutic audit is essential to ensure rational medicine use

Keywords: Dermatology, Prescriptions, Rational Prescribing.

INTRODUCTION:

Prescription order is an important document between the physician and the patient. It is an order for a scientific medication for a person at a particular time¹. Prescribing of drugs is an important skill, which needs to be continuously assessed and refined. It reflects the doctor's skill in diagnosis and attitude towards selecting the most appropriate cost effective treatment².

Irrational use of medicines is now a worldwide problem. Irrational prescribing has a serious impact on health and economy, resulting in wastage of resources³. The patterns of drug use in a hospital setting need to be monitored intermittently in order to analyze their rationality and increase the therapeutic benefits and reduce adverse effects.

Prescription audit is an effective tool to constitute guidelines for improving drug utilization patterns and restricting irrational prescribing^{4,5,6}. Drug utilization studies improve standards of medical treatment at all levels in the health-care system. Periodic auditing of

prescriptions help in the identification of polypharmacy, drug-drug interactions, and adverse drug reactions. Present study was conducted to identify the prevailing prescription trends & to achieve rational prescribing.

MATERIAL AND METHODS:

Prospective, observational study was conducted in out-patients department of dermatology at Mandya Institute of Medical sciences, Mandya over a period of 3 months. Rationality of drug usage was evaluated by analysing the drug prescriptions. A total of 310 prescriptions of patients were evaluated.

The following data was collected in a specially designed proforma:

- Total numbers of drugs prescribed,
- Average number of drugs per prescription,
- Percentage of drugs prescribed from National Essential Drug List,
- Percentage of drugs prescribed by generic

*Corresponding author:

Dr.M.H.Sumana

Department of pharmacology, Mandya Institute of Medical Sciences, Mandya-571401, India

Phone No:09901016765

E-mail: sumana_mh@yahoo.in

doi: 10.15272/ajbps.v5i46.675

Conflict of interest: Authors reported none

name & brand name,

- Route of drug administration

The data was further analyzed for the most commonly prescribed drug groups, percentage of oral, parenteral and topical preparations. The prescriptions were also assessed for dose strength, dosage schedule, duration of therapy and use of any banned drug formulations. Data was analyzed by descriptive statistics.

RESULTS:

A total of 310 prescriptions of patients attending the Dermatology OPD were included for analysis. Among the 310 prescription studied 124 (40%) were males & 186 (60%) were females. Among 310 Patients, majority were between the age of 20-59 yrs[Table-1].

Demographic data	Frequency (%)
Sex	
Male	(124) 40%
Female	(186) 60%
Age group(years)	
Less than 20	(34) 6.8%
20-60	(208) 61.4%
Above 60	(68) 21.9%

Table 1: Demographic details of patients

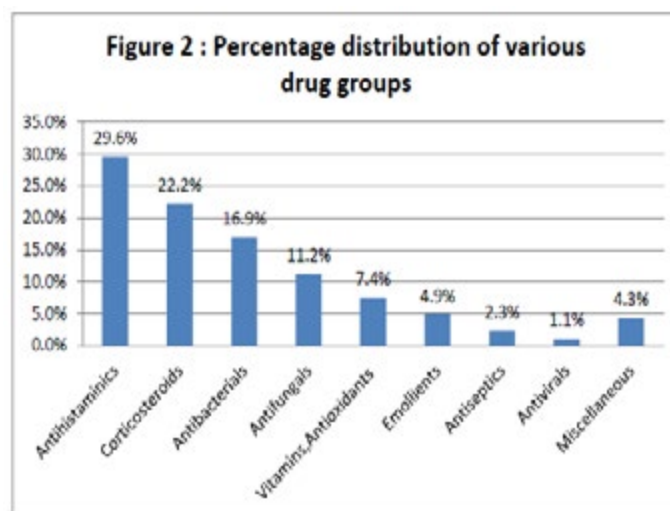
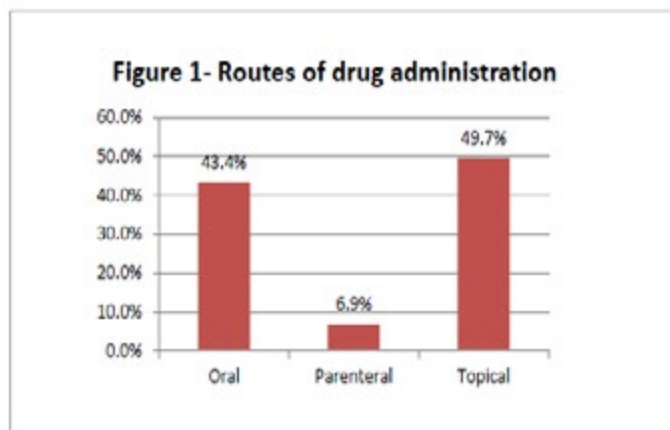
945 drugs were prescribed, with an average of 3.04 drugs per prescription. Out of all drugs 92.6% were from National essential drug list. Only 290(30.68%) drugs were prescribed under generic names while brand names were used for 655(69.31%) drugs. Among the total number of drugs prescribed, dosage was not mentioned for 574(60.74%), duration was not mentioned for 265(28.04%) and route was not mentioned for 140(41.81%) of total drugs[Table-2].

Observations	Number
Total number of prescriptions	310
Total number of drugs prescribed	945
Average number of drugs per prescription	3.04
Drugs from national essential drug lists	875 (92.6%)
Total number of drugs prescribed by generic name	290 (30.6%)
Total number of drugs prescribed by brand name	655 (69.3%)
Dosage not mentioned	574 (60.7%)
Duration not mentioned	265 (28%)
Route not mentioned	140 (41.8%)

Table 2: Analysis of prescriptions

Number of drugs prescribed by parenteral route were 65 (6.87%), oral route were 410 (43.38%) and topical 470 (49.73%)[Figure-1]. Out of all the topical agents, 94.2 % were given as single preparations and 5.8% as combination agents. Among the drugs prescribed, antihistaminics were the most commonly used (29.6%),

followed by corticosteroids (22.2%), antibacterials (16.9%)[Figure-2].



Out of total 280 prescribed antihistaminics, 95.5% were prescribed by oral route and 4.5% by injectable route. Among the total 210 of corticosteroids prescribed, 74.8% were topical 16.4% by injectable route and only 8.7% by oral route. A total of 160 antibacterials were prescribed, out of which 89.5% by oral route, 7.2% topical route and 3.1% as injectables. Among the antifungals prescribed 106, 71.1% were topical and 28.9% oral preparations. A total of 46 emollients, creams were prescribed. Vitamins, minerals and antioxidants comprised about 70 drugs, out of which 90% were advised by oral route and 10% topically. 22 antiseptics & ectoparasiticides were prescribed and all by topical route. Antiviral agents were 10 in number and were prescribed mainly by oral route. Rest of the drugs were miscellaneous out of which 25.2% of them were oral drugs, 73.3% topical agents and 1.5% were injectables. None of the prescriptions carried instructions to the pharmacist while special instructions to the patient were mentioned in 16.9% prescriptions

DISCUSSION:

The prescribing of medicines is an integral part of healthcare and represents a relatively safe, effective, and inexpensive mode of treatment⁶. Third-world countries spend 30-40% of their total health budget on drugs, many of which are prescribed irrationally⁷. The drug prescribing pattern needs to be evaluated

from time to time. Average number of drugs per prescription is an important index of prescription analysis and in the present study, it was 3.04. Our findings were similar with some of the other hospital studies done in India which showed 2-3 drugs per prescription^{8,9,10,11}. We found that the number of drugs per encounter in all hospital categories was higher than the WHO recommended values (1.6 – 1.8). It is preferable to keep the average number of drugs per prescription as low as possible since higher figures always lead to increased risk of drug interactions, adverse drug reactions and poor medication compliance.

The dose and dosage schedule were not mentioned in some of the prescriptions and this can also lead to an increase in the financial burden to the patients and also may lead to therapeutic failure or toxicity. The most commonly prescribed drugs were antihistaminics (29.6%) followed by corticosteroids (22.2%), antibacterials (16.9%) and antifungals (11.2%).

Among the total number of drugs prescribed, most of them were prescribed by topical followed by oral routes. The reason for high percentage of topical drugs being prescribed is that topical route has minimum side effects hence is the preferred route of administration in dermatology. The use of fixed dose combinations may help to bring down the cost and improve compliance¹².

Prescribing under a generic name is considered economical and rational but very few patients in the present study were prescribed by generic drugs (30.68%) as compared to proprietary drugs (69.31%). Similar Indian study showed that most of the drugs were prescribed in brand name^{13,14}. Drugs from Essential Drug List (EDL) constituted about 92.6% which was parallel with the WHO standards. Study conducted by Georgekutty et al showed that 51% of drugs used were from Essential Drug List¹⁵.

CONCLUSION:

There is a need to emphasize all prescribers adhere to the prescription format, to keep the average number of drugs per prescription as low as possible, encourage prescribing by generic name and from the Essential drug list. Proper dosage form, frequency of administration and duration of therapy should be mentioned in all prescriptions to reduce the cost of treatment. There is a clear need for development of standard treatment guidelines and to encourage the rational drug use.

REFERENCES:

1. Ansari KU, Singh S, Pandey RC. Evaluation of prescribing pattern of doctors for rational drug therapy. *Indian J Pharmacol* 1998; 30: 3-6.
2. Kanakambal S, Muruges N, Shanthi M. Drug prescribing pattern in a tertiary care teaching hospital in Madurai (Tamil Nadu). *Indian J Pharmacol* 2001; 33: 223.
3. Salman, M.T., M.F. Akram, S. Rahman, F.A. Khan, M.A. Hasseen and S.W. Khan. Drug prescribing pattern in surgical wards of a teaching hospital in North India. *Indian J. Practising Doctor*. 2008;5
4. Bijoy KP. Drug Prescribing and Economic Analysis for Skin Diseases in Dermatology OPD of an Indian Tertiary Care Teaching Hospital: A Periodic Audit. *Indian Journal of Pharmacy Practice*, 2012,5(1): 28-33.
5. WHO: Country office for India: Promoting rational drug use need for NRHM.
6. Audit commission: A prescription towards more rational prescribing in general practice. HMSO. 1994.
7. Melrose D. Double deprivation public and private drug distribution from the perspective of the third world's poor. *World Dev*. 1983;11:181-6.
8. Minocha KB, Bajaj S, Gupta K. *Indian J Pharmacol* 2000; 32: 384-85.
9. Badar VA, Shrivastava MP, Badwaik RT. *Indian J Pharmacol* 2002; 34: 150.
10. Nithyanandan NA, Jhaj R, Balakrishnan S. Prescription audit in a tertiary care center in rural Pondicherry. Proceedings "Pharmacology today progressing academia-industry interactions" New Delhi, 5-7th Dec.2003; pp. 256.
11. Rathod R, Rathod A, Gupta V K, Ahmed T, Jha R K, Gaikwad N. Audit in Dermatology for Rational Prescribing. *RJPBCS* 2012; 3: 518-24
12. Walter S. Regulation of fixed dose combination products (Regulatory challenges). *WHO Drug Information* 2003.14.
13. Biswas NR, Biswas RS, Pal PS. *Indian J Physiol Pharmacol* 2000; 44: 109-12.
14. Shankar RP, Partha P, Nagesh S. *Int J Clin Pract* 2002; 56: 549-51.
15. Georgekutty KV, Sambasivam N, Nagarajan M. *Indian J Pharmacol* 2002; 34:361-62.

Cite this article as:

M.H.Sumana and Santoshkumar A Shetti. Prescription analysis of drugs used in outpatient department of dermatology at tertiary care hospital *Asian Journal of Biomedical and Pharmaceutical Sciences*, 5(46), 2015, 22-24.
