Audit in Dermatology for Rational Prescribing

Roheet Rathod*, Ameet Rathod, Vaibhav K Gupta, Tabish Ahmed, Rajesh K Jha, Nitin Gaikwad

J.N. Medical College, DMIMS (Deemed University), Sawangi (Meghe), Wardha- Maharashtra, India.

ABSTRACT

The present study was undertaken to evaluate the format, prescribing pattern and rationality of prescriptions of the patients attending Dermatology Out Patient Department of a tertiary care hospital for a period of 3 months. A total of 578 prescriptions were analysed in which 1884 drugs were prescribed with an average of 3.26 drugs per prescription. The patient's name and age was mentioned in all the prescriptions while superscription, dosage form, duration of therapy and prescriber's identity was written in 86.5%, 100%, 80.7% and 75.9% prescriptions respectively. Out of all drugs, 15.4% were from National Essential Drug List of India. Antihistamines (21.1%) were the most common group of drugs used, followed by corticosteroids (15.1%). Most of the drugs were given by topical route (49.8%). Dosage and doseschedule of drugs was written for 91.2% and 94.7% drugs respectively. The study showed a tendency towards polypharmacy and prescribing by proprietary names.
Key words- Prescription Audit, Rational Prescription, Skin Disorders, National Essential Drug List of India

*Corresponding author

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 time. It brings into focus the diagnostic acumen and therapeutic proficiency of the physician with instructions for palliation or restoration of the patient's health [1]. Prescribing of drugs is an important skill, which needs to be continuously assessed and refined suitably and it reflects the physician's skill in diagnosis and attitude towards selecting the most appropriate cost effective treatment [2].

Drug utilization has been defined as the marketing, distribution, prescription and use of drugs in a society with special emphasis on the resulting medical and social consequences. The assessment of drug utilization is important for clinical, educational and pharmacoeconomic purposes [3]. Setting standards and assessing the quality of care through performance review should become part of everyday clinical practice. Medical audit overseas the observance of standards of medical treatment at all levels of the health care delivery system

The World Health Organization (WHO)-India programme on the rational use of drugs aims at promoting rational prescribing through a multi-pronged strategy, which includes intervention to correct drug use problems, adoption of essential drug list, development of standard treatment guidelines, determining and restricting irrational prescribing [4].

MATERIALS AND METHODS

The present study was conducted over a period of three months in the Out Patient Department (OPD) of Dermatology at a tertiary care hospital of Maharashtra. The prescriptions of all the patients attending the Dermatology OPD during the period of study were analyzed except the older patients (more than the one visit) who were excluded.

The prescription data was taken from the OPD cards and analyzed for trends in drug use, rationality of prescription along with adherence to prescription format [5, 6].
To analyze trends & rationality in prescribing patterns, total number of drugs prescribed, average number of drugs per prescription, percentage of drugs prescribed from National Essential Drug List (2003) [5]; percentage of drugs prescribed by generic name, brand name, route of administration and physical methods used (if any) were noted. The data was further analyzed for the most commonly prescribed drug group(s), percentage of: oral drugs, topical preparations (combination/ single preparations), injectables, drug dispensed from specialized Dermatology pharmacy of the hospital, prescriptions with combination of topical and oral agents, and various cleaning agents. The prescriptions were also assessed for dose strength, dosage schedule, duration of therapy and use of any banned drug formulations. The format of prescription was analyzed for patient identification parameters (name, age, gender, address of patient), superscription (Rx), inscription (drug name, dose and dosage frequency), subscription (directions to pharmacist about instructions & use of drugs), signature (instructions to patient about drug use), prescriber's identity (name, registration, address of prescriber) and date of

prescription (7). The copying and analysis was done by an independent observer (DT). The data is presented in mean and percentages.

RESULTS

A total of 578 prescriptions for new patients attending the Dermatology OPD were included for analysis. The findings pertaining to prescription format are shown in Table 1 which shows that all the prescriptions carried the date; name, age, gender and address of the patients as they are already printed on the hospital OPD cards. The superscription Rx was written in 86.5% prescriptions while dosage form and name was mentioned for all the drugs. None of the prescriptions carried instructions to the pharmacist while special instructions to the patient were mentioned in 16.9% prescriptions and the rest of the patients were mostly given verbal instructions. Prescriber's identity was legible in only 75.9% prescriptions but none had the registration number of the prescriber because it is a hospital OPD and not a private clinic, so writing the registration number is not mandatory.

Table 1: Prescription Format

Contents of prescription	Number of prescriptions n (%)
Date of prescription	578 (100%)
Name of patient	578 (100%)
Age of patient	578 (100%)
Gender of patient	578 (100%)
Address of patient	578 (100%)
Rx	500 (86.5%)
Dosage form and name	578 (100%)
Instructions to the pharmacist	0
Special instructions to the patient	98 (16.9%)
Prescriber identity	
Signature of the prescriber	439 (85.3%)
Registration number and address of the prescriber	0

These patients were prescribed 1884 drugs, with an average of 3.26 drugs per prescription. Out of all the drugs, 15.4% drugs were from the National Essential Drug List of India. Only 19.3% drugs were prescribed under their respective generic names while proprietary names were used for 80.7% drugs. (Table 2). The fixed dose combinations accounted for 36.6% drugs prescribed. Percentage of drugs prescribed from the hospital pharmacy was 15.7 % (120.). Dosage and dose schedule was written for 90.2% and 94.7% drugs respectively and duration of therapy was mentioned in 80.7% prescriptions. None of the prescriptions carried banned drug formulations. Among the drugs prescribed, antihistamines were the most commonly used (21.1%), followed by corticosteroids (15.1%), antibacterials (11.6%) (Fig.1). Out of total 398 prescribed antihistaminics, 95.5% were prescribed by oral route and 4.5% by injectable route. Among the total 285 ofcorticosteroids prescribed, 74.8% were topical 16.4% by injectable route and only 8.7% by oral route. A total of 220antibacterials were prescribed, out of which 89.5% by oral route, 7.2% topical route and 3.1% as injectables. Among

the antifungals prescribed (187), 71.1% were topical and 28.9% oral preparations. A total of 60 emollients, creams were prescribed. Vitamins, minerals and antioxidants comprised about 30% drugs, out of which 90% were advised by oral route and 10% topically. 12 antiseptics & ectoparasiticides were prescribed and all by topical route. Antiviral agents 10 were prescribed mostly advised by oral route. A total of 682 (36.2 %) miscellaneous drugs were prescribed and 25.2% of them were given as oral drugs, 73.3% as topical agents and 1.5% as injectables. (Table 3)

Table 2 : Analysis of Prescriptions

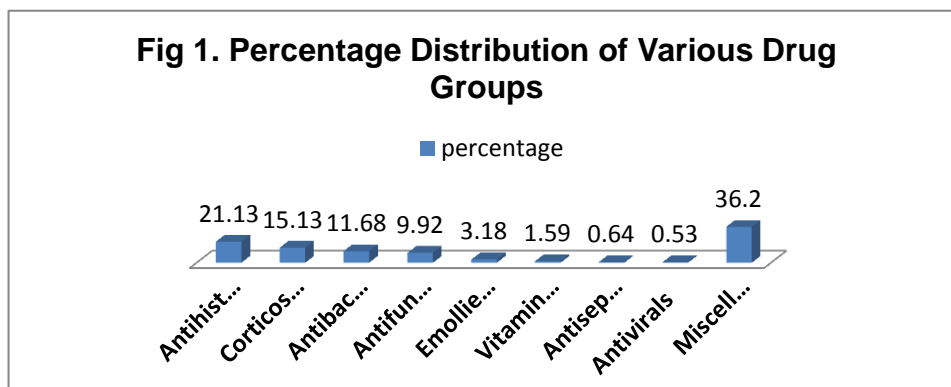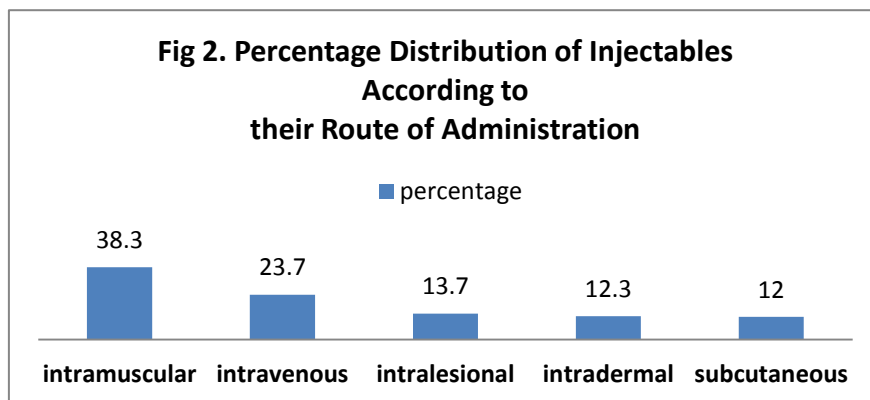| Observations	n (%)
Total number of prescriptions	578
Total number of drugs prescribed	1884
Average number of drugs per prescription	3.26
Total number of drugs from EDL	122 (15.4%)
Total number of drugs prescribed by generic name	98 (19.3%)

Fig 1. Percentage Distribution of Various Drug Groups

Table 3 : Distribution of Various Drug Groups and Their Routes of Administration

Drugs	Oral	Injection	Topical	Total
Antihistamines	380 (95.5%)	18 (4.5%)		398 (21.1%)
Corticosteroids	24 (8.4%)	47 (16.4%)	214 (74.8%)	285 (15.1%)
Antibacterials	197 (89.5%)	7 (3.2%)	16 (7.3%)	220 (11.7%)
Antifungals	54 (28.9%)		133 (71.1%)	187 (9.9%)
Emollients/creams			60 (100%)	60 (3.2%)
Vitamins/Minerals/Antioxidants	27 (90%)		3 (10%)	30 (1.6%)
Antiseptics/Ectoparasiticides			12 (100%)	12 (0.6%)
Antivirals	10 (100%)			10 (0.5%)
Miscellaneous	172 (25.2%)	10 (1.5%)	500 (73.3%)	682 (36.2%)
Total	864 (45.9%)	82 (4.3%)	938 (49.8%)	

Fig 2. Percentage Distribution of Injectables According to their Route of Administration

Out of all the drugs prescribed, 49.8% were advised to be administered by the topical route, 45.9% by the oral route and 4.3% by injectable route. Out of all the topical agents, 94.2 % were given as single preparations and 5.8% as combination agents. Out of the 82injectables, 38.3% were advised to be administered by intramuscular injection, 23.7% by intravenous, 13.7% by intralesional, 12.3% by intradermal and 12% by subcutaneous injection (Fig. 2).

Physical therapies were used as per need basis. They help in reducing the overall cost and give better results by avoiding the risk of adverse drug reactions by systemic or local drug administration.

DISCUSSION

A large number of such studies have been carried out in developed countries. Quantitative and qualitative geographical differences do exist in patterns of drug consumption and hence results of studies conducted in developed countries cannot be applied to developing countries. Though such studies have been done in India at both hospital and community level, yet they are not adequate enough to depict a clear picture of drug use [6]. Average number of drugs is an important index of prescription analysis and in the present study, it was 3.26.

Our findings were in conformity with some of the other hospital studies done in India which showed 2-3 drugs per prescription [6, 8, 9]. It is evident that there is a good deal of tendency towards polypharmacy in dermatology for the symptomatic treatment for severe and troublesome symptoms reported by the patient. 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, poor medication compliance and eventually increased cost of prescription. The dose and dosage schedule were not mentioned in all the prescriptions and this can also lead to an increase in the overall cost of treatment due to inappropriate use of drugs by the patient. The most commonly prescribed drug group in our study was antihistamines followed by corticosteroids and antibacterials. Analysis of the prescription data revealed that allergic disorders were the most common diagnosis that explains the greater use of antihistamines. Among the total number of drugs prescribed, most of them were prescribed by oral followed by injectable routes.

Prescribing under a generic name is considered economical and rational but very few patients in the present study were prescribed generic drugs (19.3%) as compared to proprietary drugs (80.7%). Our results were consistent with other studies done by Biswas*et al*. [12] (6.32% generic & 93.68% brand drugs) and Shankar *et al.*[13] (32.6% generic & 67.4% brand drugs). Poor prescribing of generic drugs can be because of concern about their quality. Of the total drugs prescribed about 36.6% were fixed dose combinations.

The chronic nature of the diseases and multi-modality approach being used makes the use of fixed dose combinations an inevitable option. The use of fixed dose combinations may help to bring down the cost and improve compliance [14].

Drugs from Essential Drug List (EDL) [5] constituted about 15.4% in our study, while it was reported as 95.78% by Biswas*et al.* [12] and 51% by Georgekutty *et al*. [15]. As the institution is a private tertiary care hospital that has advanced treatment available, the newer drugs have been used which are not yet included in the EDL.

Also as the institution is a private medical college so as such there is no compulsion to prescribe from the EDL but where ever possible, the due consideration has been given to prescribe from EDL. Drugs prescribed from our own dermatology pharmacy were 15.7% and most of them were cheaper as those compared to their counterparts available in the market due to lower production cost of these preparations in the in-house pharmacy.

CONCLUSION

The therapy provided in the above prescriptions were efficacious but there is a need to emphasize to all prescribers to 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 essential drug list which should be updated regularly and made available to all the physicians. Proper dosage form, frequency of administration and duration of therapy should be mentioned in all prescriptions to reduce the cost of treatment. Various intervention strategies like introduction of hospital formulary, essential drug list and prescription control (setting a level up to which a particular prescriber can be permitted to prescribe anti-microbial, immunosuppressant etc.) by institutional regulatory authorities should be planned. There is a clear need for development of standard treatment guidelines and educational initiatives to encourage the rational and appropriate drug use.

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