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Original Research

Assessment of prescription pattern and adverse drug reaction profile of drugs prescribed in dermatology OPD: An observational study

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ABSTRACT:
Background: Skin diseases are common and cause a huge disease burden globally. Adverse Drug Reactions (ADRs) are considered as one among the leading causes of morbidity and mortality. Hence; the present study was conducted with the aim of assessing the prescription pattern and adverse drug reaction profile of drugs prescribed in dermatology OPD. **Materials & methods:** Over a period a period of 6 months, 1100 patients were analysed. Written consent was obtained from all the patients after explaining in detail the entire research protocol. Analysis of the case sheet of patients was done for prescription pattern using WHO core drug use indicators was done. Simultaneously development of any adverse drug reaction (ADR) to drug prescribed was observed with present visit and follow-up visit after 3 days. **Results:** Total number of drugs given was 4236 while average number drugs per prescription were 3.85. Percentage of drugs prescribed by generic name was 33.8 while percentage of drugs prescribed by brand name was 66.2. Among the drugs prescribed by oral route, antibacterial comprised of 63.4 percent, antifungal were given in 22.7 percent of the patients. Corticosteroids, Antihistaminic, Multi Vitamins and Gastro-protective drugs were given in 5.9 percent, 94.6 percent, 86.2 percent and 70.1 percent of the patients respectively. Maculo-papular rash was seen in 11 patients. Fixed drug eruption was seen in 9 cases. **Conclusion:** Non-essential medicines and non-Generic drugs are routinely used. Hence there is a need to stress the prescribers to adhere to the prescription guidelines.
Key words: Adverse drug reaction, Prescription

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INTRODUCTION

Skin diseases are common and cause a huge disease burden globally. Collectively skin is the 18th leading cause of health burden worldwide and it was 4th leading cause of nonfatal health burden in 2010 globally. The skin disorders constitute 2% of total Out Patient Department (OPD) consultations worldwide. However no such data is available from India but still skin disorders in India are common and include pyoderma, acne, urticaria, dermatitis, scabies fungal skin infections and alopecia etc.[1-3]

Drugs, no matter how safe and efficacious, are coupled with in escapable risk of adverse reactions. Adverse Drug Reactions (ADRs) are considered as one among the leading causes of morbidity and mortality. Adverse Drug Reactions are major problem of drug therapy. According to WHO, an adverse drug reaction is defined as "a response to a drug that is noxious and unintended and occurs at doses, used in man for prophylaxis, diagnosis, or therapy of a disease or for modification of physiological function. Adverse Drug Reactions may also result in diminished quality of life, increased physician visits, hospitalizations, and even death.[4-6] Hence; the present

study was conducted with the aim of assessing the prescription pattern and adverse drug reaction profile of drugs prescribed in dermatology OPD.

MATERIALS & METHODS

The present study was conducted in the department of pharmacology and dermatology for assessing the prescription pattern and adverse drug reaction profile of drugs prescribed in dermatology OPD. Ethical approval was obtained from institutional ethical committee before the starting of the study after explaining in detail the entire research protocol. Over a period a period of 6 months, 1100 patients were analysed. Written consent was obtained from all the patients after explaining in detail the entire research protocol. Analysis of the case sheet of patients was done for prescription pattern using WHO core drug use indicators was done. Simultaneously development of any adverse drug reaction (ADR) to drug prescribed was observed with present visit and follow-up visit after 3 days. All the results were recorded in Microsoft excel sheet and were analysed by SPSS software. Student t test was used for evaluation of level of significance.

RESULTS

In the present study, a total of 1100 patients were analysed. Total number of drugs given was 4236 while average number drugs per prescription were 3.85. Percentage of drugs prescribed by generic name was 33.8 while percentage of drugs prescribed by brand name was 66.2. Among the drugs prescribed by oral route, antibacterial comprised of 63.4 percent, antifungal were given in 22.7 percent of the patients. Corticosteroids, Antihistaminic, Multi Vitamins and Gastro-protective drugs were given in 5.9 percent, 94.6 percent, 86.2 percent and 70.1 percent of the patients respectively.

Maculo-papular rash was seen in 11 patients. Out of these 11 patients, 4 cases were due to amoxicillin, 2 cases each were due to cotrimoxazole and phenytoin while the remaining 3 cases were due to Diclofenac sodium. Fixed drug eruption was seen in 9 cases. Out of these 9 cases, 4 cases were because of Cotrimoxazole while 2 and 3 cases were because of Metronidazole and Amoxicillin respectively.

Table 1: Prescription pattern

Variable	Observations
Total number of prescription	1100
Total number of drugs	4236
Average number of drugs per prescription	3.85
Percentage of drugs prescribed by generic name	33.8
Percentage of drugs prescribed by brand name	66.2
Percentage of drugs from national essential drug list	68.36

Table 2: Prescribed drug according to route of administration

Drug group	Oral route (%)	Topical route (%)	Parenteral route (%)
Antibacterial	63.4	41.6	-
Antifungal	22.7	80.4	-
Corticosteroids	5.9	93.5	5.6
Antihistaminic	94.6	-	8.4
Multi Vitamins	86.2	-	-
Gastro-protective drugs	70.1	-	-
Miscellaneous	73.4	29.7	

Table 3: Adverse drug reaction

Type of reaction	Number of patients	Drug responsible
Maculo-papular rash	4	Amoxicillin
	2	Cotrimoxazole
	3	Diclofenac sodium
	2	Phenytoin
Fixed drug eruption	4	Cotrimoxazole
	2	Metronidazole
	3	Amoxicillin
Urticaria	2	Diclofenac injection
	3	Amoxicillin

DISCUSSION

The skin disorders have serious detrimental effect on quality of life of the general population by increasing the suffering in terms of physical, social, psychological as well as it increases financial burden as most of the skin diseases are chronic and requires longer duration of treatment. A recent observation is that many doctors are frequently adopting polypharmacy which has led to a steep rise in the cost of the treatment as well as adverse drug effects. Prescription audit plays an important role in constituting guidelines for improving drug utilization patterns and restricting irrational prescribing. Drug utilization studies have improved medical treatments at all levels of healthcare systems.[6- 9] Hence; the present study was conducted with the aim of assessing the prescription pattern and adverse drug reaction profile of drugs prescribed in dermatology OPD

In the present study, a total of 1100 patients were analysed. Total number of drugs given was 4236 while average number drugs per prescription were 3.85. Percentage of drugs prescribed by generic name was 33.8 while percentage of drugs prescribed by brand name was 66.2. Among the drugs prescribed by oral route, antibacterial comprised of 63.4 percent, antifungal were given in 22.7 percent of the patients. Corticosteroids, Antihistaminic, Multi Vitamins and Gastro-protective drugs were given in 5.9 percent, 94.6 percent, 86.2 percent and 70.1 percent of the patients respectively. Motghare VM et al evaluated drug prescribing pattern and adverse drug reaction profile in Dermatology department of tertiary care hospital. 410 prescriptions were analyzed which include 1696 drugs. Majority of drugs prescribed were antihistaminic (20.99%), antibacterial (16.05%), antifungal (9.08%), and corticosteroids (7.78%). Eighteen patients were reported with ADR. Most of ADRs are reported with Antimicrobials (50%) & common ADR was Maculopapular rash (50%), On severity assessment by modified Hartwig and Siegel's scale, out of 18 ADRs, 8 (44.44%) were mild, 8 (44.44%) were moderate and 2 (11.11) were severe in nature. Their study showed antihistaminic was commonly prescribed class & antibiotics were responsible from majority of ADR. Maculopapular rash was most common ADR.[10]

In the present study, Maculo-papular rash was seen in 11 patients. Out of these 11 patients, 4 cases were due to amoxicillin, 2 cases each were due to cotrimoxazole and phenytoin while the remaining 3 cases were due to Diclofenac sodium. Fixed drug eruption was seen in 9 cases. Out of these 9 cases, 4 cases were because of Cotrimoxazole while 2 and 3 cases were because of Metronidazole and Amoxicillin respectively. Pathak AK et al determined the drug utilization pattern and assess the economic burden of the patient with skin disease. It was a prospective, cross-sectional study conducted in newly diagnosed cases attending outpatient department of Skin and VD, IGIMS, Patna. The prescriptions were analysed with the help of descriptive statistics and results were expressed in percentage. Total 752 prescriptions were analysed during the study. Male patients were lesser as compared to female as male to female ratio was 0.88. Over 50% of patients were in adolescent age group i.e. 21-40 years. Acne (17.95%) was most common disease in the study population followed by eczema and Dermatophytosis. Among the drugs, antihistaminics (24.13%) were prescribed most frequently followed by antifungals and antibiotics. Topical agents constituted almost 60% of the total prescription and average number of drugs per prescription was 5.13, irrespective of the dosage forms prescribed. This drug utilization study provides an insight to the prescriber regarding various issues related to polypharmacy, cost analysis and prevalent disease pattern in the region.[11]

CONCLUSION

From the above the results, the authors concluded that non-essential medicines and non-Generic drugs are routinely used. Hence there is a need to stress the prescribers to adhere to the prescription guidelines.

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