DRUG PRESCRIBING PATTERN IN DERMATOLOGY IN A TEACHING HOSPITAL IN WESTERN NEPAL

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ABSTRACT

The aim was to monitor drug prescribing for patients attending the dermatology services (OPD) of Manipal Teaching Hospital (MTH). 292 prescriptions of patients attending the dermatology OPD of MTH attached to MCOMS, Nepal were collected by a random once weekly survey between July 2000 to June 2001. This information was analysed in consultation with clinical collaborators and critically evaluated using WHO guidelines. The average number of drugs prescribed was 2.42 drugs/prescription. Only 13%(91 out of 708) of the drugs were prescribed in generic names. The most commonly prescribed topical drugs were topical steroids and their combinations (28%) followed by topical antifungal agents (12.5%). The most commonly prescribed systemic agents were antihistamines (47.6%) followed by antimicrobials (20%) and antifungal agents (12%). Frequency of administration and site of application were specified in the majority of the prescriptions (82%) of topically administered drugs but dose/strength of topical preparations were specified in only 11 prescriptions. The duration was not specified for 9 of the systemically prescribed drugs and 341 of all the topical drugs prescribed. In two patients, 2 medium or 2 high potency topical steroids were prescribed together with systemic steroid administration. Patients who received systemic antiungal agents (34) also got a topical one simultaneously. In this study, a great majority of the drugs were prescribed in brand names (87 %). Drugs should be prescribed in their generic names to * avoid confusion and to minimize the costs. In this study, on some occasions, prescriptions may have been written imprecisely/inappropriately.

Key Words: Prescribing pattern, Dermatology, Nepal.

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INTRODUCTION

Irrational prescription of drugs is of common occurrence in clinical practice.¹ The patterns of drug use in a hospital setting need to be monitored intermittently in order to analyze their rationality and to offer feedback and/or suggestions to drug prescribers so as to enable and effect suitable modifications in prescribing pattern to increase the therapeutic benefits and reduce adverse effects. Collection of data on the utilization of drugs at the hospital out-patient level has been shown to be an effective tool to constitute guidelines for improving utilization patterns. This has resulted in more effective and rational therapy as well as economic benefits in the use of drugs.² Medical audit is supposed to oversee, monitor and analyze the observance of standards, of medical treatment at all levels of the health care delivery system,³ and when necessary, suggest modifications in prescribing practices of medical professionals so as to usher in a medical care that is both rational and cost-effective. To the best of our knowledge, no systematically analyzed data are available on the drug use pattern in dermatology in Nepal. Hence, the present study was undertaken in patients seeking treatment under the dermatology services (OPD) of Manipal Teaching Hospital (MTH) attached to Manipal College of Medical Sciences (MCOMS), to generate baseline data and analyze various aspects of dermatological drug prescribing practices.

MATERIALS AND METHODS

292 dermatology prescriptions of patients attending the dermatology OPD of MTH attached to MCOMS, Nepal were collected by a random once weekly survey between July 2000 to June 2001. The prescriptions abstracted from the outdoor cards were audited under the sub-heads of drug choice,

drug dose/strength (in case of corticosteroids, potency), duration of use, frequency of administration, dosage form and site of application. This information was compiled, scored and analyzed in consultation with clinical collaborators and were subjected to critical evaluation using WHO guidelines as described in accordance with "How to investigate drug use in health facilities?"⁴

RESULTS

Tables I and II provide the age and sex distribution of the patients and disease pattern in dermatology

Table I : Age and sex distribution

Table II: Disease pattern

(n=277); out of 292 prescriptions screened, diagnosis was mentioned in 277 prescriptions

OPD, respectively. The number of males were 122 (41.8%) while the number of females were 170 (58.2%). The maximum number of patients were

in the age group of 21 to 40 years and minimum number of patients were in the age group of ≥ 60 years. Table III illustrates the pattern of drug

Table III : Most commonly prescribed drug categories

prescription in the dermatology OPD. The average number of drugs prescribed for each out-patient was 2.42 drugs/prescription; invariably, one was a systemic and the other a topical preparation. Only 13% (91 out of 708) of the drugs were prescribed in generic names. The most commonly prescribed topical agents were topical steroids and its combinations (120) followed by topical antijungal agents (54). The most commonly prescribed systemic agents were antihistamines (133) followed by antimicrobials (56) and antifungal agents (34). All systemic agents were given orally except one injectable (Inj. Monocef: ceftriaxone for treatment of acute gonococcal urethritis). The large number of topical steroids prescribed belong to the medium and high potency groups⁵ (Table IV). Out of the 120 topical steroids prescribed, 14 were in

combination with antimicrobials like gentamicin and fusidic acid. Several prescribing lacunae were observed in relation to various aspects of drug use. The frequency of administration and site of application were specified in the majority of the prescriptions (82%) of topically administered drugs but dose/strength of topical preparations were specified in only 11 prescriptions. The duration was not specified for 9 of the systemically prescribed drugs including doxycycline, griseofulvin and itraconazole and 341 of all the topical drugs prescribed. In the latter group, 90 were topical steroids. In two of the patients, 2 medium or 2 high potency topical steroids were prescribed together with systemic steroid administration. The two antihistamines, cetirizine and pheniramine were prescribed together on two occasions; one has a

Table IV : Therapeutic potency of topical corticosteroids available in Nepal and their prescription pattern⁵ (n=120)

more sedative effect and was given at bedtime. Patients who received systemic antifungal agents (34) also got a topical one simultaneously.

DISCUSSION

In the present study, even though the sample size was not very large, it gave a cross-section of patients and the diseases for which they reported for treatment at MTH, Dermatology OPD. Most of the dermatological conditions in the OPD were cutaneous infections (40%) followed by eczema (31%) and generally one systemic and one topical preparation were prescribed. The majority of prescriptions were for antimicrobials including antifungal agents and ectoparasiticides (231) followed by steroids (125). Since, a vast majority of the population in developing countries exist under conditions of extreme poverty, inadequate medical care, poor sanitation and nutrition,

infective diseases account for much of the morbidity. In the context of antifungal agents, fluconazole was the drug most commonly prescribed because its once a week dose schedule results in cost-effective treatment and a lower propensity for adverse effects. Corticosteroids were among the most widely used drugs in dermatology and one has to view their usage in the light of their limitations and adverse effects.⁶ Systemic steroids form the mainstay in many therapeutic regimens in dermatology and, at times, they may be required for prolonged periods, as in atopic dermatitis. Hence, they have to be tapered or reduced to minimal doses. Thus, their rational use may minimize systemic absorption and suppression of hypothalamus-pituitary-adrenal axis (HPA).^{7,8} Potent topical steroids used on areas like face and flexures or when used under occlusion may lead to cutaneous side-effects like striae, atrophy, steroid acne, and hypertrichosis. These problems may be obviated or minimized by taking into consideration the potency, frequency, site and duration of application. Excessive and prolonged use may lead to precipitation of secondary infection with pyogenic organisms, candidiasis and delayed wound healing. In this study, prescribing information or such other advice and caution regarding corticosteroid use was inadequate in the majority of the prescriptions. This may have resulted in overusage or, erratic usage of the preparations by the patients thereby leading to increased incidence and intensity of toxicity.⁹ Polypharmacy (2 topical + 1 systemic steroids or, 1 topical + 1 systemic antifungal agent together) should better be avoided. No increase in pharmacodynamic effect may be expected by increasing the frequency of application because effectiveness is governed mainly by the intrinsic potency of the steroid molecule and increasing dosing frequency with multiple steroid preparations may, in fact, result in an increase in toxicity.⁹ Standard guidelines on the use of topical

corticosteroids need to be adhered to while prescribing.^{10,11,12,13}

Analysis showed that antihistamines were the most commonly prescribed systemic agents in dermatology because of disease prevalence with related symptoms of itching (associated with fungal infection, scabies and eczema).

Vitamins are usually recommended along with oral antibiotics to prevent vitamin deficiency associated with death of normal microflora. Moreover, vitamins have more acceptance psychologically among patients bolstering their compliance (placebo effect), though, placebo therapy has been criticized as deception.¹⁴ Vitamin A may be helpful in acne, psoriasis, Darier's disease and ichthyosis. Retinoic acid may alter the pattern of epidermal desquamation, preventing the formation of comedones and aiding in the resolution of preexisting cysts. Synthetic retinoids (isotretinoin, acitretin) are commonly used in treatment of acne and psoriasis, respectively, but is a potent teratogen thus limiting its use in women with child-bearing potential. It is important that drugs should be prescribed in their generic names to avoid confusion and minimize the costs.¹⁵ Our observation in this study was that a great majority of the drugs were prescribed in brand names and the higher percentage of proprietary prescriptions in outpatients invokes the problem of the vast expenditure on such drugs and their availability/nonavailability in the hospital pharmacy. Many patients attending a hospital as out-patients belong to the lower socio-economic strata and would have to buy proprietary drugs from super bazaars and other relevant pharmacy outlets.

Doctors use drugs to treat patients successfully. Unfortunately, there is increasing evidence that in daily practice, prescriptions may have been written imprecisely/ inappropriately and that patients are not informed/instructed properly.¹⁶ For instance,

neither the duration of use of antimicrobials nor the dose/duration/instructions regarding dose-tailing of steroids were specified in many of the prescriptions. In our view, the reason for the non-improvement in prescribing behaviour of physicians is that, in spite of rational prescribing being well-defined and well-advocated, its conduct and importance is still not systematically taught/imparted to the medical undergraduates. We, therefore feel that, there is an urgent need to emphasize rational and complete prescribing in the undergraduate and postgraduate medical curriculum. This initial audit report is aimed at providing feedback to the drug prescribers and such periodic audit of drug prescribing is desirable in rationalizing prescribing practices.

REFERENCES

1. Ramsey LE. Bridging the gap between clinical pharmacology and rational drug prescribing. *Br J Clin Pharmacol* 1993 ; 35 : 575-6.
2. Lunde PKM, Baksaas L. The methodology of drug utilization studies. WHO Reg Pub Eur Series 17, 1979.
3. Gupta N, Sharma D, Garg SK, Bhargava VK. Auditing of prescriptions to study antimicrobials in a tertiary hospital, Indian J Pharmacol 1997 ; 29 : 411-5.
4. WHO (1993) How to investigate drug use in health facilities : Selective drug use indicators, Geneva, World Health Organization WHO/DAP/ 93 ; 1: 1-87.
5. Nepalese National Formulary 1997.
6. Editorial. The hazardous jungle of topical steroids. *Lancet* 1977 ; 1: 487.
7. Gomez EL, Frost P. Topical halcinonide and betamethasone valerate : effect on plasma cortisol. *Arch Dermatol* 1977 ; 113 : 1196-1212.
8. Himathongkam T, Dasanabhairachana P, Pitchayoyothin N, Siriphrapraday A. Florid Cushing's syndrome and hirsutism induced by desoximetasone. *JAMA* 1978 ; 239 : 430-1.
9. Pierard GE, Pierard Franchimont C, Ben Mosbah T, Arrese Estrada J. Adverse effects of topical

- corticosteroids. ActaDerm Venereol 1989 ; 69: 26-30.
10. Uppal R, Sharma SC, Bhowmik SR, Sharma PL, Kaur S. Topical corticosteroids usage in dermatology. Int J Clin Pharmacol TherToxicol 1991; 29(2) : 48-50.
 11. Miller JA, Munro DD. Topical corticosteroids : clinical pharmacology and therapeutic use. Drugs 1980 ; 19 : 119-34.
 12. Savin JA. Some guidelines to the use of topical corticosteroids. Br Med J 1985 ; 290 : 1607-8.
 13. Maurice PDL, Saihan EM. Topical steroid requirement in inflammatory skin conditions. Br J Clin Pract 1985; 39: 441-2.
 14. Bok S. The ethics of giving placebos. Scientific American 1974 ; 231 :17-23.
 15. Benet LZ. Principles of prescription order writing and patient compliance instructions. In : Goodman Oilman A, Rail TW, Nies AS, Taylor P editors. Goodman and Oilman's The Pharmacological Basis of Therapeutics, 8th edition. Maxwell Macmillan international edition, USA; 1991 :1640-9.
 16. De Vries TPOM, Henning RH, van Oilst RM, Haaijer Ruskamp FM. Model guide to good prescribing. Action programme on Essential Drugs. World Health Organization, Oeneva.1991

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