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### Original Article

## Prescription trends of topical corticosteroids in dermatological conditions in Dr. B. R. Ambedkar Medical College.

Padma. L\*, Komala. R\*, Madan Mohan. N. T\*\*, Manasa. C. R\*, Ranjani Ramanujam\*.

\*Department of Pharmacology, Dr. B.R. Ambedkar Medical College, Bangalore.

\*\*Department of dermatology, Dr. B.R. Ambedkar Medical College, Bangalore.

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#### ABSTRACT

**BACKGROUND:** Currently, topical corticosteroids are most frequently used in dermatological practice. Over the years, research has focused on strategies to optimize potency and, in particular, the anti-inflammatory and immunosuppressive capacity of these drugs, while minimizing the systemic adverse effects. However, 'ideal' topical corticosteroids have not yet been synthesised. They should be able to penetrate stratum corneum and reach adequate concentrations. Recently, topical corticosteroids have been synthesised with the aim of having adequate anti-inflammatory effects, while reducing both the local as well as systemic adverse drug reactions. **AIM:** The study is performed for better understanding of the corticosteroid prescribing habits of dermatologists. **MATERIALS AND METHODS:** The prescriptions from the outpatient department of Dermatology at Dr. B. R. Ambedkar Medical College were reviewed from 1st June 2012 to 31st August 2012, to know the current prescribing trends. **RESULTS:** The patient's name, age and sex were on 100%, 98.7% and 55.3% of prescriptions. The majority (53.5%) of the prescriptions were for males. All topical corticosteroids were prescribed by brand name; strength of medication and dose units were included in 89.3% and 67.2% of prescriptions. No prescription contained the patient's address and weight, diagnosis and instruction to the pharmacist. Special instructions to the patient were mentioned in 29.5% prescriptions. The prescriber's handwriting was illegible in 77.1% of prescriptions. The prescriber's name, address and signature were on 54.1%, 100% and 100% of prescriptions respectively. In 46.32% instances, moderate-high potency and 10.53% instances, mild potency topical corticosteroids were prescribed. **CONCLUSIONS:** The prescribers should adhere to the prescription format and encourage prescribing by generic name, from essential drug list which should be updated regularly.

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### 1. Introduction

The topical corticosteroids are among the most commonly prescribed medication in an out-patient dermatology setting since they were first introduced in early 1950s [1]. Prescribing of drugs is an important skill, which needs to be continuously assessed and refined suitably and it reflects the dermatologist's skill in diagnosis and attitude towards selecting the most appropriate cost effective treatment [3]. For successful treatment with topical corticosteroid,

key factors to be considered are accurate diagnosis, selecting the correct drug, keeping in mind the potency, delivery vehicle, frequency of application, duration of treatment and adverse effects, and proper patient profiling. To achieve this is to monitor, evaluate and therapeutically analyze the prescribing pattern of dermatological drugs. Such analysis will not only improve the standards of medical treatment at all levels in the health system, but will also help in the identification of problems related to drug use such as polypharmacy, drug-drug interaction and adverse drug reactions. The ultimate outcome of the dermatological prescription analysis will be a message to the prescribing doctor to achieve rational medical care [4].

\* Corresponding Author : : **Dr. Komala. R.**  
PG/Tutor in Department of Pharmacology,  
Dr. B. R. Ambedkar Medical College,  
Kadugondanahalli,  
Bangalore - 560054,  
Karnataka, India.

**OBJECTIVES:**

To study the haematological profile and variant of anaemia in children of age 2months to 12 years admitted in district hospital of Adilabad.

**2. Material and Methods**

The prescriptions from the outpatient department of dermatology at Dr. B. R. Ambedkar Medical College, Bangalore were reviewed from 1st June 2012 to 31st August 2012, after the approval from Institutional Ethical Committee to know the current prescribing trends. The format of prescription was analyzed for patient's demographic details, prescriber's identity and other details on topical corticosteroids [5].

**3. Results:**

**Demographic Details (Table 1)**

- The patient's name, age and sex were on 100%, 98.7% and 55.3%. The majority (53.5%) of the prescriptions for topical corticosteroids were for males.
- No prescription contained the patient's address and weight.
- All topical corticosteroids were prescribed by brand name; strength of medication and dose units were included in 89.3% and 67.2% of prescriptions.
- The diagnosis was not included in any of the prescriptions.
- None of the prescriptions carried instructions to the pharmacist while special instructions to the patient were mentioned in 29.5% prescriptions and the rest of the patients were mostly given verbal instructions.
- The prescriber's handwriting was illegible in 77.1% of prescriptions. The prescriber's name, address and signature were on 54.1%, 100% and 100% of prescriptions respectively.

**Steroid classification on the basis of potency (Fig. 1)**

- In about 46.32% instances topical corticosteroids like Mometasone furoate, Clobetasol propionate, Halobetasol propionate were prescribed while Hydrocortisone acetate was least prescribed (10.53%).
- Majority of topical corticosteroids (31%) were prescribed in combinations.

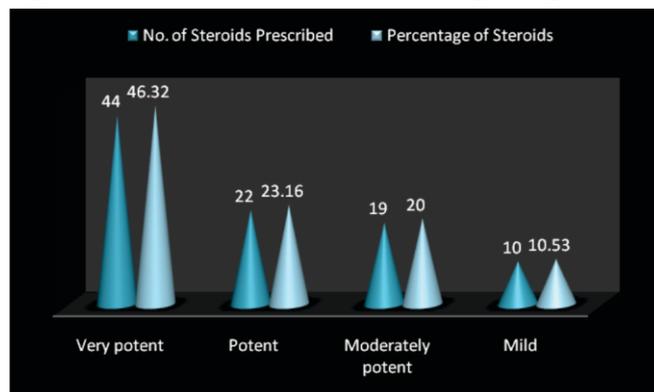
**Dermatological conditions (Fig 2 and Table 2)**

Contact dermatitis was seen in 17% of prescriptions; Polymorphous light eruptions in 13% of prescriptions; Psoriasis, Eczema and Atopic dermatitis was seen equally in 9% of the prescriptions. Least number of prescriptions (4%) was seen with Lichen Simplex Chronicum.

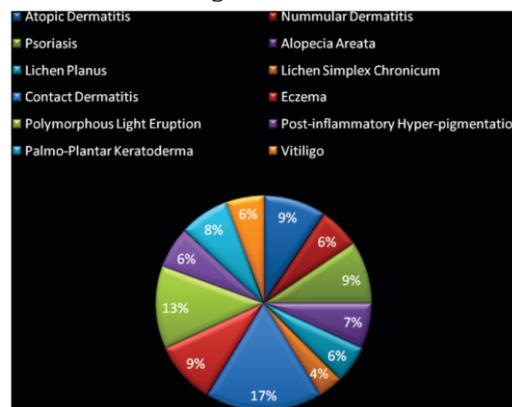
Contents of Prescription	n	No. of Prescriptions (%)
Date of Prescription	168	(100)
Name of the Patient	168	(100)
Age of the Patient	165	(98.7)
Gender of the Patient	93	(55.3)
Address of the Patient	-	
Weight of the Patient	-	
Instructions to the Pharmacist	-	
Brand name of the drug	168	(100)
Strength of the drug	53	(89.3)
Dosage units	113	(67.2)
Special instruction to the Patient	50	(29.5)
<b>Prescriber Identity</b>		
Name of the Prescriber	91	(54.1)
Signature of the Prescriber	168	(100)
Address of the Prescriber	168	(100)

**Table 1: Demographic details**

**Fig 1: Steroid classification on the basis of potency**



**Fig 2: Different dermatological conditions**



Dermatological Conditions	Number of Patient	Drugs Prescribed and formulation <sup>9</sup>	Duration of Treatment
Contact Dermatitis	28	Halometasone monohydrate 0.05% cream, Mometasone furoate 0.1% cream, Desonide 0.05% cream, Clobetasol propionate 0.05% ointment, Hydrocortisone valerate 0.2% cream	2-3 weeks
Polymorphous Light Eruption	20	Mometasone furoate 0.1% cream, Triamcinolone acetonide 0.1% ointment, Fluticasone propionate 0.05% cream	1-2 weeks
Psoriasis	15	Clobetasol propionate 0.05% ointment/lotion/cream, Betamethasone dipropionate 0.05% ointment, Fluticasone propionate 0.05% ointment, Halobetasol propionate 0.05% ointment Halometasone monohydrate 0.05% cream	3 weeks – 6 months
Eczema	15	Halometasone monohydrate 0.05% cream	1-3 weeks
Atopic Dermatitis	15	Mometasone furoate 0.1% cream, Fluticasone propionate 0.05% ointment, Betamethasone valerate 0.1% ointment, Hydrocortisone valerate 0.1% cream	2-3 weeks
Palmo-Plantar Keratoderma	12	Hydrocortisone butyrate 0.1% cream	2 weeks – 3 months
Alopecia Areata	11	Triamcinolone acetonide 0.1% ointment	2-3 months
Post-inflammatory Hyper-pigmentation	10	Mometasone furoate 0.1% cream	2-3 weeks
Nummular Dermatitis	10	Halobetasol Propionate 0.05% cream, Mometasone furoate 0.1% cream, Betamethasone valerate 0.1% ointment	2-3 weeks
Vitiligo	9	Clobetasol propionate 0.05% ointment	3-4 months
Lichen Planus	9	Clobetasol propionate 0.05% ointment	4-6 weeks
Lichen Simplex Chronicum	6	Halobetasol propionate 0.05% cream	

**Table 2: Dermatological conditions; No. of patients; Drugs prescribed and formulation; Duration of treatment.**

#### 4. Discussion

Periodic reviewing of prescriptions is essential to increase the therapeutic efficacy, decrease adverse effects, provide feedback to prescribers and analyze the observance of standards of medical treatment [7]. Average number of drugs is an important index of prescription analysis and in the present study, it was 3.64. 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 some of 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. Prescribing under a generic name is considered economical and rational but no patients in the present study were prescribed generic drug as compared to proprietary drugs. Poor prescribing of generic drugs can be because of concern about their quality. The topical corticosteroids were prescribed in combination with

antibiotics, antifungal and Keratolytics which is comparable with the study by Sweileh et al [10]. Majority of topical drugs (31%) were prescribed in combinations. This finding was comparable with studies by Khan et al [11] and Sarkar et al [12]. The most commonly prescribed systemic agents were antihistaminic (34.69%) which correlates with the findings of above two studies [11, 12].

#### 5. Conclusion

In our study Mometasone furoate, Clobetasol propionate, Halobetasol propionate was used most frequently, since it is moderate-high potent, more efficacious, once daily application with better patient compliance, and reduced adverse drug reactions. Hydrocortisone acetate was least prescribed, since it has a low potency, the number of application per day is more with poor patient compliance, and increased adverse drug reactions. 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 dermatologists. Various intervention strategies like introduction of hospital formulary, essential drug list and prescription control 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 [3].

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