

# A Prospective Study of Pattern of Utilization of Corticosteroids in Dermatology Department in a Tertiary Care Hospital

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**Abstract:** To study the pattern of utilization of Corticosteroids in Dermatology Department in a Tertiary care hospital. The study was conducted for a period of 30 days. A prospective study was conducted in Dermatology Department and all the prescriptions containing steroids were included in the study and the parameters evaluated were gender, age, types of steroids used according to route of administration, potency of topical steroids, number of fixed dose combinations. A total of 100 patients were analysed during this study and among them 60% were males and 40% were females. The male population included 5(8.33%) in 11-20 years, 10(16.66%) in 21-30 years, 45(75%) in 31-40 years of age. The female patients included 5(12.5%) in 11-20 years, 5(12.5%) in 21-30 years of age, 30(75%) in 31-40 years of age. The potency of topical steroids were Mild in 6%, Moderate in 14%, Potent in 44%, Superpotent in 36%.

**Keywords:** corticosteroids, topical steroids, potency, utilization pattern.

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## 1. INTRODUCTION

Corticosteroids have been the main stay of treatment in dermatology department for treatment of various diseases like eczema, psoriasis, vitiligo, lichen planus, atopic dermatitis, contact dermatitis, drug rash. Rational practice of drugs prescription is mandatory in clinical practice but there is rise in irrational prescriptions of drugs<sup>[1]</sup>. Drug usage needs monitoring to minimize irrational practice of drug prescriptions, to analyze the rationality of every prescriptions, to offer proper modifications in prescribing pattern to increase the therapeutic benefits and reduce the adverse drug reactions. Data from the Out patients department is a valuable tool to improve the pattern of prescriptions for the effective outcome of the patients<sup>[2]</sup>. In Dermatology Department the drugs are used directly over the site and hence the drug response varies from person to person.

Corticosteroids are most commonly used and abused drug. Since this drug is available easily they are more prone for misuse<sup>[3]</sup>. It is also dangerous to use the topical medications in children because of increase in percutaneous absorption leading to systemic adverse reaction<sup>[4]</sup>.

Various adverse drug reactions are observed such as hypersensitivity, acne form eruptions, atrophy, telangiectasia, hypertrichosis, purpura, striae. It is hence important to judge the adverse drug reactions while prescribing the drugs<sup>[5]</sup>. Due to larger surface area to body weight ratio and poor skin barrier function and skin fragility the drugs should be used carefully<sup>[6]</sup>.

So our aim is to analyze the rationale of drug use in Dermatology Department intermittently and get the feedback so that they are able to modify the the pattern of prescription so as to increase the therapeutic benefit and reduce the adverse drug reactions for the better prognosis of the patient.

## 2. METHODOLOGY

**STUDY DESIGN:** This is a Prospective and Observational Study.

**STUDY POPULATION:** The patients attending Dermatology Department OPD in KIMS & RC

**STUDY SIZE:** 100 Patients

**STUDY DURATION:** 30 days.

**INCLUSION CRITERIA:**

1. Age : 11-40years
2. Patients who are taking Corticosteroids
3. Patients who are willing to give Informed Consent.

**EXCLUSION CRITERIA:**

1. Age below 11 years and above 41 years of age
2. Patients who are not taking Corticosteroids
3. Patients who are not willing to give Informed Consent.

**STUDY PROCEDURE:**

After getting Approval from the Institutional Ethical Committee the study was conducted in our Institution **Karpaga Vinayaga Institute of Medical Sciences and Research Centre , Madhuranthagam , Kanchipuram District** . The patients were advised about the study procedure , disease outcomes , Medications used , the possible adverse drug reactions in their local language and the Informed Consent was obtained . If the patient was not able to understand , their relatives/attenders were explained and the consent was obtained.

In the Dermatology Department the prescription related information were collected from the OP cards, treatment charts and verbal communication with the patients. Among the Steroids used the routes of administration topical was the most commonly used 67% followed by oral 26% and parenteral 7%. The potency of the drug was mild in 6%, moderate in 14%, potent in 44%, super potent in 36%.

### AGE AND SEX DISTRIBUTION OF PATIENTS

AGE (years)	MALE(n=60)	FEMALE (n=40)
11-20	5(8.33%)	5 (12.5%)
21-30	10 (16.66%)	5 (12.5%)
31-40	45 (75%)	30 (75%)
TOTAL	60 (100%)	40 (100%)

### ROUTES OF ADMINISTRATION

Routes of Administration	Percentage (%)
<b>Topical</b>	<b>67</b>
<b>Oral</b>	<b>26</b>
<b>Parenteral</b>	<b>7</b>

## 3. RESULTS

Among the routes of administration topical is the most commonly used one 67% followed by oral 26%,parenteral 7%.

### POTENCY OF ADMINISTERED DRUGS

Potency	Percentage (%)
<b>Mild</b>	<b>6%</b>
<b>Moderate</b>	<b>14%</b>
<b>Potent</b>	<b>44%</b>
<b>Superpotent</b>	<b>36%</b>

The potent corticosteroids prescribed were betamethasone, clobetasol, mometasone. Intermittent potent were Triamcinolone acetonide. Fluticasone and betamethasone were less potent.

#### CATEGORIES OF STEROIDS PRESCRIBED

Topical(Cream/Ointment/Lotion)	Oral	Parenteral
Halobetasol propionate (0.05%)cream/Ointment	Prednisolone (0.5mg-1mg/KgBW)	Triamcinolone acetonide
Clobetasol propionate (0.05%) cream/Ointment	Methyl Prednisolone	Dexamethasone
Fluticasone propionate (0.05%)	Deflazacort	Methyl Prednisolone
Triamcinolone acetonide (0.1%)	Betamethasone	Hydrocortisone
Fluocinolone acetonide (0.025%)		
Hydrocortisone butyrate (0.1%)		

#### DISEASES TREATED IN OUT PATIENT AND IN PATIENT DEPARTMENTS

Out Patient	Inpatient
Psoriasis	Pemphigus vulgaris
Lichen Planus	Systemic lupus Erythematosis
Vitiligo	Systemic sclerosis
Alopecia Areata	Erythroderma
Lichen simplex chronicus (LSC)	Drug induced rash
Atopic Dermatitis	Type I & II reactions in Hansen's
Seborrheic Dermatitis	

#### 4. DISCUSSION

Dexamethasone sodium phosphate by intravenous route was highly prescribed among systemic steroids because of its potency and longer duration of action<sup>[7]</sup>. Among the patients the most common disease was SLE, Pemphigus vulgaris and Drug Rash. Eczema and Psoriasis were most steroid responsive dermatoses. There is a sub therapeutic effect in patients with less dosage and adverse drug reactions occurrence in increased dosage level. This can be prevented by exactly mentioning the dosage levels in the prescription forms<sup>[3,5]</sup>. The choice of the drug and its route of administration cannot follow a general guideline as most of the time the treatment approach gets modified according to the severity of the disease.

#### 5. CONCLUSION

By intermittently monitoring, evaluating and therapeutically analyzing the pattern of prescriptions of corticosteroids in Dermatology Department we can contribute to the rational and ethical use of this life saving drug in dermatology practice with maximum effectiveness and least adverse drug reactions.

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