

A prospective observational study of prescription pattern of topical steroids in dermatology OPD, BRIMS, Bidar, India

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ABSTRACT

Background: In dermatology practice Glucocorticoids are the most commonly prescribed drugs. Steroids produce dramatic relief in inflammatory and pruritic skin conditions, if they are irrationally used they may lead to adverse effects. Hence this study was done to observe the prescription pattern of corticosteroids.

Methods: It was a prospective observational study. The prescriptions of patient attending the dermatology OPD were screened for the usage of the corticosteroids. The demographic data, chief complaints, diagnosis and the details of the drugs were collected and analysed.

Results: Out of 415 patients screened, 13.97% were prescribed corticosteroids. Corticosteroids prescribed by generic name were 26.01% and brand name was 82.05%. Corticosteroids alone were prescribed in 42.02% and along with antihistaminics/antibiotics/emollients in 66.04%. Corticosteroids were prescribed topically in 86.02% of patients and systemically in 22.04% of patients. Moderately potent steroids prescribed in 80.42% followed by potent (15.07%) and very potent steroids (12.56%). No fixed dose combination drugs were prescribed.

Conclusions: The corticosteroids prescribed by brand names (82.05%) were more than generic names (26.01%), information about the strength of the steroid was not mentioned and usage of emollients was less. This indicates the need for continuous medical education for the clinicians.

Keywords: Corticosteroids, Emollients, Prescription pattern

INTRODUCTION

There has been revolutionary changes brought by the use of Glucocorticoids in Dermatology. The common indications are conditions such as psoriasis, atopic dermatitis, lichen planus, eczema, lichen simplex chronicus and other steroid responsive dermatosis. The anti-inflammatory and immunosuppressant actions of these drugs increase the susceptibility to bacterial and fungal infections, hence there is an increased practice of using these drugs in combination with antibiotics and anti-fungals.¹

The misuse of topical steroids has also increased in this country for varied indications such as acne, pigmentation, fungal infections, pruritis and many a times as a cosmetic

or a skin cream for any type of rash and main reason for this is, its free availability as an over the counter medication. In India, the annual sales figure of topical corticosteroids was 14 billion rupees in 2013, which accounts for almost 82% of total dermatological product sale in the country.²

Over the years they are being increasingly abused by both patients and the doctors as well. Apart from common indications they are also being used for conditions such as melasma, urticarial and even undiagnosed skin rash by dermatologists and also by general physicians.³

This is because they produce quick symptomatic relief of many skin disorders by topical application in the first instance.

There are studies done in patients presenting with steroid related side effects have shown that, there are several non-medical advisers like friends, neighbours, beauticians, barbers, etc. telling them to use topical steroids as fairness/cosmetic creams, anti-acne, antifungal therapy and for any skin eruptions.⁴

Considering the above facts, the present study was done to evaluate and analyse the prescription pattern of topical corticosteroids.

METHODS

The design of this study was a prospective study. The study was carried out in dermatology OPD at BRIMS, Bidar, Karnataka. The study period was 3 months (April 2018-June 2018). The study was started after approval from Institutional Ethics Committee and Informed consent was taken from the participants. A total of 415 patients were included in the study.

Inclusion criteria

- Patient of either sex attending the dermatology OPD
- Patient of all the age group attending dermatology OPD
- Patient willing to give written informed consent.

Exclusion criteria

- HIV patients
- Severely ill patients
- Patients on cancer chemotherapy
- Patients not willing to participate in the study.

Study procedure

Prescription of every 3rd patient of either sex of age above 15 years attending OPD were screened. Details of prescription were taken after their written informed consent from patients. Demographic details were noted. Data was collected using a questionnaire.

Number of drugs per prescription, drug details, whether corticosteroids were prescribed with generic name or brand name, whether they were prescribed or self-medicated, number of fixed dose combination (with antibiotics/antifungal etc) and their duration of use. The potency and group to which the topical corticosteroid belonged to was noted. According to American classification topical corticosteroids were classified into 7 groups based on their potency and into 4 groups according to British Classification.^{5,6}

Statistical analysis

The data collected was expressed in Microsoft excel and statistical analysis was done i.e., percentages, mean deviation and standard deviation.

RESULTS

A total number of 1250 patients visited the dermatology OPD during the period of 3 months i.e., April 2018 to June 2018. Among them use of corticosteroids was screened for every 3rd patient attending the OPD and a total of 415 prescription was collected. 48 (12.3%) patients were on corticosteroids either systemically or topically.

Sex wise classification

Among 48 patients, 30 were males (62.5%) and 18 were females (37.5%). Polypharmacy (4 drugs) was observed in 10.01% of prescriptions. 26.01% of the corticosteroids were prescribed with generic name and 82.05% by brand name.

Age wise classification

Highest percentage of patients 41.66% were belonging to 15-25 years age group visiting dermatology OPD were on steroids followed by 18.75% belonging to 65-75 years, followed by 12.5% belonging to 55-65 years, 10.41% belonging to 25-35 years of age, least percentage 8.33% were belonging to 35-55 years of age. The age wise distribution of patients visiting dermatology OPD on corticosteroids is given in Table 1.

Table 1: Age wise distribution of patients on corticosteroids.

Age (years)	No. of Subjects	Percentage
15-25	20	41.66
25-35	5	10.41
35-45	4	8.33
45-55	4	8.33
55-65	6	12.5
65-75	9	18.75

Classification based on diagnosis

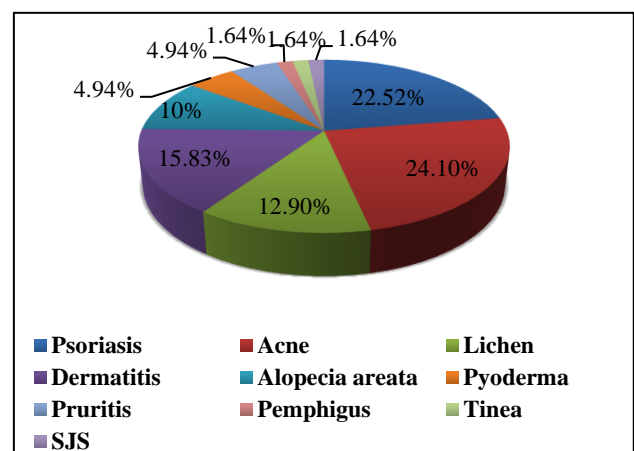


Figure 1: Utilization pattern of corticosteroids in different diseases.

Acne was the common disease observed in patients with corticosteroids either prescribed or self-medicated in 24.10%, followed by psoriasis in 22.52%, dermatitis in 15.83%, lichen in 12.90%, alopecia areata in 10%, pyoderma and pruritis in 4.94%, least common diseases were Pemphigus, tenia, SJS in 1.64%. Figure 1 depicts utilization pattern of steroids in different diseases.

Combination of drugs with steroids

Topical/ oral steroids were prescribed alone in 34.56% and 11 patients (22.91%) were given steroids in combination with moisturizers/emollients, 24.26% and 19.75% of patients were given steroids along with combination of antihistaminics and antibiotics alone respectively, 8.23% of patients were given combination of steroids, antihistaminics and antibiotics, 1.64% of patients only were prescribed along with antifungals. The prescribing

pattern of corticosteroids along with other drugs is shown in Figure 2.

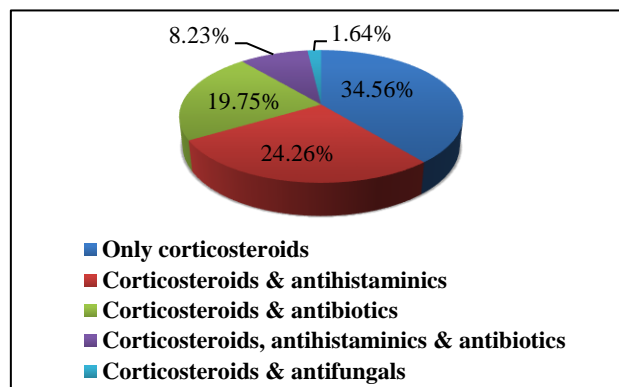


Figure 2: Prescribing pattern of corticosteroids with other drugs in dermatology department.

Table 2: Prescribing pattern of corticosteroids based on potency.

Potency of steroid - British classification	Drug	No. of patients (percentage)	Potency based on WHO classification*	No. of patients (%)
Very potent	Clobetasol propionate	4 (10.81%)	I (super potent)	4 (10.52%)
Potent	Betamethasone dipropionate	3 (8.10%)	II (potent)	3 (7.89%)
Moderately potent	Oint. Mometasone fluoroate	30 (81.01%)	III (Upper mid-strength) Oint. Mometasone furoate 0.1%	20(52.65%)
	Clobetasone butyrate (0.05%)		IV (Mid-Strength) Clovetasone butyrate (0.05%)	11(28.94%)

Route of administration of corticosteroids

It was observed that the corticosteroids were given by topical route in 86.02% and by systemic route in 22.04%.

Based on the potency of drugs

Most commonly prescribed corticosteroids were clobetasone propionate, mometasone, betamethasone, oral prednisolone and inj. triamcinolone.

It was observed that use of moderately potent steroids was higher compared to very potent and potent steroids.

There were 48 patients included in the study out of which 12 (25%) patients were on self-medication before they come to OPD.

Among 12 patients 4 (8.3%) were on betamethasone ointment and 8 (16.6) patients were on mometasone cream. The most common indication for using corticosteroids was acne in 7 patients (14.5%), pyoderma in 4 patients (8.3) and tinea corporis in 1 patient (2%).

According to British classification of steroids based on potency 30 (81.01%) patients were prescribed with moderately potent steroids, 4 (10.81%) patients with very potent and 3 (8.10%) patients were prescribed with potent steroids. Prescribing pattern of steroids based on potency is shown in Table 2.

DISCUSSION

The drug utilization studies not only provide information and knowledge about the pattern of drug usage but also about irrational usage of drugs and hence interventions for rational drug use and continuous quality improvement can be achieved.

In dermatology practice one of the most common group of drugs used are corticosteroids. Their usage pattern is assessed to optimise the benefits, limit the adverse effect and their rational utilisation. The average no of drugs per prescription was 2.28±0.83 which was less when compared to study by Kumar AM et al, which was 8.63±1.8 (inpatients) and 2.72±0.6 (outpatients).⁷ Polypharmacy (>4 drugs) was observed in only 9.26% of prescriptions, which showed rational prescribing of drugs.

The range of steroid usage was observed to be 14.05% in the present study.

Usage of the corticosteroid in other studies was 14.2% among inpatients and 16.10% among the outpatients by Kumar AM et al, 23% by Saravanakumar RT et al, 44.7% by Mirshad PV et al, 28.4% by Rathod SS et al, and 25.06% by Sweileh WM.⁸⁻¹¹

In the present study, most of the steroids prescribed were by brand names (82.05%), but it was lesser compared to other studies like Kumar AM et al, Mirshad PV et al, where 100% brand names were reported. The reason possible for prescribing drugs with brand names could be the misconception that branded drugs are more efficacious compared to generic drugs as they are more costlier, uncertainty about the efficacy of generic drugs, lack of information about the generic drugs from the pharmaceutical companies. But it was proven in many studies that the efficacy produced by as well as branded drugs is equal.¹²

In this study, the usage of very potent (12.56%) steroids was less than moderately potent (18.42%) whereas study conducted by Rathod SS et al, and Mirshad PV et al, reported higher percentage usage of very potent steroids 94.36% and 50% respectively.^{9,10} Another study by Saravanakumar RT et al, reported 100% usage of potent and very potent steroids.⁸

There was no usage of fixed dose combination in present study indicating that there was rational prescribing of drugs according to WHO guidelines of rational prescribing.

The strength of steroid was not mentioned in the prescription in present study, the reason behind this could be prescribing the drugs by brand names (82.05%), where they are available as single strength preparations. In the usage of topical corticosteroids, the important aspect is how much quantity to be used. If quantity is not specified it can result in either under usage or over usage which may result in sub-therapeutic outcome or unwanted effects. The patient seemed to be confused about using the prescribed preparation. This was observed in previous studies also like Mirshad PV et al, Rathod SS et al, Sweileh WM, were they reported that there was inadequate information about the strength, duration and quantity of steroid to be used in most of the prescriptions.⁹⁻¹¹ To rationalize the advice on applying topical therapy many attempts were made, the method that gained widest acceptance is finger-tip unit (FTU).¹³ FTU is the amount of cream or ointment which is expressed from 5mm diameter nozzle, applied from distal skin crease to tip of patient's index finger it can be used to calculate how much product is needed to cover affected areas and hence quantity to be prescribed. The advantage of FTU is automatically correcting the body size thus 1 FTU (500mg) is sufficient to cover 2 adult palms. When patient is explained clearly patient will be aware of how much steroid to use, where and when to apply, for how long to be used. As the risk, the side effects increases with

potency and quantity used, hence while prescribing the steroids dermatologists should be sensitised regarding usage of FTU. In this scenario emollients could be prescribed along with steroids in order to cut down its usage. Emollients were prescribed in 11 (22.91%) patients along with corticosteroids, even though many studies reported their steroids sparing effect i.e., the ability to reduce the need to use topical steroids especially in patients with atopic eczema and psoriasis.^{14,15} Hence it is important for all the practicing clinicians to have regular continuous medical education programs so that their knowledge in rational prescribing of medicine is updated.

The strength of the study was selection of patient by stratified random sampling hence eliminating the selection bias which influences the outcome. The limitation of study was small sample size, short duration of study and since it was cross sectional study the safety and efficacy parameters of topical steroids could not be assessed.

CONCLUSION

In this study it was observed that moderately potent steroids (80.42%) which was most common formulation suggesting the rational prescribing. During the study observation period the prescribing pattern was safer and there were no adverse effects reported due to corticosteroids. However, information about the strength of the steroid was not mentioned. The prescriptions contained brand names (82.05%) more than generic names (26.01%) and the usage of emollients were less. This indicated that the practicing physicians need continuous medical education.

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