



Inadvertent Usage of Topical Corticosteroids on Face - A Cross Sectional Study in Rural Tertiary Care Center

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Citation of this Article: Dr. Sibbala Himaja, Dr. Avula Sushma., Dr. B Udaya Kumar, “Inadvertent Usage of Topical Corticosteroids on Face - A Cross Sectional Study in Rural Tertiary Care Center.” IJMSAR – January – 2024, Vol. – 7, Issue - 1, Page No. 07-17.

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Type of Publication: Original Research Article

Conflicts of Interest: Nil

ABSTRACT

Background

Topical Corticosteroids (TCs) are potent anti-inflammatory medications which provide rapid symptomatic relief in many dermatological conditions. Over the counter (OTC) availability of TCs and their unsupervised usage are responsible for various cutaneous adverse effects like erythema, acneiform eruptions, hypertrichosis, demodicosis, etc.

Objective

To identify and document various conditions for which TCs misuse happened over face and cutaneous

adverse effects encountered in patients attending DVLOPD.

To analyse the various factors contributing to such TCs misuse.

Materials and methods

This was a observational, cross-sectional study conducted in a rural tertiary care centre over a period of 6 months. A total of 60 patients attending DVL OPD with facial dermatoses where topical steroids abuse is suspected/ documented were distributed a

pre-validated questionnaire and were included in the study.

Results

The mean age group of the study population was 15-25 years(75%).The study group has more females (58.3%) .The most common reason for TCs misuse on face was acne(53.3%).The commonest side effect observed was acneiform eruption (43.3%).The common guiding source of information is from relatives / friends (30%). The most commonly misused steroids were moderate potent steroids such as mometasone cream 0.1% (90%) . The maximum duration of steroid usage was 6-12 weeks (56.6%).

Conclusion

The adverse effects of chronic misuse of TCs can be devastating and permanent sometimes, hence war footed advocacy & awareness campaigns are to be taken up in all sectors against free availability of TCs as OTC products, combination creams and prescription by non specialists which can bring down this menace.

Keywords

Topical corticosteroids, over the counter availability products, cutaneous adverse effects, Topical steroid damaged/dependent face

INTRODUCTION

Topical Corticosteroids (TCs) are potent anti-inflammatory drugs which provide quick symptomatic relief in many dermatological conditions.Hence, they are one of the most extensively prescribed topical drugs by non-specialists, which have been in use for about six decades till date.¹ The first topical corticosteroid,compound F (HYDROCORTISONE) was introduced by Sulzberger and Witten , in 1952, steering a new era in therapeutic dermatology.² TCS,

while extremely salutary, have proven to be double edged sword. They have been abused to varying degrees by drugstores and pharmaceutical companies, prescribers (who are not always doctors or dermatologists), and the general public.³ Over the counter (OTC) availability of TCs and their unsupervised use are responsible for various cutaneous side effects like rosacea, acneiform eruptions, hypertrichosis, demodicosis, etc. These are more pronounced over face as the skin is fairly thin and sensitive.¹ A new entity known as topical steroid damaged/dependent face (TSDF) has lately been coined to describe the diverse symptoms such as erythema or burning sensation on attempted withdrawal and cessation of topical steroid application.⁴ They are more difficult to treat and beget much further distress to patients than the primary conditions for which TCs were misused.⁵ The abuse of TCs is associated with fairness creams in our colour conscious society where people are obsessed with lighter complexion due to social and literal reasons.⁶

MATERIALS AND METHODS

Study Design

This is a cross sectional observational study
A questionnaire based analysis was done among patients attending dermatology outpatient department at rural tertiary care centre between February 2023 to July 2023. A total of 60 subjects were assessed with a questionnaire , consisting of sociodemographic information, details on type, duration, indication, source of prescription and adverse effect encountered on chronic steroid application.

Written informed consent and permission to take photographs of the skin lesions was taken from patients.

Inclusion Criteria

- 1. Patients attending dermatology OPD with complaints pertaining to face and with a history of application of topical steroid for unwarranted indication/undiagnosed dermatoses/ improper potency/ usage beyond the prescribed duration.
- 2. Patients aged 15 years and above of either sex were included in the study.

Exclusion Criteria

- 1. Patients less than 15 years of age.
- 2. Patients who are not willing to give consent to participate in the study.

Findings were tabulated in Microsoft excel worksheet and data was analysed SPSS software version 23.

RESULTS

Out of 60 patients which were included in the study, the mean age group of the study population was 15-25

years (75%), followed by 26-40 years (16.6%) .The study group has more females (58.3%) than males (41.6%).The most common reason for TCs misuse on face was acne(53.3%), followed by concern for fairness (26.6%) and pigmentation (20%). The most common cutaneous adverse effects with steroid misuse were found to be acneiform eruptions (43.3%) ,followed by pruritus (36.6%) ,dryness (26.6%) and erythema (20%). The common source of information is from relatives / friends (30%) ,followed by over the counter availability (25%) ,quacks (25%) and non dermatology physicians (20%). The most commonly misused steroids were moderate potent steroids such as mometasone cream 0.1% (90%) ,followed by superpotent steroids (10%). The maximum duration of steroid usage was 6-12 weeks (56.6%) ,followed by >24 months (16.6%) and 6-24 months (13.3%).

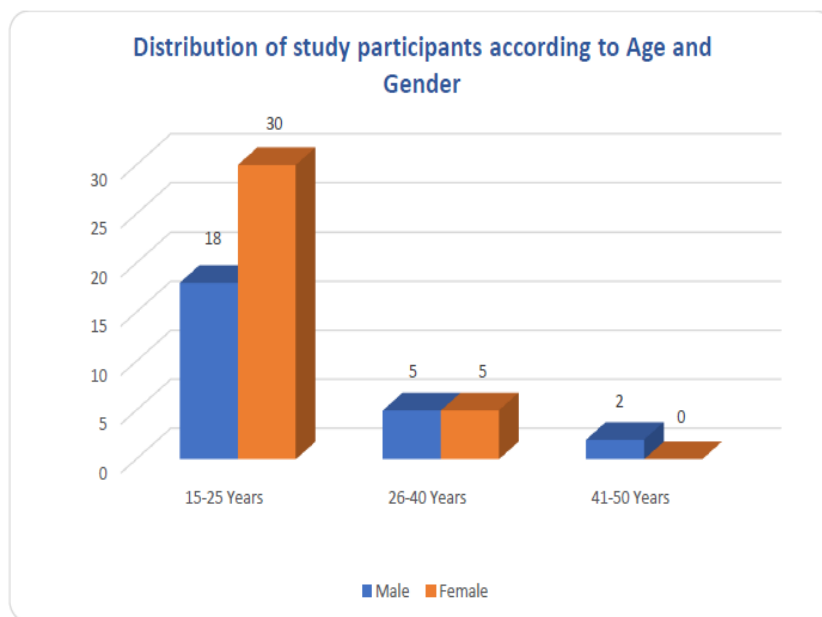


Chart 1: Distribution of Study Participants According To Age and Gender

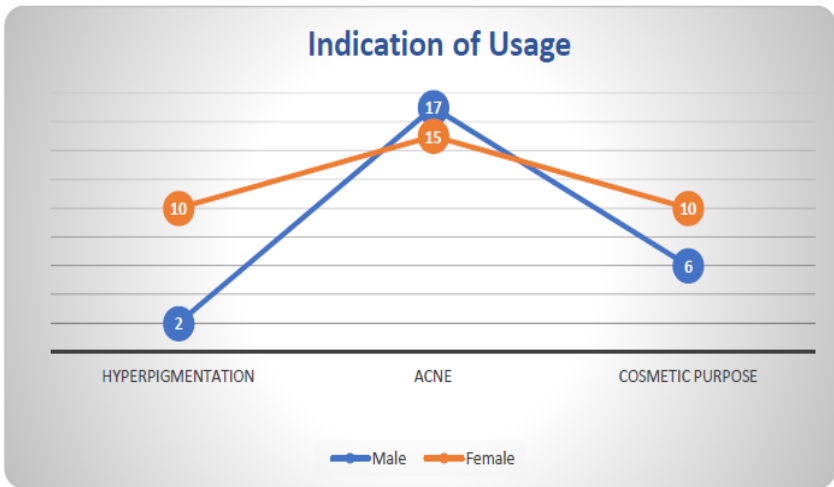


Chart 2: Indication of Usage of Topical Steroids

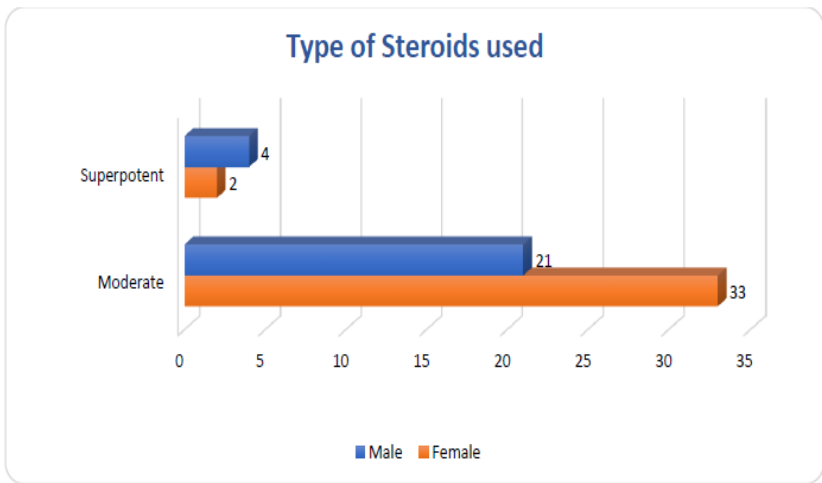


Chart 3: Types of Steroids Used

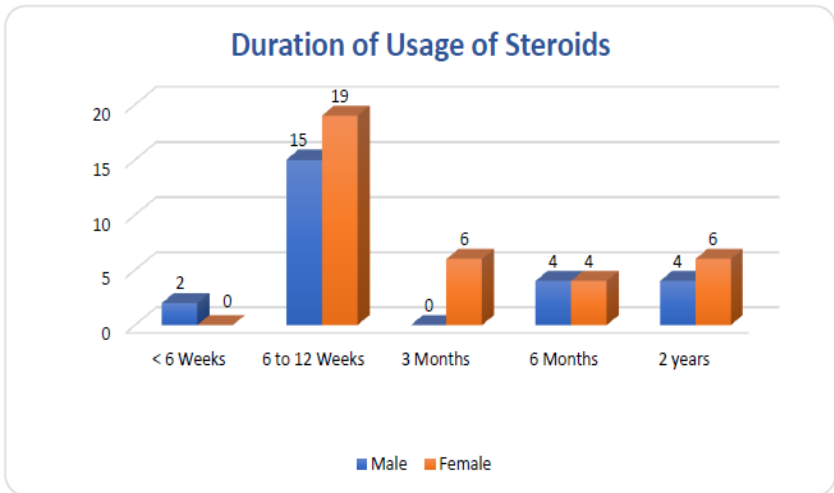


Chart 4: Duration of Usage of Steroids

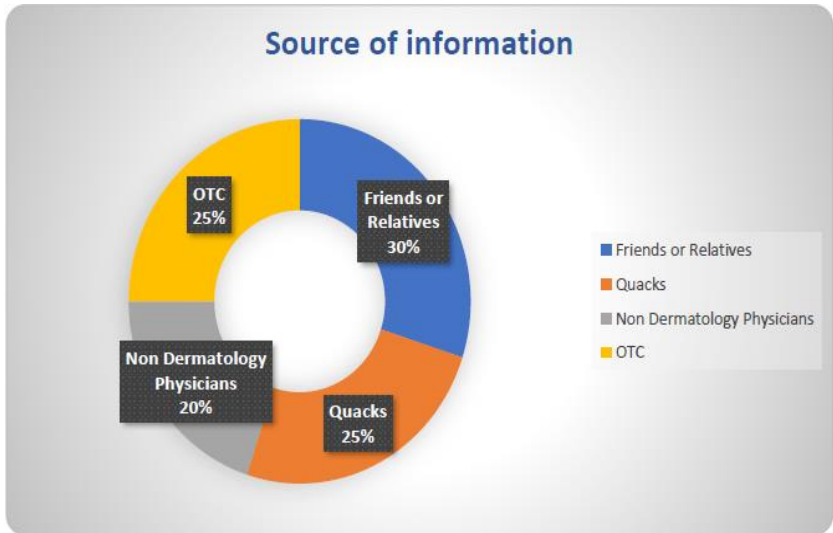


Chart 5: Source of Information of Steroids

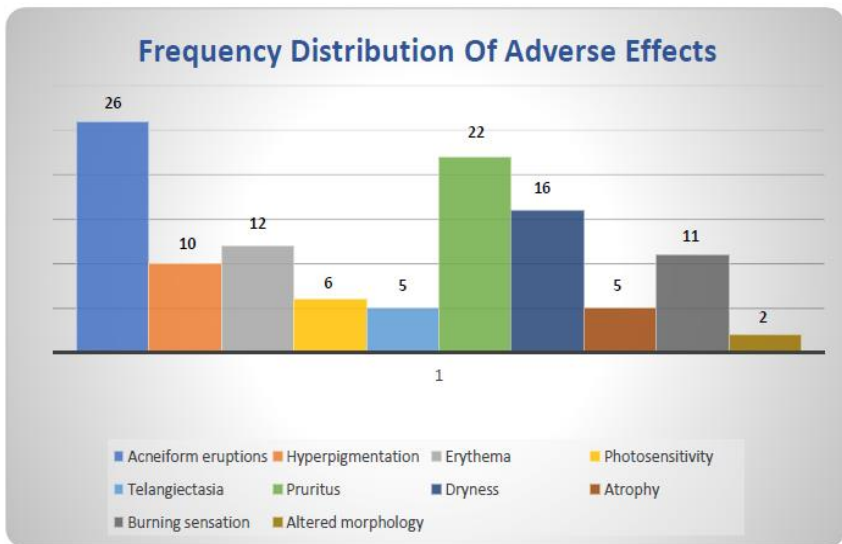


Chart 6: Frequency Distribution of Adverse Effects

DISCUSSION

The ever-adding fantasy of getting a fairer skin tone in a sub tropical country like ours pushes people to use every product which promises to do so, without consulting a specialist. The problem is worsened when these products are advocated by numerous film and television celebrities who are semi-gods in a country like ours.⁷

Abuse of TCs appears to be a common problem in our country. This is reflected by the large proportion of

cases who visit the Dermatology Department after some weeks, with the adverse effects of these preparations.⁸

The first case series on TCs abuse in India was published in 2006 and since then, many authors have published multitudinous case studies on TCS usage over face.⁹

In the age distribution pattern of this study, the majority of the patients belong to the age group of 15-

25 years (75%), followed by 26-40 years (16.6%) which were similar to findings from Skandashree BS et al and Ambika et al studies.

The reasons for maximum representation of the age group 15-25 years may have been their consciousness towards their appearance.¹⁰

Majority of patients were found to be females (58.3%) and males (41.6%) which were similar to findings from Manchanda et al, Skandashree BS et al and Ambika et al studies.

Numerous studies on facial abuse of TC has formerly been done not only in India but also across the globe where the representative sample of grown-ups substantially young females used the TC completely ignorant of its adverse effects just for the craziness of getting fair skin.^{6,11,12}

The most common indication of steroid use in our study was acne (53.3%) , followed by concern for fairness (26.6%) and pigmentation (20%).

These findings are in contrary to Skandashree BS et al, Ambika et al, Manchanda et al studies where pigmentation and skin lightening were the major indications for steroid misuse.

Skin lightening was the main reason for the continuous use of TC (65.7%) in a study done in an Irani hospital.¹³ This predilection is ubiquitous across the globe with minor variations in other countries as substantiated by various population based studies.^{14,15,16}

The most common cutaneous adverse effects with steroid misuse were found to be acneiform eruptions (43.3%), followed by Pruritus (36.6%), dryness (26.6%), erythema (20%).

The common source of prescription in the study was relatives/ friends (30%) , followed by over the counter

availability (25%), quacks (25%) and non dermatology physicians (20%).

These similar findings were also reflected in the studies done by Balasubramanian et al, Dey et al, Skandashree BS et al.

Friends and relatives partake of the same prescription presuming that similar looking skin problems can be self-treated by simply copying the old prescription is relatively common.

Moreover, pharmacists in drug stores and quacks whose qualification is not known also play as doctors doling out advice about which TCs to use.¹⁷ Analogous situation is hardly seen in western countries where FDC's are hardly used and topical steroids are no way allocated without prescription.¹⁸

The most commonly abused steroids were of moderate potent steroids such as Mometasone cream 0.1% comprising 90% in this study population and of potent and super potent steroids such as Betamethasone valerate cream 0.1%, clobetasol propionate cream 0.1% to 10%.

These findings are similar to Skandashree BS et al, Sharma et al, Dey et al studies but are in contrary to Meena S et al study where abuse of potent and super potent steroids were noted commonly.

The reason could be attributed to the ever rising popularity of triple combination (mometasone, hydroquinone, and tretinoin) for fairness creams leading to a plenitude of products with this formulation in the Indian drug market.

The maximum duration of steroid use in this study was between 6-12 weeks (56.6%) , <6 weeks (3%), between 3-6 months (10%), between 6 -24 months (13.3%), >24 months (16.6%). The similar findings were noted in the studies conducted by Sharma et al,

Ambika et al, Skandashree BS et al where < 6 months was the common duration for steroid abuse.

According to Drugs and Cosmetics (D and C) Act 1940, the TCs fall under the category of Schedule H drugs and these drugs should be vended in drug stores only on the prescription of a registered doctor, which is hardly ever followed in India.19

The Indian drug market is swamped with several Fixed Dose Combinations (FCs) of corticosteroids with anti-bacterial and anti-fungal agents, which in no way can be considered scientific and rational.20,21

The only and as most effective treatment in such cases is the complete cessation of topical steroids usage along with the symptomatic treatment.22



Figure 1 & 2: Hyper Pigmentation of Face



Figure 3 & 4: Acneiform Eruption



Figure 5: Flare Up of Acne



Figure 6: Hyper Pigmentation and Atrophy of Facial Skin



Figure 7: Erythema of Face



Figure 8: Tinea Faciei

CONCLUSION

Obsession with unrealistic expectations of fairer skin has led to the popular misconception of topical corticosteroids as skin lightening agents. These are commonly used as general face cream and as fairness cream by many people in our society because of less stringent laws against the sale of over-the-counter products. The adverse effects of chronic misuse of TCs can be devastating and permanent sometimes, hence war footed advocacy & awareness campaigns are to be taken up in all sectors against free availability of TCs as OTC products ,combination creams and prescription by non-specialists which can bring down this menace.

LIMITATIONS

The limitation of the study was that as this was an OPD based study, it may or may not exactly mirror the community data but it certainly emphasises the misuse of TCs particularly among common people and we had a relatively small sample size.

ABBREVIATIONS

DVL	Dermatology, Venereology & Leprosy
OPD	Outpatient department
TC	Topical Corticosteroid
OTC	Over the counter
TSDF	Topical steroid damaged/dependent face
FDC	Fixed dose combination

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