

# Knowledge attitude and practice survey in medical graduates regarding topical corticosteroids: A cross sectional study conducted at medical university of North India

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## Abstract

**Introduction:** Abuse of Topical corticosteroids (TCS) is common irrespective of the literacy status of people. It is sad when a Medical Graduate uses topical steroids for wrong indications and wrong duration.

**Aims:** to evaluate Knowledge Attitude and Practice in Medical Graduate (MG) students of a medical university in north India regarding topical corticosteroids use and to sensitize them regarding its misuse.

**Materials and Methods:** This was a cross sectional questionnaire based survey conducted among MG. Medical graduates including interns and post graduate students were approached. The entire activity consisted of a pre test followed by a presentation on topical steroids use/ misuse and finally feedback was taken.

**Results:** Total students included were 270. One hundred and sixty five (61.1%) students had previously prescribed TCS in different skin conditions, most commonly being clobetasol. One hundred and ninety three (71.4%) medical graduates were not aware of the different potencies of TCS, and 159(58.8%) were unaware of adverse effects it produces. Two hundred and twenty two (82.2%) of the MG were never sensitized before about TCS misuse.

**Conclusions:** Medical graduates commonly prescribe TCS to patients. However the basic knowledge of TCS use/misuse was not known to many of them and many of them had prescribed TCS for non-indicated skin conditions. This highlights the importance of TCS awareness during undergraduate training.

**Keywords:** Topical corticosteroids, Survey, Medical graduates.

## Introduction

Topical corticosteroids (TCS) are one of the most commonly used drugs. Uses of Compound F (hydrocortisone) in dermatology was first reported by Sulzberger and Witten in 1952.<sup>1</sup> They are frequently being misused both by the medical and non-medical personnel. Reasons being easy availability, low cost and lack of proper knowledge about their indications, contraindications and side effects. They are freely available as an over the counter medication (OTC). Immediate relief provided by these drugs leads to their misuse and abuse. There are studies which have tried to highlight the various side effects of topical corticosteroids.<sup>2-4</sup> Tinea incognito, acne, cutaneous atrophy, rosacea, topical steroid-dependent facies (TSDFs), telangiectasia, hypopigmentation, irritant contact dermatitis, striae, pyoderma, perioral dermatitis, hypertrichosis etc. are some of the common side effects of TCS.<sup>5</sup> Abuse of TCS is common irrespective of the literacy status of the people. They are being misused for wrong indications like fungal infections, fairness creams, acne etc. The condition becomes worse when topical steroids are being prescribed by a Medical Graduate (MG) for wrong indication and wrong duration. This occurs because of lack of awareness and lack of sensitization during their MBBS training period. We as a dermatologist are working hard to make public aware about topical steroid abuse. This effort will be incomplete if we fail to recognize how aware is our own MG regarding the use of topical steroid and if we fail to sensitize them for the same. Through this survey we aim to identify how aware is our MG regarding TCS and at same time to make them aware about its misuse.

## Material and Methods

This was a cross-sectional questionnaire based survey conducted in 2018, in the department of Dermatology, Venereology and Leprosy among the Indian medical graduates of the institute regarding topical steroid knowledge, attitude and practices after obtaining approval from institute ethics committee. The study period was five months. Medical graduates including interns, post graduate students and diploma students were approached both individually and in small groups for survey purpose. After obtaining written consent the survey was conducted with help of a questionnaire. As there was no validated questionnaire available, we used a set of 9 questions to check the domains of knowledge attitude and practice on topical corticosteroids, Table 1. It was followed by a short presentation which consisted of history of topical steroids, their uses, pictorial representation of their side effect profile and what can be done to prevent topical steroid abuse/misuse. Finally a feedback was taken in which the MG's were asked to list few side effects of steroids along with the utility of the survey whether it created awareness or phobia amongst them and also suggestions for improvement of the survey were asked. Statistical analysis was performed using the EPI info software. Categorical variables in two groups were compared using the Fisher's exact test. A P value of < 0.05 was taken as statistically significant.

## Results

A total of 270 medical graduates were enrolled in this study. Out of this, 63(23.33%) were interns and the remaining 207 (76.67%) were training as post graduates in different

specialties (Table 2) like Anatomy, Physiology, Pharmacology, Pathology, Pediatrics, Obstetrics to name a few. Sixty eight (25.19%) students believed TCS could be prescribed safely in any skin condition and 7(2.6%) believed that TCS are given in all skin diseases. One hundred and ninety three (71.4%) medical graduates were not aware of the different potencies of TCS, and 159(58.8%) were unaware of adverse effects it produces. TCS is now schedule H drug was not known to 208(77.4%) students. One hundred and sixty five (61.1%) students had previously prescribed topical corticosteroids in different conditions, most commonly being clobetasol followed by beclomethasone, (Table 3), indications for which they were prescribed frequently are listed in Table 4. Also, 135 (50%) students had personally used TCS on some occasion or other. Two hundred and twenty two (82.2%) of the MG were never sensitized before about TCS misuse and abuse.

When compared post graduate students were using topical corticosteroid on patients more frequently ( $p=0.018$ ) as compared to interns and were more aware of the fact that topical steroids cannot be prescribed to everyone safely ( $p=0.048$ ). For rest of the questions there was no statistically significant difference in answers given by student pursuing post graduation and students doing their internship.

The survey and entire steroid awareness activity was found to be useful by almost all the students, although two students developed topical steroid phobia. All students except 3 understood the side effect profile well and were able to list the adverse effects of topical steroids. They also felt the need of emphasizing this topic during their undergraduate teaching. Three students did not fill the feedback form.

**Table 1:** Pretest questionnaire

1.	Speciality	
2.	Topical steroids can be prescribed to anyone safely	Yes/no
3	Do you use/prescribe topical steroids to	Yes/no
a.	Patients	Yes/no
b.	Self	Yes/no
4.	If YES which is the most common topical steroid prescribed/used	
5.	If YES what are the indications for which you have used topical steroids	
6.	Are you aware of the various potencies of topical steroids	Yes/no
7.	Are you aware of the side effects of topical steroids	Yes/no
8.	Are topical steroids Schedule H drugs	Yes/no
9.	Have you ever been sensitized (during your MBBS/MD/MS) regarding topical steroid misuse/abuse	Yes/no

**Table 2:** Number of students according to speciality

Specialty	No. (%)
Interns	63(23.33)
Pharmacology	32(11.85)
Pathology	28(10.37)
Gynecology	27(10)
Surgery	22(8.14)
Ophthalmology	20(7.40)
Anatomy	21(7.77)
Microbiology	19(7.03)
Paediatrics	13(4.81)
Radiology	15(5.55)
Preventive and Social Medicine	9(3.33)
Medicine	1(0.37)

**Table 3:** Commonly prescribed Topical corticosteroids by IMG

TCS	No.
Clobetasol	37
Beclomethasone	34
Betamethasone	32
Combination	15
Dexamethasone*	15
Hydrocortisone	12
Mometasone	11
Others (not specified)	24

\*in the form of eye drops by Ophthalmologists

**Table 4:** Conditions for which topical corticosteroids were used

Condition	No.
Eczema	92
Acne	30
Infections	22
Papulosquamous	17
Others (itch, burn, keloid, insect bite)	16

## Discussion

Since their invention, topical steroids have brought smiles on the face of patients as well as doctors by curing various dermatological disorders. At least 18 different corticosteroid molecules, ranging in potency and activity from mild to super-potent, are available for topical use on the skin.<sup>6</sup> Their anti-inflammatory, antipruritic, atrophogenic, melanopenic and immunosuppressive actions are well known. Immediate relief provided by these agents is the main reason behind its usage. TCS are ideally recommended for specific disorders and for specific period of time but this protocol is hardly being followed. Its misuse and abuse has taken the form of pandemic and so is the case in India. TCS are mainly the domain of dermatologists but doctors from other specialities also use these drugs without knowing their exact indications and contraindications. They are prescribed by doctors, quacks, friends, pharmacist, relatives and are easily available as over the counter medication.<sup>7</sup> More and more people are visiting the dermatologist with phenomenon known topical steroid abuse, misuse and topical steroid dependence.<sup>8</sup> Topical steroid misuse not only damage the normal skin but also make certain conditions difficult to diagnose and treat. Infections flare up and become resistant to treatment. Many of the side effects are irreversible, leading to permanent skin damage. Apart from the cosmetic concerns, many patients are psychologically disturbed as well.<sup>9</sup>

In this survey we focused on our Medical Graduates (MG) with the aim of obtaining their knowledge, attitude, practice regarding topical steroid TCS and at the same time sensitizing them regarding steroid misuse and abuse. "TCS can be prescribed to anyone", "all skin disorders need topical steroids" if this is the answer we get from our MG then its time to focus and enhance their knowledge regarding topical steroids. Out of 270 MBBS Graduates 165 were using topical steroids either for themselves or their patients, which is significant number. Moreover topical steroid was used for acne, infections, which was alarming. By sensitizing them regarding the topical steroids misuse we may expect its judicious use in future by them. Seventy one percent of students were not aware of the different potencies of steroids and 58% did not know their side effects profile. These figures indicate the lacunae of knowledge in the field of topical steroids in our graduates and its high time that this domain should be regularly focused in the MBBS, Dermatology curriculum.

In one of the survey by Saraswat et al<sup>7</sup> it was found that potent topical corticosteroids were used frequently and betamethasone valerate was the most common steroid used both alone and in combination while in our survey

clobetasol was the most frequent steroid abused. Only 28.5% of our MG's were aware of the different potencies of corticosteroids.

Different studies by TS Nagesh et al,<sup>10</sup> Saraswat et al,<sup>7</sup> and Dey et al,<sup>3</sup> found that the acne was the most common indication for which TCS were prescribed followed by pigmentation and allergic disorders. Our MGs used/prescribed steroids mostly for almost similar conditions without adequate knowledge about their side effect profile which should not have been the scenario if they were adequately sensitized during their training. Very few studies have been conducted previously on steroid abuse. Self medication, easy availability, low cost and easy access are the reasons for such abuse.

Main limitation of our study was uneven representation of graduates from clinical and non clinical side.

## Conclusion

All MBBS students will not be dermatologists and dermatologists cannot be everywhere therefore our main objective was to find out how informed our MG are regarding TCS use and misuse. Through this survey we came to know there is big lacuna in the knowledge, attitude and practice for TCS among the medical graduates which can be filled with proper undergraduate training. Workshops, seminars and role plays conducted at undergraduate level will be beneficial.

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**Conflict of Interest:** None.

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