

# A cross-sectional study on the outcomes of self-administered topical steroids on the face for various purposes

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## Abstract

**Background:** Topical steroids (TS) can be easily obtained from any pharmacy as an over-the-counter (OTC) drug which is why they are being used without any prescription from a dermatologist. Most of the people that use these TS are not completely aware of the adverse effects of these creams. **Objective:** To assess the outcomes of self-administered topical steroids on the face for various purposes. **Study design:** A cross-sectional study. **Place and Duration:** This study was conducted at Primary Healthcare Care Corporation, Doha, Qatar from June 2021 to June 2022. **Methodology:** The study was based on a questionnaire. Both male and female patients were added to the current study. The minimum age set for inclusion was 16 years. All the patients who attended the outpatient clinic with dermatoses as a result of the consumption of TS were added to the study. The patients were acquired about the application, prescription, purpose of misuse, and the side effects of the steroids which they presented in the clinic. After that, the patients were examined for the apparent side effects of the drug such as erythema, dyspigmentation, telangiectasia, acne, hypertrichosis, etc. **Results:** A total of 120 patients were added to the study. Most of the participants were female 86 (71.67%). The most abundantly used drug was betamethasone 0.1% and clioquinol 3%. The patients had used them for an average duration of 6 months, the shortest being 14 days and the longest duration being 3.5 years. The most common purpose for which the TS was misused was acne by 46 (38.33%) of the participants and for fairness by 27 (22.5%) of the participants. The most commonly observed side effect of TS was eruptions in 30 (25%) of patients and dyspigmentation in 20 (16.67%) of patients. **Conclusion:** The increased abuse of topical steroids is alarming. It is important to educate and aware people of the drawbacks of unnecessary consumption of topical steroids and their adverse effects.

**Keywords:** Topical steroids, acne, fairness, dermatoses, eruptions, adverse effects

## Introduction

Topical steroids are temporarily used for damaged skin revival. They are also used permanently sometimes for the recovery of the skin from unsupervised, unreasonable, non-selective, and long-term use [1]. The long-term use results in psychological dependence on the ointments because people find it useful in recovering their damaged skin [2]. There are several side effects of using TS such as burning, stinging, crusting, flaking, dryness, itching, pain, oozing, redness, swelling, and dermatoses [3].

The absorption of TS through facial skin is more prompt compared to other parts of the body due to the thinner epidermis [4]. It is also due to the profuse blood supply to the face [5]. These factors contribute to an increase in the incidence of adverse effects [6]. The misuse of these drugs is metaphorically

considered a double-edged sword by dermatologists because their misuse can cause catastrophic results [7].

The current study is conducted to assess the outcomes of self-administered topical steroids on the face for various purposes

## Methodology

The present study is a cross-sectional study that included 120 participants. The study was questionnaire-based. Written informed consent was taken from all the participants. After that, the patients were asked to fill out the questionnaires. Those who were not literate enough to fulfill the questionnaire were assisted to do so. The questionnaire included demographic data of the patients such as age, gender, residence, education, the status of employment, and marital status.

After that, a questionnaire was acquired about the consumption of TS and a detailed history regarding the use of steroids. The patients were acquired about the application, prescription, purpose of misuse, and the side effects of the steroids which they presented in the clinic. After that, the patients were examined for the apparent side effects of the drug such as erythema, dyspigmentation, telangiectasia, acne, hypertrichosis, etc.

According to the inclusion criteria, patients over the age of 16 years were included in the study. The study did not discriminate against any gender. The patients added to the study had consumed TS for more than two weeks with no history of consultation with a dermatologist or general physician. According to the exclusion criteria of the study, the patients who were not willing to participate in the study, pregnant women, lactating mothers, patients on oral steroids, patients using TS after consulting with a dermatologist, and patients with Cushing's syndrome, were not included in the study.

## Results

Out of 120 patients that had misused TS, most of the patients were female 86 (71.67%). Most of the patients were in the age group of 26-35 years. The most widely used TS was beclomethasone 0.1% and

clioquinol 3%. The average duration for which the drug was used was 6 months with a range of 15 days to 4 years. The condition for which the TS was misused was acne 46 (38.33%) and fairness 27 (22.5%). The most commonly observed side effect of TS was eruptions in 30 (25%) of patients and dyspigmentation in 20 (16.67%) of patients. The most significant cause of unsupervised administration of TS was over-the-counter (OTC) supply by pharmacists. Table 1 shows the reasons why participants used to administer TS. It can be noticed from table 1 that people used TS mostly for acne. Table two shows the prevalence of different types of skin lesions seen as a result of prolonged use of steroids. It can be seen from table 2 that the most commonly observed side effect was eruption followed by dyspigmentation, tinea incognito, hypertrichosis, telangiectasia, erythema, and rosacea-like features.

Reason	Number of people	Percentage
Acne	45	38.33
Fairness	27	22.5
Pigmentation	13	10.83
Regular Cosmetic use	10	8.33
Others	25	20.83

Skin lesion	Number of participants	Percentage
Eruptions	30	25
Features like Rosacea	10	8.33
Hypertrichosis	15	12.5
Telangiectasia	15	12.5
Dyspigmentation	20	16.67
Tinea incognito	17	14.17
Erythema	13	10.83

## Discussion

The present study observes the side effects of the misuse of topical steroids in 120 patients. The patients were keenly selected after following inclusion and exclusion criteria. Sinha et al studied the misuse of topical steroids in rural masses in a specific area of India. The study included 50 patients out of which, 48% were male. The male patients were more in their study compared to the present study. The purpose of the use of TS in their study was similar to the present study, such as for the fairness of complexion, melasma, and acne [8]. A similar study was conducted by Coondo et al which was related to the common side effects of the use of topical steroids. The side effects they observed can be compared to the side effects observed in the present study. These side effects included epidermal thinning, vitiligo, stellate scars, telangiectasia, ulceration, rosacea, erythema, and dermatitis. They concluded in their study that pharmaceutical companies should not sell an unethical combination of other drugs with steroids [9].

The study of Nagesh et al not only addressed the misuse of TS, but they also evaluated the level of

awareness among people about the use of steroids. They included 1000 participants in their study out of which, 61% of people had used the steroid ointments not knowing the effects and side effects of the drug. They concluded that most of the time, the recommendation of using TS is either by a pharmacist or a general practitioner and people are needed to be sensitized about the misuse of TS [10]. Bockle et al studied the systemic complications faced by people using TS for a long time. The present study did not observe any systemic complications. They concluded that topical use of steroids can be beneficial in many skin conditions, however, inappropriate use can lead to adrenal insufficiency [11].

## Conclusion

Topical steroids are widely available in almost all pharmacies countrywide. Such easy availability makes it difficult to restrict its use in unaware people, resulting in various local, systemic, and psychological adverse effects. Proper awareness should be provided to people to check the TS use for acne and melasma.

## Funding source

None

## Conflict

No conflict of interest

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