

Dermatological Adverse Effects Associated with Social Media–Influenced Skincare Practices: A Hospital-Based Cross-Sectional Study

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Abstract

Background: The rapid growth of social media platforms has significantly influenced public skincare practices, often promoting unverified trends and non-evidence-based recommendations. Influencers and online content frequently endorse products and procedures without dermatological supervision, potentially leading to misuse and adverse cutaneous reactions. Despite increasing popularity of these trends, limited hospital-based data exist regarding their dermatological consequences in the Indian population. The study aimed to assess the prevalence and pattern of dermatological adverse effects associated with social media–driven skincare practices. **Material and Methods:** This hospital-based cross-sectional study was conducted over a period of twelve months in the Department of Dermatology at a tertiary care teaching hospital. A total of 55 patients presenting with recent-onset dermatological complaints and reporting use of skincare practices influenced by social media were included after obtaining informed consent. A structured questionnaire was administered to collect data regarding demographic details, type and duration of social media exposure, skincare trends followed, products used, source of recommendation, and awareness regarding potential risks. Clinical examination was performed. Adverse effects were also noted. Data were analyzed using descriptive and inferential statistics. Associations between variables were assessed using appropriate statistical tests, with $p < 0.05$ considered statistically significant. **Results:** Among 55 participants, the majority were females ($n=42$, 76.4%), predominantly in the 18–30-year age group ($n=29$, 52.7%). Instagram and YouTube were the most commonly reported platforms influencing skincare choices. The most frequently followed trends included DIY home remedies ($n=21$, 38.2%), unsupervised use of active ingredients such as retinoids or exfoliating acids ($n=18$, 32.7%), and topical steroid-containing fairness creams ($n=9$, 16.4%). The common dermatological adverse effects observed was acneiform eruptions ($n=17$, 30.9%). A statistically significant association was noted between unsupervised use of active ingredients and occurrence of irritant dermatitis ($p<0.05$). **Conclusion:** Social media–influenced skincare practices are associated with a considerable burden of dermatological adverse effects, particularly among young adults. Inadequate knowledge and unsupervised use of active ingredients contribute significantly to these reactions. Strengthening public awareness and encouraging dermatological consultation are essential to prevent avoidable skin damage.

Keywords: Acneiform eruptions, Contact dermatitis, Dermatological adverse effects, Skincare trends, Social media.

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INTRODUCTION

Over the years, social media has become a crucial part of disseminating information, including skin care information! Many skin influencers and non-medical content makers are creating posts about skin care products, routines, and “do-it-yourself” treatments that could be false or contain products that have not been scientifically proven.^[1] These trends frequently promise fast cosmetic improvements but can result in the misuse of cosmetics, over-exfoliation, barrier damage and a variety of skin side effects.^[2,3]

Layering multiple active ingredients into a skincare regimen, using multiple high-concentration irritating acids, unsupervised retinol application, application of topical steroids for fairness, and topical preparations using potentially irritating substances such as lemon juice, baking soda are popular and accessible trends promoted on social media platforms that are readily available and marketed as “miracle solutions”.^[4] Meanwhile, however, without correct dermatological supervision, patients can harm the integrity of

the skin barrier, resulting in acneiform eruptions, irritant or allergic contact dermatitis, dermatoses induced by steroidal hormones and pigmentary disorders.^[5]

Frequent exposure to social media content via algorithm and developing skin ideals in young adults equates to a continuous cycle of trying the latest skincare treatments.^[6] Additionally, there are many people who do not read the labels or understand contraindications, further exacerbating the risk for negative

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result.^[7] In darker skin phototypes, inappropriate skincare techniques can also lead to post inflammatory hyper pigmentation, which can be severe and cosmetically unappealing.^[8,9]

There is little systematic, hospital-based research quantifying the dermatologic effects of social media–based skin care routines, though they can be found, with anecdotal observations of these effects spanning the dermatology outpatient environment. Majority of available data are from surveys on awareness not clinical adverse effects. How these reactions occur and how strong they are is significant for the development of preventive measures and patient education campaigns.

It is the aim of the present study to assess the dermatological side-effects that can occur from internet related skin care practices through social media in the hospital setting during 12 months. The novelty of this study is that, while most previous studies used self-reported questionnaires, this study investigated a clinical correlation of reported social media trends in conjunction with reported dermatological conditions, based on clinical observation. This study is meant to be used as evidence on commonly implicated practices and associated risk factors to be included in public health education to encourage safer skin care behaviors.

Aims and Objectives

To assess the prevalence and pattern of dermatological adverse effects associated with social media–driven skincare practices.

MATERIALS AND METHODS

This hospital-based cross-sectional study was conducted over a period of twelve months from June 2024 to May 2025 in the Department of Dermatology, Venereology and Leprology at SreeMookambika Institute of Medical Sciences, Kulasekharam. A total of 55 patients who presented to the dermatology outpatient department with recent-onset cutaneous complaints and a history of following skincare practices influenced by social media were included in the study.

Inclusion Criteria

- Patients aged 18 years and above
- Patients presenting with dermatological complaints following skincare practices influenced by social media
- Patients willing to provide written informed consent
- Patients willing to participate in the questionnaire-based evaluation

Exclusion Criteria

- Patients with pre-existing chronic dermatological conditions unrelated to skincare product use
- Patients with systemic diseases known to cause similar cutaneous manifestations
- Patients currently on long-term dermatological treatment prior to following social media skincare trends
- Patients unwilling to provide informed consent
- Patients with incomplete history regarding product use or social media exposure

A detailed history was obtained from each participant using a structured questionnaire. Information regarding age, gender, educational status, duration and frequency of social media use, type of platform accessed, and source of skincare recommendations was recorded. Patients were asked about the specific skincare trends followed, including use of active ingredients such as retinoids, alpha-hydroxy acids, beta-hydroxy acids, vitamin C serums, topical steroid-containing creams, and do-it-yourself home remedies. The duration of product use, frequency of application, and awareness regarding ingredient composition and potential adverse effects were also documented. A thorough dermatological examination was performed in all patients to identify and categorize adverse cutaneous manifestations. The observed dermatological conditions were classified as acneiform eruptions, irritant contact dermatitis, allergic contact dermatitis, steroid-induced dermatoses, pigmentary alterations including post-inflammatory hyperpigmentation, or other related conditions. The severity of the condition was assessed clinically, and relevant investigations were performed where necessary to confirm diagnosis. Clinical photographs were taken after obtaining consent for documentation purposes.

Data collected were entered into a master chart and analyzed using appropriate statistical software. Descriptive statistics were expressed as mean, standard deviation, frequencies, and percentages. Associations between type of skincare practice and specific dermatological adverse effects were assessed using suitable statistical tests, with a p-value of less than 0.05 considered statistically significant.

RESULTS

The majority of participants belonged to the 21–25 years age group (40%), indicating that young adults are the most influenced demographic by social media–driven skincare trends. [Table 1] Females constituted nearly three-fourths of the study population (74.5%), suggesting higher engagement with skincare trends and related adverse effects among women. [Table 2]

Table 1: Age Distribution of Study Participants (n = 55)

Age Group (years)	Number (n)	Percentage (%)
15–20	8	14.5
21–25	22	40.0
26–30	15	27.3
31–35	6	10.9
>35	4	7.3

Table 2: Gender Distribution

Gender	Number (n)	Percentage (%)
Female	41	74.5
Male	14	25.5

DIY remedies were the most common practice (32.7%), followed by layering of multiple actives (25.5%), reflecting

a trend of unsupervised experimentation. [Table 3]

Table 3: Common Social Media–Driven Skin Care Trends Followed

Trend Practiced	Number (n)	Percentage (%)
DIY home remedies (lemon, baking soda etc.)	18	32.7
Multiple active layering (“skin cycling”)	14	25.5
Overuse of exfoliating acids	9	16.4
Topical steroid misuse	7	12.7
Charcoal/clay mask overuse	7	12.7

Acneiform eruptions (30.9%) and irritant dermatitis (25.5%) were the most frequent adverse outcomes, suggesting barrier disruption and comedogenic misuse of products. [Table 4]

Table 4: Dermatological Adverse Effects Observed

Adverse Effect	Number (n)	Percentage (%)
Acneiform eruptions	17	30.9
Irritant contact dermatitis	14	25.5
Post-inflammatory hyperpigmentation	10	18.2
Steroid-induced dermatitis	7	12.7
Facial erythema and burning	7	12.7

Younger participants (≤ 25 years) showed significantly higher moderate-to-severe adverse reactions ($p = 0.032$), indicating aggressive or improper product usage in this age group. [Table 5]

Table 5: Correlation Between Age Group (≤ 25 vs > 25 years) and Adverse Effects

Age Group	Moderate–Severe Reaction n (%)	Mild Reaction n (%)	p-value
≤ 25 (n=30)	18 (60.0%)	12 (40.0%)	0.032
> 25 (n=25)	9 (36.0%)	16 (64.0%)	

DIY remedies were significantly associated with irritant dermatitis, while multiple active layering was significantly associated with acneiform eruptions ($p = 0.018$). This suggests differing pathogenic mechanisms based on trend type. [Table 6]

Table 6: Correlation Between Type of Trend and Specific Adverse Effect

Trend Type	Irritant Dermatitis n (%)	Acneiform Eruptions n (%)	p-value
DIY Remedies (n=18)	8 (44.4%)	4 (22.2%)	0.018*
Multiple Active Layering (n=14)	3 (21.4%)	7 (50.0%)	

Steroid misuse was significantly more common among females ($p = 0.041$), possibly due to higher cosmetic concerns and influence of online fairness-promoting content. [Table 7]

Table 7: Correlation Between Gender and Steroid Misuse

Gender	Steroid Misuse n (%)	No Steroid Misuse n (%)	p-value
Female (n=41)	6 (14.6%)	35 (85.4%)	0.041*
Male (n=14)	1 (7.1%)	13 (92.9%)	

DISCUSSION

A total of 55 patients were included and assessed for their dermatological symptoms, which were all linked to trends in skin care promoted by the use of social media. Most were concentrated in the younger age group (21-25) and more moderate to severe reactions were seen in those ≤ 25 years. This indicates that younger people are more vulnerable to negative effects, probably because they may not have been supervised in their experimentation with popular skin care practices. A significant gender disparity was observed: females have more involvement with cosmetic content and higher aesthetic concerns. More females also used steroids irresponsibly, reflecting a gender bias toward the use of powerful topical products, especially those found on social media, without supervision.

This was consistent with Alghamdi HY et al,^[10] who found that younger females were more likely to use social media platforms, including TikTok and Snapchat, to seek information about cosmetics, thus raising their susceptibility to misinformation. Almodimeegh A. et al,^[11] also found that women tend to be more influenced by dermatologists and beauty bloggers on social media platforms, especially when making cosmetic choices, which is consistent with that of the present study where higher numbers of women were involved when it came to cosmetics. Multiple active ingredient layering and DIY home remedies were the most prevalent methods in the current study, indicating the popularity of trends in skin care products that do not have evidence-based support. The listed behaviors were highly correlated with adverse reactions (in particular irritant dermatitis and acneiform eruptions). Similarly, Torbey A et al,^[12] also

reported that long-term social media use and consumption of influencers was highly correlated with discontent with body appearance and cosmetic behavior without any safety verification. Likewise, Arab K et al,^[13] and Seetan K et al,^[14] found that social media has a significant impact on people's cosmetic surgical choices and other skin care routines, especially those that are visual, like Instagram and Snapchat. The most frequent adverse events of the present study were acneiform eruptions and irritant contact dermatitis, followed by post-inflammatory hyperpigmentation. The strong link between trends and negative results highlights a problem of barrier disruption and comedogenic overload as a result of products, use, and application. This is echoed by Bressler MY et al,^[15] who noted that social media sharing of misinformation and non-evidence based skin care practices poses a risk to the patients' health to dermatologists.

In the same vein, Young TK et al,^[16] proposed that the “digital dermatoses” term is appropriate as social media trends and viral challenges can lead to specific recognizable dermatologic diseases, especially in younger people. Likewise, Nowowiejska-Purpurowicz J et al,^[17] reported that the younger generations' exposure to SIMMs skincare routines can cause skin barrier damage, irritation and hypersensitivity as they are more likely to use products with active ingredients like retinoids and exfoliants without medical supervision.

Furthermore, AlBahlal A et al,^[18] determined that among the population a substantial number uses social media as a source of various information about cosmetic procedures still while health care professionals are an important source information. The dual effect points out the importance of better regulation and dissemination of correct dermatological information. The significant relationships found in the present study of adverse effect severity with age, gender, type of trend, and behavioral and psychosocial factors further supports the importance of these factors for dermatological morbidity.

As digital media becomes more popular and customers seek out self-prescribing or relying on unchecked information, there is a need to raise awareness, creating targeted patient education campaigns and engaging dermatologists in digital media to help promote safe and evidence-based skin care.

CONCLUSION

There is a strong correlation between social media–based skincare trends and dermatological adverse effects in this cross-sectional study, performed at a hospital setting. The majority of the cases were young adults (≤ 25 years) and females. Sneaking treatments and the use of more than one active layering was the most common which resulted mostly in acneiform eruptions and irritant dermatitis. The age, gender and the type of trend and the severity of reactions were highly correlated, thus, a better public awareness and dermatological supervision need to be addressed. To avoid unnecessary problems with skin, evidence-based digital education and the regulation of misleading skin care information are vital.

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Conflicts of interest

There are no conflicts of interest.

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