

# The Pattern of Medication Used by Acne Patients: Study from a Tertiary Care Center of North India

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## Abstract

**Background:** Acne vulgaris is a common cutaneous condition seen globally and has a considerable psychosocial impact. Many patients with acne try various forms of self-medication, alternative therapies, and prescription medicines for the treatment of acne. **Methods:** We studied various patterns of acne treatments used in a cross-sectional study among patients presenting in a tertiary care hospital. A 2-part questionnaire was used to evaluate the socio-epidemiologic factors and responses to treatments used by acne patients presenting at our center for the first time. The patients used self-medication, alternative therapies (e.g., Ayurveda), treatments from general practitioners, and also specialists. **Results:** Most of the patients reported either no treatment response or even deterioration. Several patients even used topical steroids and suffered adverse effects (corticosteroid-induced rosacea-like facial dermatitis). **Conclusion:** The findings of our study stress the role of appropriate counseling of acne patients in management. Improvement in the doctor-patient relationship is also essential to enhance the treatment efficacy in acne.

**Keywords:** Acne vulgaris, alternative therapy, physician-patient relations, self-medication, treatment outcome

## INTRODUCTION

Acne is one of the most common inflammatory cutaneous disorders, affecting the pilosebaceous units of the skin of the face, as well as the neck, chest, and upper back. Epidemiological data indicate the prevalence figures of acne varying from 50% to 80% in various studies.<sup>[1,2]</sup> While managing cases of acne, the treating physician should factor in issues relating to patient compliance, education level, and socio-economic aspects as well as the availability of a range of treatment options. However, due to the common and pleomorphic nature of this common condition, many patients do resort to self-medication, over-the-counter medications, and advice from friends/relatives, etc.<sup>[3]</sup> Acne has considerable potential for scarring which may be significant and can lead to psychosocial issues not only in females but also in males.<sup>[4,5]</sup>

Many acne patients may continue to suffer for months to years before seeking appropriate therapeutic advice from a qualified professional. As stated earlier, these patients may use alternative treatments, self-medications, topical steroids, etc., Many of these treatments may not be effective

at all, while others may result in considerable adverse reactions, for example, topical steroid damaged/dependent face (TSDF,<sup>[6]</sup> or corticosteroid-induced rosacea-like facial dermatitis<sup>[7]</sup> due to misuse of topical steroids on the face, and particularly in certain geographical areas/regions.<sup>[6,8]</sup> Acneiform eruptions are also known to occur due to the inadvertent use of steroids and occasionally due to other medications.<sup>[9]</sup> Furthermore, demographic variables such as race, the gender of the patient, payment methods for therapeutic services provided, as well as the type of therapy have also been shown to factor in patients' behavior.<sup>[10]</sup> All these contributing factors lead to dissatisfaction among the patients, leading to noncompliance and therapeutic failure.

Today's media-savvy patients have easy availability of several healthcare resources such as the World Wide Web (internet), printed materials, and e-books which may result in self-medication. All these might also easily quench

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the “thirst” for knowledge of patients but would also create confusion about the treatment process. Patients usually have unrealistic expectations about a visible improvement shortly after treatment initiation, typically within 2–3 weeks, or even earlier.<sup>[10,11]</sup> For proper therapeutic alliance, it is essential to answer these queries. The first step, therefore, would be to understand and explore the different treatment methods in acne patients and also factors that affect the choice of patients. Second, to analyze the effects of the different prescriptions as well as self-medication on acne. Hence, this study was undertaken to overview the current pattern of anti-acne medications in patients who present for treatment in a tertiary care teaching hospital.

## METHODS

This was a cross-sectional, descriptive study of newly diagnosed acne patients presenting to the dermatology outpatient department of a tertiary care teaching hospital located in North India. Approval of the Institutional Ethics Committee was obtained before the commencement of the study and patients were recruited after written informed consent. Patients already on treatment at our center were excluded from the study. Patients were recruited from August 2017 to October 2018. The patients filled a 2-part questionnaire; the first part consisted of sociodemographic profiles, for example, age, gender, marital status, address (urban/rural), etc., and the second part of the duration and severity (Grade I–IV) of acne,<sup>[12,13]</sup> and prior treatments. Data analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 21.0 (IBM, Inc., Armonk, New York, USA). Categorical variables were presented in number and percentage (%) and continuous variables were presented as mean  $\pm$  standard deviation (SD) and median. The data were analyzed using the Student's *t*-test and the Chi-square test. A  $P < 0.05$  was considered statistically significant.

## RESULTS

A total of 640 responses were obtained. The mean age of the respondents was 20.2 years (SD: 3.9); maximum patients were from the age group  $\leq 20$  years (357; 55.8%). The study patients included 276 (43.1%) males and 364 (56.9%) females. More than three-fourths (487; 76.1%) of the patients were unmarried [Table 1]. The mean duration of acne was 19.4 months with scarring present in 407 (63.6%) patients; acne severity grade II was the most common (280; 43.8%) [Table 2]. Self-medication (304; 47.5%) was the most common treatment method used followed by treatments from general practitioners (245; 38.3%), dermatologists (168; 26.2%) and others (ayurvedic and homoeopathic doctors; 127; 19.8%) [Table 3]. As per response to earlier treatments, 92 (14.4%) reported improvement, 223 (34.8%) reported no improvement in acne, and more than 50% (325) patients reported deterioration; the difference was statistically significant in all the 3 age groups ( $\leq 20$ ; 21–25; and 26–30 years) and both genders. The difference remained significant with patterns of

**Table 1: Patient demographic characteristics**

Characteristics	Patients (n=640)
Age (years)	
$\leq 20$	357
21-25	249
26-30	34
Gender	
Male	276
Female	364
Marital status	
Unmarried	487
Married	153
Residence	
Rural	286
Urban	354

**Table 2: Distribution of acne of study subjects**

Acne	Frequency (%)
Scarring	
Present	407 (63.59)
Absent	233 (36.41)
Severity grade	
I	22 (3.44)
II	280 (43.75)
III	229 (35.78)
IV	109 (17.03)
Duration (months)	
Mean $\pm$ SD	19.4 $\pm$ 21.4
Range	2-84

SD: Standard deviation

**Table 3: Treatment modalities used by the study subjects**

Earlier treatment	Frequency (%)
General practitioners	245 (38.28)
Specialist dermatologists	168 (26.25)
Others (Ayurvedic, homeopathics, indigenous therapies)	127 (19.84)
Self-medication (pharmacy, friends etc.)	304 (47.50)

medications (i.e. treatment from a general practitioner, specialist dermatologist, etc.; and various medications used: topical and systemic retinoids and antibiotics and topical steroids [misuse]). As per the final analysis, “no improvement in acne” was the most common in self-medication, with systemic retinoids, and with systemic antibiotics, while deterioration was the most common in specialist dermatologist group, which was a surprising finding. This probably reflected a better response expectation while on therapy by a specialist dermatologist; or maybe a recall bias. Most patients also developed TSDF (corticosteroid-induced rosacea-like facial dermatitis) if they misused topical steroids for acne.

## DISCUSSION

Acne vulgaris remains one of the most common dermatological

conditions globally. Studies show that acne can significantly affect body image perception in adolescents as well as adults.<sup>[14]</sup> This is one of the probable reasons for self-medication or using alternative therapies (ayurvedic or homeopathic medicine) by the patients.<sup>[3]</sup> Improper medication use is likely to not only be non-efficacious but may also cause a plethora of adverse reactions.<sup>[8,9]</sup> Many of our cohorts used alternative medicines and suffered from deterioration in their acne. Magin *et al.* have shown that patients may prefer complementary and alternative products for acne because of the “natural” and “no adverse effect” tags associated with them. However, the reported self-efficacy of these complementary/alternative medicines was found to be relatively more for acne than other conditions in this study; this may be due to a placebo effect.<sup>[15]</sup>

Most of our patients, who took any treatment before presenting to us, either reported “no improvement” or reported deterioration in their acne; this was true for all the four groups i.e., self-medication, or a general practitioner, or alternative therapies, or even a specialist dermatologist. These findings may be explained by the fact that patients want an early improvement in their condition<sup>[10]</sup> and may leave the treatment if they feel the therapy was not working. Afterward, they might present to other doctors and at our center for better treatment. Almost similar findings have been reported in acne as well as in other diseases by many workers.<sup>[3,11,16,17]</sup> This finding indicates the significance of recognizing, and improving the noncompliant behavior of the patients as the medication may not work if not used properly, and also early in the therapy. Therefore, adherence to a proper regimen remains an essential component for the therapeutic efficacy of any acne medication.<sup>[18-20]</sup>

Most of our patients who used topical steroids developed TSDF, which is a significant adverse effect as well as indicates widespread medication misuse.<sup>[6,8]</sup> This fact indicates the importance of an effective and compassionate physician-patient relationship.<sup>[10,21,22]</sup> The patients also need to be sensitized about the adverse effects of topical steroid misuse and also the fact that it is not a therapeutic agent for acne. Most of our patients also reported no improvement in acne or deterioration with topical and systemic retinoid use. This fact is corroborated as topical retinoids may cause adverse effects such as burning or photosensitivity. Systemic retinoids may cause an initial flare in acne as well.<sup>[23]</sup> Topical antibiotics also work relatively slowly in acne and patients are liable to leave therapy early as they may think that the medication was not working.<sup>[18,20]</sup> Similar findings were also seen in our study.

## CONCLUSION

To conclude, in our study, most patients suffered from deterioration or no improvement in their acne and also suffered significant adverse effects (TSDF) if they used topical steroids. Therefore, early treatment with adequate counseling is essential in the management of this common disorder. Early diagnosis and specialist treatment of acne are important to prevent

scarring as well as to reduce the psychosocial impact of acne in all age groups.<sup>[3,24]</sup> Attempts should also be made to prevent medication misuse and acne patients should be sensitized about significant adverse effects associated with topical steroids use.

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## Conflicts of interest

There are no conflicts of interest.

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