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Original Research Article

A survey on healthcare professionals' perspective on the use of benzoyl peroxide cleanser for acne management

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ABSTRACT

Background: Acne vulgaris is a prevalent chronic dermatological condition affecting adolescents and young adults, with significant consequences on quality of life if left untreated. Effective management strategies are crucial to prevent scarring and psychological distress associated with acne. This study investigated the role of cleansers in acne management and explored healthcare professionals' perspectives and practices regarding acne treatment.
Methods: An online questionnaire-based study, involving 126 healthcare professionals [HCPs (dermatologists and cosmetologists)] and 459 acne patients was conducted to assess patients' acne severity, adherence to cleansing regimens, preferred cleansing agents, treatment duration, adjunctive therapies, and the impact of benzoyl peroxide 5% cleanser on acne control and patient satisfaction.
Results: The majority of the patients presented with an IGA grade 3 (moderate) acne (48.59%) in the present survey. HCPs rated benzoyl peroxide as the most preferred cleansing agent for acne management in most of their patients (87.33%). Majority of the patients (41.53%) exhibited improvement within 15 days of using the benzoyl peroxide cleanser, highlighting its relatively rapid onset of action. The benzoyl peroxide treatment duration varied for patients, emphasizing the individualized nature of acne treatment. In most of the severe cases (39.87%), HCPs commonly supplemented benzoyl peroxide with topical retinoids, oral antibiotics, oral isotretinoin, or combination therapy.
Conclusions: This study emphasizes the effectiveness and preference for benzoyl peroxide-based cleansers among HCPs and patients.

Keywords: Acne, Benzoyl peroxide, Cleanser, Acne scarring

INTRODUCTION

Acne vulgaris is a chronic disease affecting almost 80% of adolescents and young adults, which when left untreated can negatively affect patients' quality of life and psychosocial functioning.[1] About 40-60% individuals continue to have acne in their twenties, resulting in some level of scarring in approximately 20% of affected individuals.[2] Acne usually affects the forehead, face, chest, shoulders, and upper back and is triggered by genetic factors, hormonal changes, diet, stress and certain medications.[3]

Acne is typically characterized by lesions such as open and closed comedones, that may develop into papules, pustules, nodules and cysts.[3] It results due to androgen-induced elevation in sebum production, followed by hyperkeratinization and blockage of sebaceous follicles, leading to abnormal shedding of the follicular epithelium. This sequence is linked to the overgrowth of

Cutibacterium acnes (*C. acnes*) bacteria and persistent inflammation.[1]

Acne development differs between genders. In males, androgens target the sebaceous gland, potentially causing acne due to increased sebum production, while in females, hyperandrogenic conditions might lead to acne.[3]

Receiving prompt treatment for acne enhances patient well-being, prevents permanent scarring and pigmentation. Initial management typically involves a variety of topical treatments, and oral antibiotics are often suggested in combination with topical in severe cases. According to Acne guidelines, topical treatments are unanimously recommended as the first-line approach, although there is variation in recommendations on whether to use topical benzoyl peroxide or topical retinoid (especially adapalene), either alone or in combination. The National Institute for Health and Care Excellence (NICE) suggests counseling patients to avoid skin irritation when initiating topical treatments and to promote adherence, as these treatments typically take 6-8 weeks to show results.[2]

Benzoyl peroxide (BPO) works as a safer option compared to antibiotics in acne treatment, as it prevents the emergence of antibiotic resistance. It effectively enhances acne management among patients with antibiotic-resistant *C. acnes*. Due to its highly lipophilic nature, it easily penetrates the stratum corneum and enters the pilosebaceous follicle. BPO exhibits antibacterial, anti-inflammatory, keratolytic, and wound-healing properties. Its antibacterial effectiveness results from the creation of highly reactive oxygen species, which oxidize proteins in bacterial cell membranes. It is effective against both bacterial organisms and yeasts.[4]

Benzoyl peroxide cleansers represent almost half of BPO prescriptions in dermatology.[5] In addition to the prevention of bacterial resistance, the advantages of incorporating a BPO cleanser into topical combination therapy regimens are multifold.[6] Since most acne patients are advised to cleanse their skin, utilizing a BPO cleanser could streamline treatment, improve adherence, and provide an alternative for individuals experiencing irritation from leave-on BPO formulations.[5] Moreover, the BPO cleanser has been shown to complement the BPO gel treatment. An open-label prospective study evaluating the effects of a 3-part combination regimen, including the BPO 5% gel, mild liquid BPO cleanser, and a photoprotective moisturizer reported a considerable reduction in the load of acne-causing bacteria, right since week 1. High level of patient satisfaction, good treatment adherence, and good tolerability was reported for the regimen in the study.[7]

This study aims to investigate the role of cleansers in the management of acne, with particular focus on the preferences and practices of HCPs regarding acne treatment.

METHODS

Study design

The present study was part of an online questionnaire-based survey on multiple dermatological products conducted in several places across India. HCPs, particularly dermatologists and cosmetologists were sent a survey link through email, and each HCP was allowed to take up to 10 surveys for a maximum of 2 products.

Procedure

An online, product-specific, structured questionnaire comprising 10 questions was sent to the HCPs in two phases (June 2023 and November 2023). A total of 126 HCPs participated in the present study and shared their views on acne management, the use of benzoyl peroxide (5%) cleanser, and patient experiences. Key objectives of the survey include patients' acne severity grading, adherence to cleansing regimens, preferred cleansing agents, treatment duration, adjunctive therapies, and the impact of a benzoyl peroxide cleanser on acne control and patient satisfaction.

Patient selection criteria

Patients with acne, irrespective of the severity, were selected for the study. The Investigator Global Assessment Scale (IGA) by the US FDA was used to evaluate acne severity among patients. The severity grading is as follows - grade 0: clear skin with no inflammatory or non-inflammatory lesions; grade 1: almost clear skin, rare non-inflammatory lesions with no more than one small inflammatory lesion; grade 2: mild severity, some non-inflammatory lesions with no more than a few inflammatory lesions (limited to papules/pustules, no nodular lesions); grade 3: moderate severity, numerous non-inflammatory lesions, some inflammatory lesions, but no more than 1 small nodular lesion; and grade 4: severe acne, numerous non-inflammatory and inflammatory lesions but no more than a few nodular lesions.[8]

Statistical analysis

The data analysis was conducted using Microsoft excel spreadsheets version 2021 and descriptive statistics were calculated using predefined excel formulas.

RESULTS

This survey on the role of cleansers in acne management involved 126 HCPs, who provided data for a total of 459 patients with acne. Of these, 40.7% of patients were male and 59.3% were female.

Acne severity among patients

The most common grade of acne observed among patients visiting clinics was grade 3 (48.59%). This was followed

by grade 2 (33.18%), grade 4 (9.54%), grade 1 (7.59%), and grade 0 (1.08%) (Figure 1).

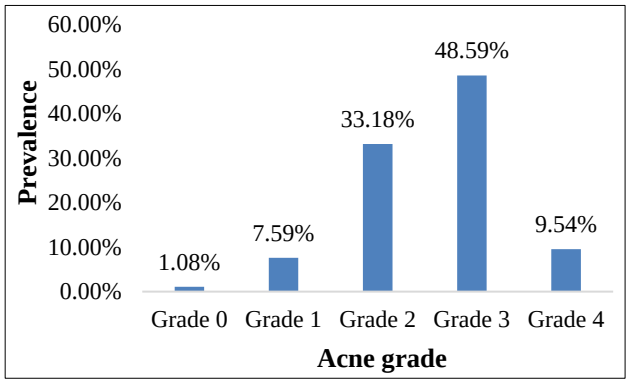

Figure 1: Severity of acne.

Acne skincare routine

HCPs reported that more than half of the patient population with acne is advised to incorporate cleansers into their skincare routine (55.53%). When asked about their preference for cleansing agents for acne management in patients, an overwhelming proportion of HCPs rated benzoyl peroxide as the most preferred agent for the treatment of majority of the patients (87.33%), followed by salicylic acid (8.51%), and glycolic acid (4.14%) (Figure 2).

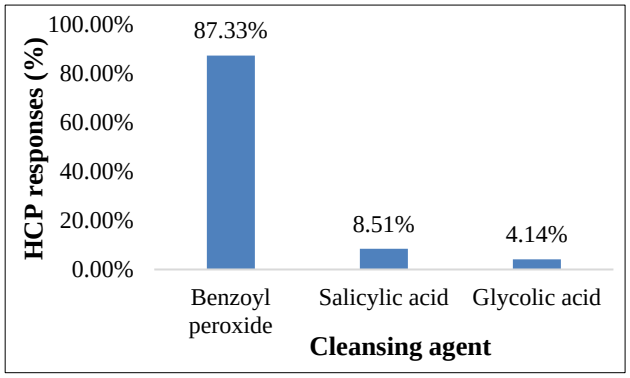

Figure 2: Preferred cleansing agents.

Improvement with benzoyl peroxide cleanser

When enquired about the time for symptom resolution with the benzoyl peroxide cleanser, HCPs responded that a considerable proportion of patient population experienced the first sign of improvement within ≤15 days (41.53%), many saw improvements within 1 month (32.52%), some within 2 months (17.14%), and in only a few it took >2 months (8.79%) (Figure 3).

Duration of therapy with the benzoyl peroxide cleanser

The survey results indicate that the benzoyl peroxide cleanser was prescribed to most patients for a duration of 3-6 weeks (48.46%), to some it was recommended for >6 weeks (26.31%), while for a few, the treatment duration was 1-3 weeks (25.21%) (Figure 4).

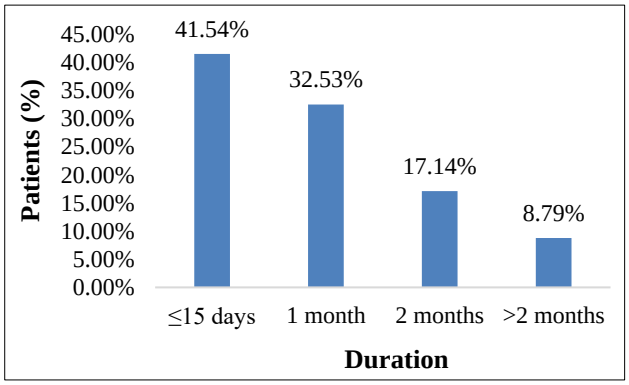

Figure 3: First sign of improvement with benzoyl peroxide cleanser.

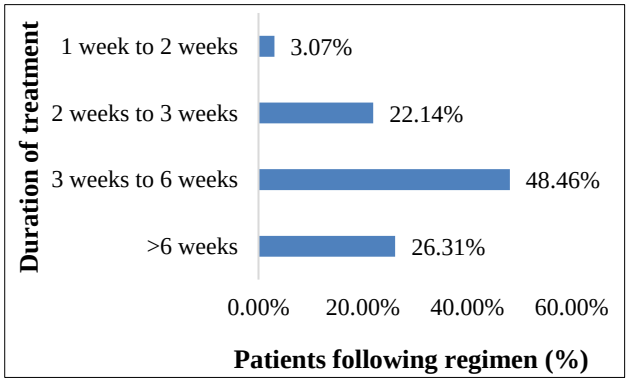

Figure 4: Duration of treatment with the benzoyl peroxide cleanser.

Concomitant agents used alongside the benzoyl peroxide cleanser in severe cases

HCPs reported that a combination therapy of BPO, topical retinoids, and oral antibiotics was prescribed to majority of the severe cases (39.87%), followed by oral antibiotics (24.56%), topical retinoids (18.18%), and oral isotretinoin (17.38%) (Figure 5).

Experiences with the benzoyl peroxide cleanser

HCPs rated their experience with the benzoyl peroxide cleanser in controlling acne on a 4-point scale ranging from poor to excellent as follows: The product demonstrated excellent efficacy in nearly half of their patient population (49.89%), good results in a few (34.92%), and satisfactory results in some (15.18%) (Figure 6).

Similarly, patients' satisfaction levels with the benzoyl peroxide cleanser were assessed. Most rated it as excellent (54.13%), some rated it as good (33.04%), while others found it to be satisfactory (12.82%) (Figure 6).

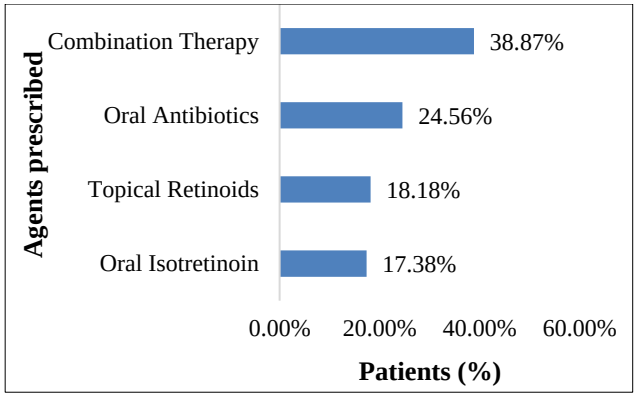

Figure 5: Concomitant agents prescribed in severe cases.

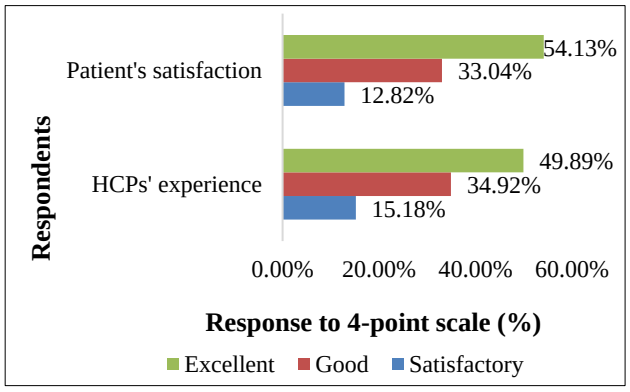

Figure 6: Assessment of the benzoyl peroxide cleanser using a 4-point scale.

DISCUSSION

The findings of this study shed light on various aspects of acne management, particularly focusing on the role of cleansers in the treatment regimen. HCPs reported grade 3 acne (moderate severity) as the most encountered type in their routine practice (48.59%). This underscores the need for effective management strategies to address the prevalent burden of acne.

The current survey revealed that a high percentage of patients (55.53%) are advised to incorporate cleansers into their daily skincare routine for acne management. Our findings align with the study by Veraldi et al in which dermatologists considered anti-acne cleansers as integral management components for considerable proportion of patients (57%). Additionally, a significant proportion of patients (66%) in their study believed in the therapeutic role of cleansers.[9]

HCPs predominantly favored benzoyl peroxide as a cleansing agent (87.33%) in the present survey. Although direct comparison studies on the effects of benzoyl peroxide (BPO) cleansers versus other cleansers are limited, BPO-based washes are a common treatment choice among dermatologists due to their ability to significantly reduce *C. acnes* colony counts and minimize antibiotic resistance.[10]

In our survey, most patients (41.53%) exhibited the first sign of improvement within 15 days of incorporating benzoyl peroxide in their skincare routine, indicating its relatively rapid onset of action. A study evaluating the effects of a benzoyl peroxide cleanser found nearly 93.5% reduction in *C. acnes* count as early as day 5, which further reduced by 97% by day 15.[5] In another 8-week clinical study, daily cleansing with benzoyl peroxide demonstrated significant acne resolution throughout the study duration with additional skin improvements in individuals with moderate-to-severe acne, highlighting its fast-onset efficacy.[11]

The present study revealed that in severe cases of acne management, healthcare professionals commonly prescribed the benzoyl peroxide cleanser with various agents, including oral isotretinoin (17.38%), topical retinoids (18.18%), oral antibiotics (24.56%), or combination therapy (benzoyl peroxide with topical retinoids and oral antibiotics) (39.87%). This is in line with the guideline-based management approach suggesting oral antibiotics with topical combination therapy (benzoyl peroxide and antibiotic or benzoyl peroxide, retinoid, and antibiotic), or oral isotretinoin, for moderate-to-severe acne.[12] In a recent drug prescription pattern study, benzoyl peroxide combination with retinoids (24.4%) and with antibiotics (15.85%) were among the most frequently prescribed interventions.[13] Literature shows that it might take round 6-8 weeks for acne management agents to show positive effects, and monotherapies like benzoyl peroxide could be prescribed for this duration.[2,14] In the current survey, HCPs reported the duration of treatment with the benzoyl peroxide wash to be 3-6 weeks for most patients (48.46%).

The positive ratings from both HCPs and patients highlight the favorable outcomes associated with the benzoyl peroxide cleanser, supporting its role as an effective therapeutic option in acne management. Overall, the findings of this first-of-its kind survey provide valuable insights into the clinical landscape of acne management, emphasizing the importance of easy-to-use formulations such as cleansers in optimizing treatment outcomes and enhancing patient satisfaction.

CONCLUSION

Acne is one of the most frequently encountered skin conditions in clinical practice. The survey findings support the consideration and benefits of using benzoyl-peroxide based cleansers as a part of comprehensive treatment regimens for individuals with acne. Attributes such as quick symptom resolution, high preference among HCPs as a cleansing agent, and good patient experiences establish BPO cleansers as optimal treatment solutions for acne.

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