

Over the Counter Products for Acne Treatment and Maintenance in Latin America: A Review of Current Clinical Practice

Anneke Andriessen PhD,^a Ana Cecilia Rodas Diaz MD,^b Paola Castaneda Gameros MD,^c Olga Macias MD,^d

Juliane Rocio Neves MD,^e Carmen Gloria Gonzalez MD^f

^aRadboud UMC Nijmegen, Andriessen Consultants, Malden, The Netherlands

^bCentro Dermatológico DermaMed, Guatemala City, Guatemala

^cPrivate Practice, Dermatology and Dermato-oncology, Mexico City, Mexico

^dClinica DermaSomerville, Mexico City, Mexico

^eHospital de Força Aérea do Galeão (HFAG), Rio de Janeiro, Brazil

^fServicio de Dermatología Clínica Dávila Santiago, Chile

ABSTRACT

Background: The prevalence and clinical presentation of acne vulgaris in Latin America are comparable to that in Europe and the United States. This review aims at insight into the role of Over the Counter (OTC) products in acne treatment and maintenance in Latin America.

Methods: A panel of dermatologists from Latin America employed an online procedure to answer questions on this topic: What is used, by whom, when, how, and why? Before the meeting, a survey was completed by dermatologists from Latin America on OTC products for acne recommended by the panel in their clinical practice. The survey information and a literature review on Latin American acne guidelines and clinical studies were used to address this topic.

Results: The survey responders' choices on OTC products for monotherapy comprised alpha-hydroxy acid and beta-hydroxy acid-containing serum, ceramides-containing foaming cleanser, a soap-free exfoliating cleanser, adapalene, and benzoyl peroxide-containing products. The clinicians recommended OTC cleansing products mainly for younger patients at a starter level and for women with adult acne. The use of these OTC products is similar to practice described in therapeutic acne guidelines and algorithms for Latin American countries, Spain and Portugal, Europe, and the United States.

Conclusions: Advisors agreed that OTC products and skincare recommendations, in addition to the use of prescription medications, are a crucial part of successful acne therapy. Participants noted that the use of quality OTC products could improve acne symptomatology and severity.

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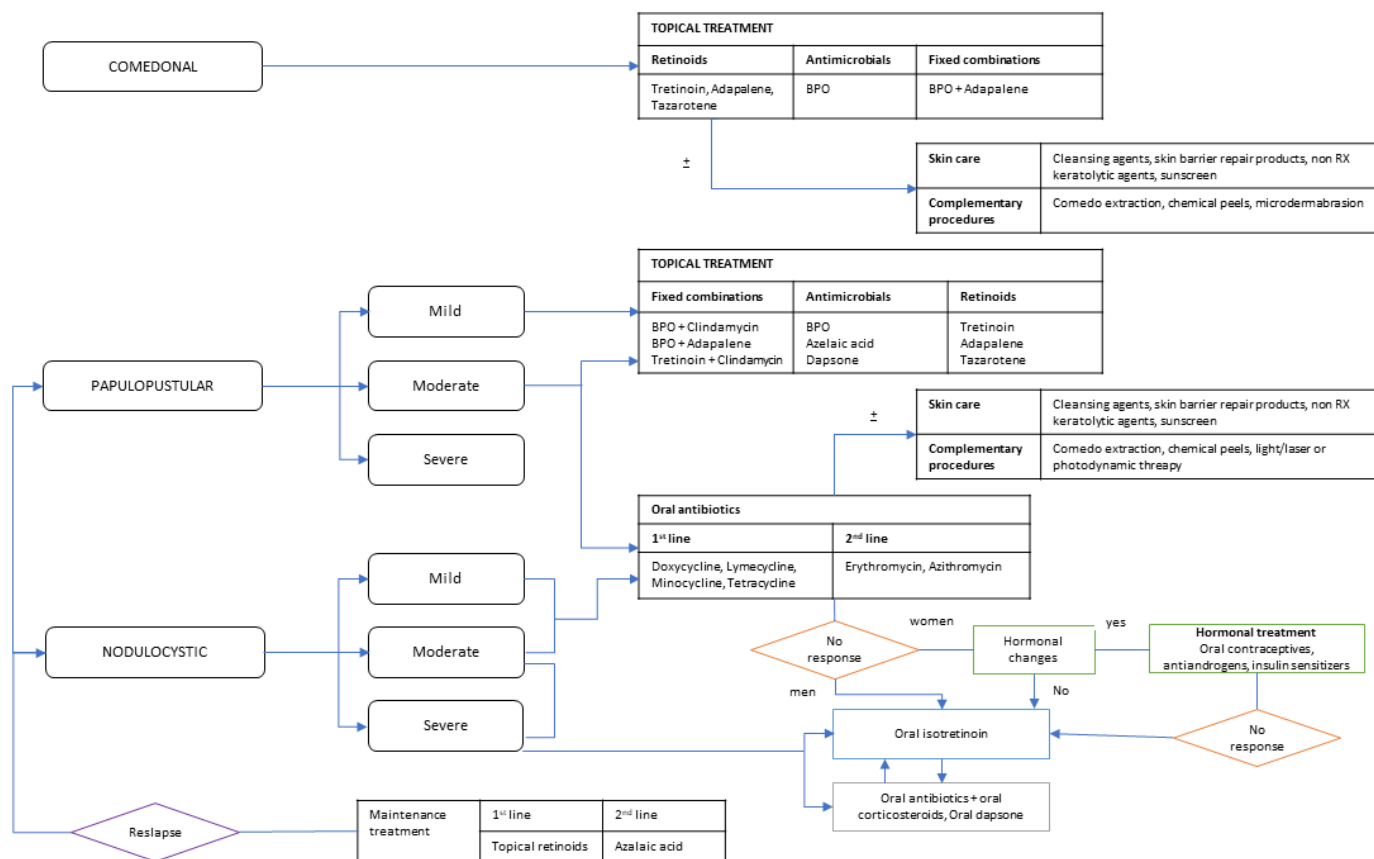
INTRODUCTION

Acne vulgaris (acne) is an inflammatory skin disorder, ranked by the Global Burden of Disease Project as the eighth most prevalent disease worldwide.^{1,2} Globally the prevalence of acne is estimated at 9.4% affecting 650 million adolescents and adults.^{1,4} For adolescent girls, acne's peak incidence is 14–17-years old and 16- and 19-years-old for boys.^{3,4} Although typical for adolescents, this inflammatory skin disorder is becoming more prevalent in adulthood, especially in women.^{4,5}

The high prevalence of acne and its presentation is similar in Latin America and the Iberian Peninsula.⁶ A prospective study assessed the demographic and clinical characteristics of 1,384 patients between 25 to 60 years from 21 countries in Latin America and the Iberian Peninsula.⁶ The study aimed to identify:

parameters for the severity of acne, its links to demographic, biological, social, environmental factors, and potential triggers. The study found that acne was presented similarly in adults and adolescents.⁶ The authors concluded that acne severity was associated with: the male gender, cosmetics, age of onset, and signs of hyperandrogenism.⁶

Members of the Iberian-Latin American College of Dermatology (CILAD) formed the Iberian-Latin American Group for the Study of Acne (GILEA). They developed a practical treatment algorithm on acne, adapting it to the reality of Latin American countries, Spain and Portugal.⁷ The algorithm addresses mild-to-severe acne treatment and includes Over the Counter (OTC) nonprescription treatment and skincare products (Figure 1).⁷

FIGURE 1. Therapeutic algorithm for Latin American countries, Spain and Portugal.

Adapted from Bagatin et al.⁷ Benzoyl peroxide (BPO), antibiotics (AB)

As Europe and the United States, in Latin American countries, OTC acne treatments and skin care, such as non-comedogenic cleansers and moisturizers, have been successfully used to reduce skin irritation.⁷⁻¹² OTC acne treatment, either as monotherapy or in combination with prescription agents, offers physicians and patients the opportunity to cover and treat most of the concerns and side effects that might develop during and after acne treatment. Therefore, they are extensively used in acne treatment by dermatologists.^{11,12}

The current review explored the role of OTC products as mono-treatment, adjunctive, and maintenance treatment in acne-affected patients in Latin American countries.

MATERIALS AND METHODS

The review aims to better understand the role of OTC products and skincare in the treatment of acne in Latin America. We tried to find answers to the questions: What OTC products are advised for acne, who uses these products, when are they used, how are they used, and why the OTC products are recommended.

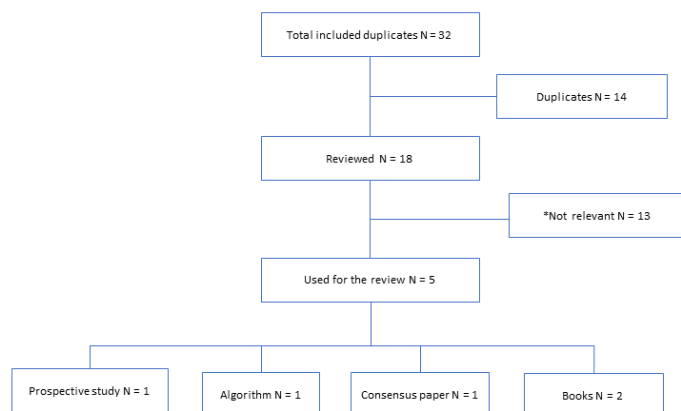
SURVEY

The panel of seven dermatologists from Latin America (the authors) convened for a Webinar meeting on April 28, 2020. The online conference replaced a face to face meeting that was canceled due to COVID-19. Before this Webinar meeting, the panel members completed a survey on OTC products' role and skincare in acne treatment in Latin America and specifically in their practice. The survey examined which OTC products were recommended for acne monotherapy as an adjunctive treatment and for maintenance. Further questions addressed who uses these products, when, how, and why the products are recommended.

The results of the survey were summarized, presented, and discussed during the Webinar. The survey results, coupled with the panel's expert opinion and experience, are presented in the current review.

Literature Searches

We performed a literature review selecting clinical acne

FIGURE 2. Literature searches results.

*Not relevant: Other subject or country/author outside Latin America, low quality, a small number, case studies.

guidelines and algorithms and clinical literature from Latin American countries on acne. Searches included clinical acne guidelines, algorithms, clinical studies, and review articles on acne prevention, treatment, and maintenance using OTC and skincare. For this purpose, searches on August 11 and 12, 2020, using PubMed and Google Scholar as a second source explored for English-language, Spanish and Portuguese literature using the following terms: "*Latin American articles on Acne vulgaris, acne pathogenesis, acne therapy with OTC regimens, active cosmetics, acne guidelines, algorithms.*" Exclusion criteria included: Not addressing Latin American patients, no original data (unless a review article was deemed relevant), and not dealing with the clinical management of acne. Two clinicians manually reviewed the selected publications for additional resources. The literature searches yielded thirty-two papers. After excluding duplicates and papers deemed not relevant, five papers remained (Figure 2). Articles from other countries were used to provide information where needed and for the discussion. The results of the searches were summarized, presented, and discussed during the Webinar meeting.

Results of the Survey

OTC Monotherapy

Topical acne treatment can be given as monotherapy or combined with systemic therapy, depending on the acne type.⁷⁻¹¹

The survey completed by the panel of dermatologists from Latin American countries asked which type of OTC acne monotherapy would be the physician's first, second, and third choice. The responders' first and second choices did not show a clear tendency to use a single acne product. Still, their third most prescribed product of choice was a serum of alpha hydroxy acid (AHA) and beta-hydroxy acid (BHA).

TABLE 1.

Survey Treatment Choice Monotherapy			
Product	First Choice	Second Choice	Third Choice
AHA and BHA serum ^a	1	--	3
Ceramides containing foaming cleanser ^b	1	--	--
Exfoliating soap free cleanser ^c	1	1	--
BPO with or without AB ^d	1	--	--
Retinoid gel ^e	2	1	--
BPO and lipo-hydroxy acid cream ^f	1	2	--
Lotion ^g	--	1	--
Cleansing gel ^h	--	1	--
Phytosolution gel cleanser ⁱ	--	1	--
AHA gel ^j	--	--	1
GA lotion or gel ^d	--	--	1
Spot gel ^k	--	--	1
Who?	Younger patients, starter level, women adult acne		
When?	Mild to moderate but mostly mild acne		
Where?	Face and chest		
How?	Once or twice a day		
Why?	Easy/pleasant to use, texture, tolerance, anti-inflammatory properties and results		

^aBlemish and age serum, SkinCeuticals; ^bCeraVe foaming cleanser; ^cSebaceous cleanser, SVR; ^dNo brand; ^eDifferin, Adapalene gel, Galderma; ^fEffaclar Duo SPF, LRP; ^gDry lotion, Secatriz; ^hEffaclar cleansing gel, LRP; ⁱNormaderm gel cleanser, Vichy; ^jNeostrata CLARIFY 15 AHA gel; ^kBABE stop AKN stop Control, BABE; Benzoyl peroxide (BPO); Alpha hydroxy acid (AHA); Beta hydroxy acid (BHA); Antibiotics (AB); Glycolic acid (GA); La Roche-Posay (LRP).

As a first choice, the respondents further recommended AHA and BHA containing serum, ceramides-containing foaming cleanser, a soap-free exfoliating cleanser, adapalene, and benzoyl peroxide (BPO) containing products. As a second and third choice, the dermatologists recommended BPO and lipo-hydroxy acid cream, a purifying gel cleanser, AHA containing gel, glycolic acid (GA) containing lotion or gel, and a spot treatment gel. Most of the formulations have a combination of AHA and GA. However, in the survey, AHA and GA were mentioned as two separate products.

BPO and lipo-hydroxy acid cream was recommended by the respondents for mild-to-moderate acne as, according to their experience, it is well-tolerated and has anti-inflammatory activity (Table 1).

The clinicians recommended OTC cleansing products mainly for younger patients at a starter level and for women with adult acne. The use of these OTC products is similar to practice described

TABLE 2.

Survey Adjunctive Treatment Choice			
Product	First Choice	Second Choice	Third Choice
Phytosolution gel cleanser ^a	1	1	--
BPO and lipo-hydroxy acid cream ^b	1	1	--
Ceramides containing foaming cleanser ^c	1	--	--
Serum niacinamid ^d	1	--	--
Retinoid + BPO ^e	1	--	--
BPO and lipo-hydroxy acid and SPF ^f	--	1	--
Ceramides containing micellar cleanser ^g	--	1	--
Tonic with purified water ^c	--	1	--
Formulated products containing tretinoin ^c	--	1	--
Lotion with SA ^h	--	1	--
Sunscreen ⁱ	--	--	1
HA containing serum ^j	--	--	1
Exfoliating moisturizer ^k	--	--	1
Serum ^c	--	--	1
SPF product ⁱ	--	--	1
BPO 5% ^l	--	--	1
Who?	All patients		
When?	Moderate-to-severe but mostly moderate acne		
Where?	Face		
How?	Once or twice a day, morning or evening, full face or spot treatment, preparation for other products		
Why?	Cosmetically elegant (texture), non-irritating well tolerated, anti-inflammatory, repairs skin barrier, hyperchromia post acne, follicular occlusion, seborregulatory		

^aNormaderm gel cleanser, Vichy; ^bEffaclar Duo, LRP; ^cCeraVe foaming cleanser; ^dLocal formulation; ^eEpiduo, Galderma; ^fEffaclar Duo SPF, LRP; ^gCeraVe micellar cleansing water; ^hNormaderm Skin Corrector, Vichy; ⁱVichy ideal soleil, anti-acne; ^jMineral 89 Serum, Vichy; ^kEffaclar K, LRP; ^lClindoxyl control 5%, Stiefel; Benzoyl peroxide (BPO); Salicylic acid (SA); Sun protection factor (SPF); Hyaluronic acid (HA); La Roche-Posay (LRP).

in Europe and by an international panel of dermatologists.^{11,12}

The survey respondents used AHA and BHA containing serums for their efficacy and ease of use by teenagers and adult women. Respondents recommended topical OTC strength retinoids for full-face application for mostly young patients with non-inflammatory acne. The recommended treatment is similar to

the recommendation given for mild to moderate acne in Latin American countries, Spain, and Portugal.⁷ The algorithm further suggests the treatment is to be used in combination with skin care, such as gentle cleansers and moisturizers.⁷

When asked, panel members answered that the ceramides-containing cleansers were used for those that did not have oily skin and might be sensitive to BPO containing cleansers. Washes, scrubs, and topical medications, such as retinoids, antibiotics, and BPO, may alter the skin barrier, causing irritation and dry skin.¹²⁻¹⁴ Especially in individuals with skin prone to irritation, these products possibly reduce adherence to treatment and therapeutic outcomes.¹²⁻¹⁴

OTC Products for Adjunctive Treatment

As their first choice adjunctive treatment, the respondents recommended OTC products, such as ceramides-containing cleansers or thermal water. They further advised the adjunctive use of creams or serums with BPO and AHA or adapalene and BPO or niacinamide. As a second and third choice, various cleansing agents were recommended, such as those containing thermal water or micellar technology. Other recommended products included HA containing serum, SA containing lotion, exfoliating moisturizer, and sunscreen. Most of the products were used on the face for moderate-to-severe acne in combination with prescription products. The OTC products were applied once or twice a day, morning or evening on the full face or spot treatment, and for preparation of the skin for other products. As a rationale for their choice, the dermatologists answered that these OTC products are cosmetically elegant (texture), non-irritating well-tolerated, anti-inflammatory, repair the skin barrier, post-inflammatory hyperchromia, follicular occlusion, sebum-controlling purposes (Table 2).

OTC Maintenance Treatment

As their first OTC choices for maintenance treatment, the respondents mentioned a cleansing gel, creams or serums with BPO and AHA and BHA or an OTC strength topical retinoid.

The respondents recommended a ceramide containing cleanser, SA containing lotion, an AHA-containing product, and sunscreen as a second and third choice.

The respondents noted that most products were used for the face twice daily.

When asked why these OTC products were used, the dermatologists answered that the products have attractive features, such as not oily, a suitable texture, and non-irritating. The respondents further noted that in their experience, the OTC products help to prevent acne flares, are anti-inflammatory, anti-follicular occlusion, control oily skin, and minimize scars (Table 3).

TABLE 3.

Survey Maintenance Treatment Choice			
Product	First Choice	Second Choice	Third Choice
AHA and BHA serum ^a	1	--	--
SPF 50 ^b	1	--	--
Blemish cleansing gel ^a	1	--	--
Glycolic gel ^c	1	--	--
BPO 5% ^d	1	--	--
BPO and lipo-hydroxy acid cream ^e	1	--	--
Retinoid gel ^f	1	2	--
Ceramides containing foaming cleanser ^g	--	1	1
Exfoliating soap free cleanser ^h	--	1	--
Lotion with SA ⁱ	--	1	--
Gel ^j	--	1	--
SPF anti-acne ^k	--	1	--
Lotion ^l	--	--	1
SPF 30 ^m	--	--	1
Pore cream ⁿ	--	--	1
Azaleic acid ^o	--	--	1
Sebium Bioderma ^p	--	--	1
When?	For patients with a few or no lesions or dilated pores.		
Where?	Face		
How?	Once or twice a day, morning or evening.		
Why?	Not oily, pleasing texture, non-irritating, prevents acne recurrence, anti-inflammatory, anti-follicular occlusion, controls oil, and minimizes scars		

^aBlemish and age serum and cleansing gel, SkinCeuticals; ^bAnthelios Shaka SPF 50 LRP; ^cLocal brand; ^dClindoxyl control 5%, Stiefel; ^eEffaclar Duo SPF, LRP; ^fDifferin, Adapalene Galderma; ^gCeraVe foaming cleanser; ^hSebiaclear cleanser, SVR; ⁱNormaderm Skin Corrector, Vichy; ^jSalises gel, Sesderma; ^kVichy ideal soleil, anti-acne; ^lDry lotion, Secatriz; ^mCetaphil AC SPF 30; ⁿSebiaclear cream, SVR; ^oAzeleic acid; ^pSebium, Bioderma Benzoyl peroxide (BPO); Alpha hydroxy acid (AHA); Beta hydroxy acid (BHA); Antibiotics (AB); Glycolic acid (GA); La Roche-Posay (LRP).

DISCUSSION

The panel recommended similar OTC products for monotherapy for mild-to-moderate acne, to recommendations given in the therapeutic algorithm for Latin American countries, Spain, and Portugal (Table 4).⁷ The algorithm recommends topical retinoids, antimicrobials, or fixed combinations for comedonal acne and mild-to-moderate papulopustular acne.⁷

Benefits were shown of various topical OTC acne products, such as SA, niacinamide, BPO, lipohydroxy acid (LHA), AHAs, retinoid,

linoleic acid (LA), and zinc-based formulations.¹⁵ BPO, available as creams, gels, lotions, and washes, can treat mild acne. The antimicrobial agent BPO is active against *Cutibacterium acnes* (*C. acnes*) by releasing reactive oxygen species (ROS) and has a slight comedolytic effect.¹⁶ Additionally, BPO, in combination with topical or systemic antibiotics, prevents and treats bacterial resistance.¹⁶ A caveat to BPO is that it stains fabric, and for that reason, patients are advised not to use it in the evening to avoid staining bed-linens.

Fixed combinations such as BPO plus antibiotics or adapalene have advantages over monotherapy because they act on a variety of pathogenic factors.¹⁶

Hormonal acne therapy may be beneficial for females with hormonal changes.⁷

Oral antibiotics are recommended for moderate-to-severe papulopustular acne, not responding to topical treatment, and for patients with mild nodulocystic acne.⁷ Patients with moderate-to-severe nodulocystic acne who lack success with topical therapeutics should be treated with oral isotretinoin, oral antibiotics, or oral dapsone.⁷

The algorithm emphasizes skincare importance, such as gentle cleansers and moisturizers, skin barrier repair agents, OTC keratolytic agents, and sunscreen. These OTC products can be applied as monotherapy for mild acne, adjunctive, or maintenance treatment.⁷

Adjunctive OTC treatment recommended by the dermatologists who completed the survey is similar to the algorithm's recommendations. This is also the case for maintenance treatment, where the algorithm recommended gentle cleansers, moisturizers, topical retinoids, and BPO as the first line and azelaic acid as the second-line option.⁷

Topical retinoids normalize infundibular keratinization, inhibit comedogenesis and inflammation.¹⁷ Retinoids act by binding to cytoplasmic and nuclear receptors and regulate the expression of genes related to cell differentiation, lipid metabolism, apoptosis, and cell cycle.^{17,18} Adverse events resulting from retinoids use such as irritant contact dermatitis, erythema, pruritus, desquamation, an increased risk of photosensitivity, and postinflammatory pigmentation may be reduced by the use of moisturizers and sunscreen.^{13,18}

Topical antibiotics have anti-inflammatory and antimicrobial effects but should not be used as monotherapy due to bacterial resistance; combinations with BPO and antibiotics seem to be a better choice.

In mild and comedonal acne, SA-based OTC products, lipo-

TABLE 4.

Acne Cleansers and Moisturizers Action and Features	
Type of OTC Acne Treatment	Action/Features of the Products
Monotherapy: Mainly used for mild acne	Well tolerated, anti-inflammatory, easy and comfortable to use, cosmetically pleasant texture
Adjunctive therapy: Mainly used for moderate acne in combination with prescription treatment	Non-irritating, well tolerated, anti-inflammatory, repairs skin barrier, addresses hyperchromia post-acne, follicular occlusion, seborregulatory, and pleasant texture.
Maintenance therapy	Anti-inflammatory action, prevention of acne flares, oil control, and minimization of scars. Features include: texture, non-oily, and non-irritating.
BPO containing products	Available as creams, gels, lotions, and washes, can treat mild acne, or can be used as adjunctive treatment or as component of fixed combinations. Is effective but may cause irritation
SA containing products	Salicylic acid, available in creams, lotions, and pads, helps resolve the irregular shedding of cells. For mild acne, it can unclog pores as it is fat soluble, but has no antimicrobial activity.
GA containing products	Available as creams, gels, lotions, accelerates collagen synthesis by fibroblasts and also modulation of matrix degradation and collagen synthesis through keratinocyte-released cytokines. There is a risk for increased UV-induced pigmentation when using these products.
Retinoid containing products	Topical retinoids decrease the formation of acne by changing cell-growth and decreasing inflammation. They are used to treat moderate-to-severe acne often in combination with other products, such as BPO and oral antibiotics. AEs include dryness, pruritus, and erythema.
Azelaic acid containing products	Azelaic acid helps normalizing follicular hyperkeratinization by a cytostatic effect on keratinocytes. It decreases proliferation of C. acnes by inhibiting protein synthesis and reduces inflammation. Effective for mild to moderate papular-pustular acne, particularly in patients with sensitive and darker skin, as well as in adult acne in women.
Ceramides containing cleansers and moisturizers	Acne affected skin may have reduced ceramide levels resulting in skin barrier dysfunction which correlates with hyperkeratinization and comedone formation. A ceramide containing skincare regimen supports the removal of excess sebum and debris on the skin surface (cleansing) and improves skin barrier (moisturizing) function.
Cleansers and moisturizers containing TSW	May help restore the skin microbiome reducing inflammation.
AHA and BHA containing products	Available as creams, gels, serums, and lotions, they are both exfoliants and moisturizers and may have antiaging properties. In OTC products low concentrations (4%–10%) are used.
Sunscreen with an SPF of at least 30	Sunscreens prevent postinflammatory hyperpigmentation.
HA containing products	HA encompasses a large volume of water giving solutions high viscosity, even at low concentrations. Used as a moisturizer to help improve skin hydration.

Benzoyl peroxide (BPO); Alpha hydroxy acid (AHA); Beta hydroxy acid (BHA); Glycolic acid (GA); Salicylic acid (SA); Sun protection factor (SPF); Hyaluronic acid (HA); Adverse events (AEs); Thermal spring water (TSW)

hydroxy-acids, glycolic acid (in low concentrations), and nicotinamide may be able to control the disorder. SA, available in creams, lotions, and pads, helps unclog pores resolve lesions but lacks bactericidal activity.⁷ SA is the most common form of BHA, and concentrations can range between 0.5 and 5 percent, depending on the product type.⁷ Formulations containing AHA are suitable for dry skin, and surface-level skin concerns like acne scars and BHAs containing products are suitable for oily and acne-prone skin types. Both AHA and BHA are available in combined formulations or can be used by alternating two products.⁷ When using these products, sunscreen should be applied daily.^{13,18}

The panel recommends that cleansing agents and moisturizers suitable for oily skin or sensitive skin, with ingredients that help control sebaceous secretion, are the right choice for acne patients.

Barrier dysfunction correlates with hyperkeratinization and comedone formation.¹⁴ Increased trans-epidermal-water-loss (TEWL) and inconsistent ceramide content in the stratum corneum are well characterized in acne patients.¹⁴ Therefore, an effective adjuvant skincare regimen must focus on removing excess sebum and debris on the skin surface (cleansing) and improving skin barrier (moisturizing).^{12,13}

Improving skin barrier function is important for increasing tolerability, leading to enhanced adherence to treatment and efficacy.¹⁹ The primary goal of adjunctive skincare focuses on repairing the epidermal barrier to reduce TEWL and improve epidermal hydration. Ceramides containing products help to reduce TEWL and to improve skin barrier function.¹³

The number one attribute for a cleanser to be considered adjunctive therapy is the lack of irritation to exacerbate the

drying and irritating issues related to prescription acne products. Important features of OTC products used for acne patients include: non-irritating, well-tolerated, anti-inflammatory, repairs skin barrier, addresses hyperchromia post-acne, follicular occlusion, sebum regulatory, and pleasant texture.

CONCLUSION

Advisors reported using several different products as mono-, adjunctive, and maintenance therapy in acne. The panels' recommendations were similar to those given in the practical treatment algorithm on acne for Latin American countries, Spain and Portugal.

OTC monotherapy is used for mild acne, and OTC adjunctive therapy is mainly applied for moderate acne in combination with prescription treatment.

Reasons for using OTC maintenance therapy are anti-inflammatory action, prevention of acne flares, oil control, and minimization of scars.

Common ingredients in acne products (eg, BPO and retinoids) are effective but may cause skin irritation and impair the skin barrier function. Ceramides containing skincare may offer acne patients benefits to help restore skin barrier function.

DISCLOSURES

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All authors contributed to the development, writing, and reviewing the article and agree with its content.

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AUTHOR CORRESPONDENCE

Anneke Andriessen PhD

E-mail: anneke.a@tiscali.nl