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 ORIGINAL ARTICLE

Insights in Skin of Color Patients With Atopic Dermatitis and the Role of Skincare in Improving Outcomes

Andrew F. Alexis MD MPH FAAD,[a*] Heather Woolery-Lloyd MD FAAD,[b*] Anneke Andriessen PhD,[c] Valerie D. Callender MD FAAD,[d] Mercedes E. Gonzalez MD FAAD,[c] Candrice Heath MD FAAD FAAP,[e] George Han MD PhD FAAD[f]

[*]First authors

[a]Weill Cornell Medical College, New York, NY
[b]Skin of Color Division Dr Phillip Frost Department of Dermatology and Cutaneous Surgery University of Miami; Miami, FL
[c]Radboud UMC, Nijmegen and Andriessen Consultants, Malden, The Netherlands
[d]Howard University College of Medicine, Washington DC; Callender Dermatology & Cosmetic Center, Glenn Dale, MD
[e]Dermatology Lewis Katz School of Medicine; Pediatric Dermatology, Philadelphia, PA
[f]Dermatology, Donald and Barbara Zucker School of Medicine at Hofstra/Northwell, New York, NY

ABSTRACT

Background: Research on the role of race and ethnicity in the pathophysiology of atopic dermatitis (AD) is limited. Variations in the epidemiology, clinical presentation, and disease course in skin of color SOC AD patients have been reported. This manuscript seeks to offer insights into distinct features of AD in populations with (SOC) and provide recommendations on the role of skincare in treating AD amongst diverse populations.

Methods: A literature review followed by panel discussions and an online review process explored best clinical practices in treating AD patients with SOC and providing expert guidance for skincare use, including gentle cleansers and moisturizers.

Results: Some studies have identified differences in skin barrier properties in racial/ethnic groups affected by AD that may have implications for barrier function. Variations in the clinical presentation – including morphology, severity, and distribution – of AD in populations with SOC have been reported. Epidemiologic studies suggest a higher prevalence among self-identified Blacks/African Americans and greater health care utilization for AD among both Blacks/African Americans and Asian/Pacific Islanders. Pigmentary sequelae, including hyper- hypo- and depigmentation is a distinct feature of AD in patients with SOC that may contribute to the quality of life impact of the disorder. Xerosis may be more stigmatizing in SOC due to greater visibility of scale and dryness in the context of melanin-rich skin. Racial/ethnic variations in the prevalence of pruritus have also been reported, which may in turn have implications for AD in SOC. Treatment and maintenance of AD in patients with SOC should be proactive, effectively control inflammation longitudinally, include effective skin barrier protective strategies, and consider cultural practices.

Conclusion: Robust comparative studies are needed to better understand racial/ethnic variations in AD. Further research will help to tailor patient education and foster individualized approaches to treatment, prevention, and adjunctive skin care across the diverse spectrum of patient populations.

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INTRODUCTION

Atopic dermatitis (AD) is a highly prevalent chronic immune-mediated disorder of the skin that affects populations globally. Although the role of race and ethnicity in the pathophysiology of AD remains unclear, variations in the epidemiology, clinical presentation, disease course, and impact on quality of life have been reported in different racial/ethnic populations. Data from the US has identified higher prevalence and persistence in African American children as well as racial/ethnic disparities in health care utilization and access to therapies.[1-8]

Genetic and immunophenotypic differences between racial/ethnic populations have also been reported. Most notably, lower rates of filaggrin gene mutations have been described among Black populations. In addition, studies involving small populations of East Asian and African American patients have identified differences in cytokine expression when compared to European-American patients.[9-11]

Variations in morphology and clinical presentation include nuanced expressions of erythema (due to background melanin)

and associated postinflammatory pigment alteration in higher skin phototypes. In Black skin (populations of African descent), more frequent follicular accentuation, lichenoid morphologies, and papulonodular presentations may be seen.[8]

While data are limited, some studies have identified differences in skin barrier properties in racial/ethnic groups that may have implications for barrier function in the diverse spectrum of populations affected by AD.[12] This project was conceived to summarize distinct features of AD in populations with SOC and provide recommendations on the role of skincare for treating AD in diverse populations.

MATERIALS AND METHODS

The present study involved use of a modified Delphi communication technique for interactive decision-making for medical projects, adapted for a virtual platform from face-to-face meetings.[13,14] An expert panel of six dermatologists who commonly treat SOC patients with AD was virtually convened on May 15, 2021. In preparation for the meeting, a literature review was conducted on the management of AD in SOC patients with AD and the role skincare plays for AD treatment in different racial/ethnic populations.

Literature Review

Searches for English-language literature (2015– 2020) took place on April 12, 2021, on PubMed, with Google Scholar as a secondary source. The literature review gave priority to clinical studies published on SOC patients with AD; articles describing the current best practices in caring for AD in SOC patients; and recent clinical guidelines, consensus papers, and algorithms that specifically addressed these populations and skincare.

Excluded were duplications, articles of insufficient quality (small sample size, flawed methodology), and in the case of review articles, the most recent version was used. It is possible that small studies were included in the absence of studies involving larger patient populations.

Search terms used: *Racial/ethnic differences in clinical presentation and sequela of AD; AD affected SOC barrier structure and function(s); Skin lipids and ceramides; Tolerance to treatment; Differences in expected treatment outcomes; Clinical and cultural significance of cleansers and moisturizers in the SOC individual and cleanser and moisturizer ingredients; OTC skincare, the efficacy; Safety; Tolerability; Skin irritation.*

The searches yielded seventy-three papers deemed clinically relevant to inform current best practices in SOC patients with AD and skincare use. Unfortunately, robust comparative studies on skincare use for prevention, treatment, and maintenance of AD in SOC patients as monotherapies or adjuncts to prescription therapies are scarce and did not allow for a systematic review. However, the recommendations on skincare given in clinical guidelines, consensus papers, and algorithms available per region with different racial/ethnic populations provided valuable clinical information and were summarized.

RESULTS

The advisors agreed on five statements for insights and recommendations for treating AD in SOC patients.

Statement 1: AD is a common chronic inflammatory skin disease with a multifactorial pathogenesis that includes genetic (eg, filaggrin mutations), immunologic, and environmental factors. These factors may vary among diverse populations.

The pathogenesis of AD includes genetic and environmental factors that may vary among different racial/ethnic and geographic populations. A literature review on clinical and molecular features of AD in populations of diverse ethnic/racial backgrounds found differences in filaggrin (FLG) loss-of-function mutations across various ethnic groups with AD.[7] The authors noted that studies in European American compared to Asian American AD populations have consistently shown a higher prevalence of FLG loss-of-function mutations of up to 50% of European and 27% of Asian American patients, respectively.[7,8] They further suggested that the association between FLG loss-of-function mutations and AD development in populations of African descent is unclear. Other genes may be involved in skin barrier dysfunction in Black populations with AD.[8]

Statement 2: Clinical and morphological differences of AD in patients with SOC have been described, including the presence of follicular/perifollicular papules and xerosis in Black AD patients, which can be culturally stigmatizing.

AD presents clinically as relapsing erythematous and pruritic patches of skin with varying severity; some features may be more or less prominent in patients with darker skin.[8,15,16] Patients with more pigmented skin may present with variations in the appearance of erythema. In particular, AD lesions may appear reddish-brown, violaceous, gray, or deeply pigmented (hyperchromic) rather than bright red. (ie, in some SOC populations such as patients of African descent, lesions may present more frequently on extensor areas than the typical flexural lesions in the lighter skin types).[8,16]

Pruritus may be more frequent and severe in specific SOC populations; however, this data is from AD patients of Asian and African descent living in the US and Europe.[17] Some authors suggest that this is important because the prevalence of AD in SOC populations living in the US and Europe seems to involve a complex interplay of, duration of residence in the immigrated nation, age at time of immigration, and diversity of heritage (with lower prevalence of atopic diseases in mixed-race individuals).[18]

TABLE 1.

Guidelines from Various Regions			
Region	**Treatment guideline**	**Skincare included**	**Reference**
Asian-Pacific countries overall guidelines	Consensus guidelines for the management of AD: an Asia-Pacific perspective, 2013. A clinician's reference guide for the management of AD in Asians, 2018.	Yes	20,21
Argentina	National consensus AD guidelines, 2014.	Yes	22
Canada	Consensus recommendations and AD algorithm	Yes	19
Europe	Consensus-based European guidelines for the treatment of AD, 2018, Part I and Part II.	Yes	23,24
India	Treatment guidelines for AD – Part I and Part 2 (2017). Treatment guidelines for AD (2018).	No	25,26,27
Japan	Clinical guidelines for AD (2016)	Yes	28
Latin America overall	Position paper and guidelines on AD (2014).	Yes	29
Mexico	Clinical guide for AD (2018). Consensus on AD for adolescents and adults (2018).	Yes	29,30
Middle East	Practical algorithm for topical treatment of AD (2018).	Yes	32
Taiwan	Consensus paper on AD management (2015).	No	33
Singapore	Clinical guidelines for AD (2016).	Yes	34
South Africa	Standard treatment guidelines AD (2014).	No	35
South Korea	Consensus guidelines for AD, Part I and Part II (2015).	Yes	36,37
US	Guidelines (Section 2) for topical therapies for AD (2014)	Yes	38

Atopic dermatitis (AD)

Periorbital dark circles and lichenification in Black AD patients may be due to rubbing and scratching to reduce pruritus.[8]

AD patients with darker skin have a higher risk of developing post-inflammatory dyspigmentation, which is a sequela that can last for months to years.[8] In less severe cases, dyspigmentation may subside within weeks to months; however, chronic excoriation may result in permanent dyspigmentation.[8]

Statement 3: Cultural factors related to bathing and moisturization preferences need to be considered. Increased scrubbing, cleansing, and fragrance use may be more common in some SOC populations and vary according to cultural and geographic norms. Cleansing habits should be considered when treating AD in these patient populations.

Clinical guidelines, consensus papers, and algorithms on AD diagnosis, treatment, and maintenance are available per region with different racial/ethnic populations; however, few address racial/ethnic-specific skincare as an individual approach to AD (Table 1).[19-38] Increasingly, guidelines address skincare, using gentle cleansers and moisturizers as part of topical therapy or adjunct to systemic treatment.[20,21] The Asian-Pacific AD guidelines recommend moisturizers (i.e., those containing virgin coconut oil, ceramides or glycyrrhetinic acid, *V. vinifera*, shea butter, and hyaluronic acid) as the mainstay of treatment and should be liberally and frequently used in the prevention of AD-prone skin.[20,21] As a practice point, the authors of the Asian-Pacific AD guidelines stated that moisturizers must be suitable for the patient's climate, humidity, and environmental conditions. They should be applied directly after bathing and up to three times per day.[20,21] European-based guidelines recommend skincare as part of essential therapy, which focuses on treating skin barrier dysfunction as monotherapy or an adjunct to prescription therapy and maintenance.[23,24] The guidelines point out specific benefits of using moisturizers that contain skin lipids.[23]

Like the European guidelines, Japanese guidelines integrate regular use of skin care products as the basic approach to prevention, monotherapy, adjunctive treatment, and maintenance. The guidelines further recognize the benefits of moisturizers in the treatment of atopic dermatitis.[28]

The Latin American and Caribbean guidelines found few studies conducted in the region that take into account socio-economic, geographical, cultural, and health care system characteristics.[29] The clinical guide is aimed at AD patients, families, primary care physicians, and specialists and includes skincare as part of general care.[28]

The Mexican guideline proposed four steps for treating AD in addition to general care and education on AD and its treatment, which included skincare.[30,31]

TABLE 2.

Guidelines and Information on Cleansers and Moisturizers

Region	Treatment guideline	Skincare included	Reference
Asian-Pacific countries overall guidelines	No standard for bathing. Limited usage of neutral to low pH, hypoallergenic, and fragrance-free nonsoap cleansers. For infection, sodium hypochlorite bathing may be an option.	Suitable for the climate, humidity, and environmental conditions of the patient. They should be applied directly after bathing and up to TID.	20,21
Argentina	Avoid the use of irritants and use neutral to low pH cleansers	Use is beneficial to keep the skin moist. No specifics on what and how to use the moisturizer.	22
Europe	No bathing recommendation other than keeping it short. Neutral to low pH, hypoallergenic, and fragrance-free nonsoap cleansers. Consider sodium hypochlorite bathing only in specific cases.	An integral part of the approach for prevention, monotherapy, adjunct treatment, and maintenance	23,24
Japan	Avoid the use of irritants and sparsely use neutral to low pH cleansers	The guidelines recognize ceramides deficit as a factor in barrier dysfunction. The continuous application of moisturizers after flare relief treatment with topical anti-inflammatory drugs is useful for maintaining remission.	28
Latin America overall	Avoid the use of irritants and harsh cleansers	Moisturizer use is part of general care.	29
Mexico	No bathing or cleansing recommendation	Moisturizer use is part of general care.	29,30
Middle East	No bathing recommendation	Recommended as needed.	32
Taiwan	No bathing recommendation	Regular moisturizer use is an essential component of AD treatment and maintenance and should be applied at least 2 times daily or as frequent as the skin gets dry.	33
Singapore	No bathing recommendation	An integral part of the topical treatment approach as mono and adjunctive therapy	34
South Africa	Avoidance of soap is recommended	The use of a moisturizer such as aqueous cream is included.	35
South Korea	Neutral to low pH, hypoallergenic, and fragrance-free nonsoap cleansers. Bathe/shower with lukewarm (27-30 C) water maximum once a day for a short period avoiding scrubbing.	Part of the topical treatment approach as mono and adjunctive therapy. Moisturize soon after bathing and up to TID.	36,37
US/Canada	Neutral to low pH, hypoallergenic, and fragrance-free nonsoap cleansers. Bathing is a part of the treatment of AD.	Part of prevention, monotherapy, adjunct treatment, and maintenance. Moisturize soon after bathing and up to TID.	19, 38

Three times a day (TID)

An algorithm for topical treatment of AD from the Middle East advises using moisturizers as needed as part of topical treatment.[33] Consensus papers from Taiwan, South Africa, Singapore, and South Korea all include routine skin care regimens as an integral part of AD management.[33] The Korean practical guidelines specifically considered patient adherence for their evidence-based recommendations.[35,36] Additionally, the guidelines discussed psychotherapeutic approaches and behavior therapy for managing individual emotional factors that triggered such as vicious itch-scratch cycles, comorbidities such as anxiety and depression, and low Quality of Life (QoL).[36,37]

A Canadian algorithm for topical treatment of mild-to-moderate AD for adults and pediatric patients as well as US guidelines for topical treatment of AD include education and avoiding triggers. In addition, routine skincare with gentle cleansers and moisturizers is considered an integral part of AD management regardless of disease severity and prescription treatment.[8] Conventional moisturizers contain occlusives, humectants, and emulsions. Newer classes of moisturizers designed to restore skin barrier defects include distinct ratios of lipids that resemble physiological compositions, such as CERs, cholesterol, and essential fatty acids.[39]

Some individuals with AD may produce inadequate amounts of certain CERs. Many exhibit baseline increases in TEWL even within their unaffected, normal-appearing skin.[40-43] Racial and ethnic differences have been reported in the stratum corneum

Box 1: Skincare Use

Title	Type
Cleansers and bathing	• Use nonsoap cleansers (e.g., syndets, aqueous solutions), with a neutral or low pH and are less allergenic, nonirritating, and fragrance-free. • Soap-based cleansers, which have a high pH and contain surfactants, should be avoided because they can cause dry skin, irritation. • Antiseptic-containing cleansers are not recommended due to the limited duration of action of antiseptics and limited clinical data regarding their effectiveness. • Consider a bleach bath for specific cases such as infections. • After bathing, gently pad the skin with a soft towel, avoiding rubbing. Next, apply moisturizer while the skin is still moist (within 3 min).
Moisturizers	• A moisturizer should be used at least twice daily and more frequently during acute flare-ups. • Consider patient tolerance and preferences of a moisturizer to enhance treatment adherence. • Cream-type moisturizers containing lipids are suitable, and during winter, higher lipid contents are preferred. • Adult patients with AD should use approximately 250 g or more of moisturizer per week and apply it to their whole body, regardless of the presence of lesions, since barrier defects and subclinical inflammation may also be present on lesion-free skin. • During acute flare-ups, moisturizers should be used more frequently in conjunction with anti-inflammatory treatment and continued as maintenance therapy.

barrier function, including ceramide content and TEWL[44] CER-containing moisturizers that were found to benefit AD patients when used as mono, adjunctive, and maintenance treatment.[45-48] The Canadian algorithm and US guidelines agreed that the use of moisturizers that contain humectants, lipids, and CERs (or their precursors) reduce pruritus, help control xerosis, and improve the dysfunctional skin barrier in AD patients (Table 2).[19,38,39] The moisturizer should be used at least twice daily and more frequently during acute flare-ups (Box 1).[19,36-39] It is important to note that there are variations in skincare norms across diverse populations. It is essential to consider these cultural variations when providing skincare recommendations to these patient populations. Integrating evidence-based recommendations for skin care in a culturally competent manner that aligns with the patient's norms/preferences is key to successful outcomes across diverse populations. More research is needed to guide culturally appropriate recommendations better.

Statement 4: To improve SOC AD patient outcomes:

- ***Aggressively target inflammation to prevent long-term sequelae (eg, dyspigmentation)***
- ***Effectively manage pruritus***
- ***Counsel on the appropriate use of potent topical corticosteroids to minimize the risk of hypopigmentation***
- ***Consider cultural skincare practices***

The published guidelines for AD are applicable to the broad and diverse spectrum of AD patients, including SOC patients. However, studies involving specific racial/ethnic groups are lacking. Racial and ethnic disparities in AD clinical trials have been reported.[49,50]

Two studies examined racial/ethnic differences in the safety and efficacy of approved AD therapies. Specifically, a post hoc analysis by race/ethnicity was performed for crisaborole and dupilumab in phase 3 AD trials. The crisaborole study did not demonstrate any differences in safety and efficacy between pooled (1) White versus nonwhite and (2) Hispanic versus not Hispanic/Latino groups.[51]

Dupilumab demonstrated significant improvement in primary week 16 outcomes versus placebo in white and Asian subpopulations. In a small black/African-American subgroup (dosing at 300 mg subcutaneous (SC) once every other week (qOW), n=25), some endpoints did not achieve statistical significance vs. placebo despite a positive trend. It is important to note that the sample size was small.[52]

Hyperpigmentation is a common complaint in SOC AD patients and may be particularly distressing to patients who often suffer additional psychosocial impact of their AD as a result of long lasting pigmentary changes. This is particularly challenging because many of the treatments for hyperpigmentation such as hydroquinone can be irritating in AD populations and therefore must be used with caution. A focus on pre-emptively addressing pigmentary changes through effective longitudinal control of AD itself is paramount.

One case report suggested early intervention with dupilumab may help to address hyperpigmentation in these patients. More research is needed to clarify the nuanced treatment of AD in SOC patients.[53]

Cultural Skincare Practices

In some people of African, Asian, and Hispanic descent, various traditional oral and topical herbal remedies may be combined with prescription therapies.[15,19,54] A systematic literature review found the benefits of combining Chinese herbal medicine with

Western prescription treatment; however, more research is needed to understand the role of Chinese herbal medicine in AD.[54] The Korean consensus guidelines recommend discussing with patients the belief that natural ingredients in cleansers or emollients are better. These guidelines also recommend discussing the idea that "natural" does not mean "safe" since sometimes, these natural ingredients may increase the risk of contact dermatitis.[36,37] Other guidelines recommend examining and discussing the patient's or carers' attitude to treatment options, such as TCS or TCI phobia, and the use of herbal remedies to understand how to tailor AD care.[15,29]

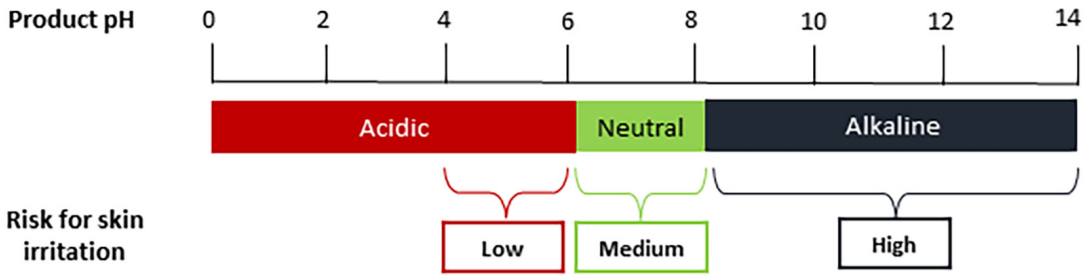
It is important to be aware that some SOC patients may have cultural differences in skin care practices, and clinicians should consider this when approaching the management of AD SOC populations.

Statement 5: Clinical studies have shown that a skincare regimen incorporating a CER-containing moisturizer:

- ***Improves AD***
- ***Increases lipid content, including ceramides, in the skin***
- ***May offer clinical benefits in patients with SOC***

While skin barrier differences have been reported in small studies involving specific SOC populations vs. Whites, their contribution to observed clinical and epidemiologic variations of AD remain unclear.[55-58] Xerosis and pruritus are important clinical features of AD resulting from a dysfunctional epidermal barrier that leads to increased transepidermal water loss.[19,57,58] Physiological stratum corneum pH is acidic (4–6), while the body's internal pH is neutral to slightly alkaline (~7.4).[59] An alkaline skin surface pH can inhibit lipid processing, leading to xerosis, an associated factor in inflammatory dermatoses.[59-62] Healthy skin barrier function is dependent on the complex interplay of stratum corneum pH and exogenous and endogenous processes.[59,61,63-65] Lipid processing and formation of lamellar structures require an acidic skin pH, and elevated skin pH may delay barrier recovery

FIGURE 1. Product pH and risk for skin irritation. The pH describes the acid-alkaline ratio ranging from the most acidic (0) to the most alkaline (14.0), with 7.0 as neutral. Physiological skin surface pH is acidic (4.0–6.0), while the body's internal pH is neutral to slightly alkaline (~7.4).[59] Cleansers and moisturizers close to physiologic skin surface pH (4.0–6.0) may reduce skin irritation and improve skin barrier function.[59] Permission has been granted for reproduction of the figure previously published Lynde CW et al Clinical insights about the role of skin pH in inflammatory dermatological conditions. *J Drugs Dermatol.* 2019;18(12)S-1:1-16.



Box 2: Cleanser Categories and pH

Type of Cleanser	pH
Soap: Contains fat and alkali-treated salts of fatty acids.	pH 9.0–12
Syndet bar: Contains synthetic detergents and small amounts of soap-based detergents.	pH: 4.0–6.0
Combar: Contains equal parts of soap-based detergent mixed with a synthetic detergent.	pH: 10–12
Liquid cleanser: Contains synthetic detergents, can be ionic or non-anionic in lotion, cream, oil, or gel form.	pH: 6.0–7.0
Lipid-free cleanser: Contains no soap or detergent and does not need water to cleanse.	pH: 5.0–7.0
Cleanser with polymer-surfactant complexes: Has a low concentration of free surfactant micelles as well as polymer-surfactant complexes.	pH: 4.0–5.8

Adapted from Skotnicki S, et al[60]

Box 3: Ingredients of Moisturizers

Ingredients and function	Examples of specific ingredients
Emollients that lubricate the skin	Glyceryl stearate, soy sterols
Occlusive agents that prevent water evaporation	Petrolatum, dimethicone, mineral oil
Humectants that attract and hold water into the stratum corneum	Lactic acid, urea, glycerol
Lipids play a critical role in skin health for the integrity of the SC barrier function and retaining skin hydration	CERs, cholesterols, free fatty acids, cholesterol-3-sulfate, and cholesteryl esters

and facilitate skin barrier breakdown (Figure 1).[45,59]

Cleansers with an elevated pH can damage the stratum corneum or strip it of essential components, such as lipids, proteins, and natural moisturizing factors.[45,59,62] Cleansers with a near-physiological pH of 5.5 and the addition of hydrating agents can provide both hygiene and moisturization (Box 2).[47,59,60,66]

The past decade has seen considerable advances in understanding the role of moisturizers in AD management.[15,19,20-38,67] According to various guidelines, clinical pathways, and consensus papers, skincare using gentle cleansers and moisturizers are the cornerstone of all AD regimens regardless of ethnicity. [15,19,20-38,67] An ideal moisturizer for AD patients would be safe, effective, affordable, fragrance, and sensitizing agent-free.[59,60] Preferably, the product would be pleasant to use with a look, smell, and feel that invites consistent use.

Moisturizers reduce xerosis by combining ingredients that maintain skin hydration, such as emollients, occlusive agents that prevent water evaporation, and humectants that attract and hold water into the stratum corneum (Box 3).[39,45,59] Increased knowledge of skin barrier dysfunction in AD has supported the development of moisturizers containing physiologic lipids such as ceramides, which may help replace the deficient lipids in AD-affected skin.[45-48,59,60,66,68-72] Topical formulations that contain CERs mimic physiological lipids supporting homeostasis and reducing AD severity while improving general skin condition.[59,60,66,68-72] Skincare use with a cleanser and moisturizer decreases pruritus and other symptoms, along with the severity of AD.[59,60,66,68-72] Additionally, the number of AD flares is reduced and time periods of remission between flares are increased when CER-containing skincare is frequently applied.[59,60,66,68-72]

Draelos et al (2020) showed that using a ceramide-containing moisturizing cream on dry lower leg skin of 49 women resulted in an 11% increase in total ceramide content, a 14% increase in free fatty acids, and an 11% increase in cholesterol.[66] Most importantly, this increase in ceramide content was still demonstrable after 48 hours.[66]

A further study found that both the ceramide-containing cream and lotion significantly increased skin hydration and reduced skin dryness for at least 24 hours following a single application compared to an untreated control site.[70,71] Compared to three reference emollient creams, the ceramide-containing cream and lotion were the only products capable of sustaining clinically meaningful improvements in skin moisturization for the full 24 hours.[70,71]

Many types of moisturizers are available; however, robust comparative studies are scarce, especially in SOC populations. Therefore, the clinician should consider AD patients' preferences in product choice, which may differ between gender, skin type, and racial/ethnic groups.[73] According to the advisors, skin care practices have a profound cultural significance that must be respected to improve adherence to AD treatment and thus patient outcomes. Clinicians should integrate evidence-based recommendations with cultural norms, exploring creative ways of communicating information, focusing on the benefit to the patient or caregiver (eg, not hearing their child scratch at night). Additionally, incorrect advice from some social media may be addressed and scientific data translated into culturally sensitive messaging.

Finally, the advisors agreed on the importance of informing patients about promoting a healthy skin barrier using physiologic concentration of ceramides and the omission of irritating substances in skin care products to help them make the right choices when faced with the extensive array of options in the pharmacy or department store skincare section. Conversely, the wrong choice can derail an otherwise effective therapeutic approach, such as by adding irritating substances that can counter effective therapy for AD.

Limitations

A detailed discussion on genetic factors of AD is outside the scope of the review. Many OTC skincare products are available; however, robust comparative studies on skincare in AD in SOC are lacking and do not allow conclusive recommendations. There is an overall lack of prospective, evidence-based studies focusing on treatment of AD in SOC. However, the available data suggest that skincare strategies to improve AD patients' outcomes should consider racial/ethnic differences.

CONCLUSION

This review explored best clinical practices in treating AD

patients with SOC and providing expert guidance for skincare use, including gentle cleansers and moisturizers.

AD is a chronic inflammatory skin condition associated with altered immune function and epidermal barrier dysfunction. Racial/ethnic differences in genetic and clinical presentation and sequelae have been reported. In addition, AD-associated xerosis is more stigmatizing in people with SOC. Patients may oscillate between various degrees of severity over time and may even have different levels of severity in various skin areas at any one time. Therefore, the best treatment paradigms reflect a need for a range of products that target these different levels of severity and address specific nuances or unique concerns in populations with SOC.

Treatment of AD in patients with SOC should be proactive, target inflammation, protect the skin barrier, and consider cultural practices. Physicians may recommend prescription treatments and branded moisturizers, but a patient may have specific cultural views and practices that are important to understand in the context of creating a sustainable treatment regimen for that patient. In the SOC populations, clinicians should integrate skincare recommendations and prescription therapies with patient perspectives on skin care norms and priorities in treatment targets.

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AUTHOR CORRESPONDENCE

Anneke Andriessen PhD

E-mail:.....anneke.a@tiscali.nl