



Dermatologic Disparities: Essential Considerations in Patient Care



A brief review of dermatologic healthcare disparities in the lesbian, gay, bisexual, and transgender (LGBT) community and racial minority groups, including African Americans, Hispanics, and Asian/Pacific Islanders.

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➤➤ Healthcare disparities exist in all fields of medicine, including dermatology.¹ We define healthcare disparities as differences in healthcare access, quality of care, or outcomes that vary by sex, race, sexual orientation, age, socioeconomic status, and others.¹ This brief review focuses on dermatologic healthcare disparities in the lesbian, gay, bisexual, and transgender (LGBT) community and racial minority groups, including African Americans, Hispanics, and Asian/Pacific Islanders. All of these groups represent vulnerable populations subject to healthcare disparities due to insufficient knowledge of issues specific to these populations, not enough culturally-competent education in medical training, and low representation of these minority populations in clinical trials and other research studies.² This review begins by analyzing disparities faced by the LGBT community, and then outlines racial disparities in five common dermatologic conditions: atopic dermatitis, melanoma, hidradenitis suppurativa, melasma, and vitiligo.

LGBT DISPARITIES

More than 10 million people in the United States are members of the LGBT community.³ This makes up approximately three percent of the national population, and makes LGBT health an important public health focus. A recent comprehensive two-part review published in the *Journal of the American Academy of Dermatology* describes the most common dermatologic disparities present in the LGBT community, with two major categories being higher risk of infec-

tious dermatoses and side effects from hormone therapy in transgender patients.⁴

Some examples of disparities outlined in the study include:

- Men who have sex with men (MSM) have a higher risk of HIV, other STDs, and MRSA skin infections
- Transgender men undergoing transition have a high rate of acne vulgaris and androgenic alopecia
- The need for laser hair removal prior to gender-affirming surgeries.³

There are important factors affecting LGBT patients and patients with skin of color in the field of dermatology. These disparities are multifactorial and related to genetic differences, socioeconomic status, education level, language abilities, and environmental factors. Individuals who embody several of these identities may be at even higher risk of having poor outcomes, higher prevalence of disease, or increased severity of disease. Ideally, dermatologists will unite around their patients by continuing public education on skin exams and skin protection in various languages and for all skin types and work with primary care colleagues to enhance screening and referrals. The origin of dermatologic disparities is multifactorial; therefore the solution will need to be multifactorial, as well.

the**bottom**line

“ Another layer of complexity is added when examining the disparities in healthcare access in populations affected by AD. For example, non-Hispanic blacks had 33 percent lower odds of keeping follow-up appointments for their AD, and those who did access medical care had more ambulatory visits and filled more prescriptions than non-Hispanic whites.”

It is crucial to understand the appropriate terminology in order to gain trust and obtain a sexual history that may lead to quicker diagnoses and treatments. One tool for improving care for LGBT patients and those of racial minorities is emphasizing shared decision-making (SDM).⁵ This includes techniques such as providing private areas for triage and clinic visits, culturally competent verbiage in forms, and staff diversity in clinics.⁵

Additionally, being informed of new research studies focusing on vulnerable populations is important, as there is a documented lack of LGBT education in dermatology curriculum.⁶ We may continue making strides toward health equity for our LGBT patients by gaining patient trust through the use of appropriate word choice and thoughtful questions, research studies catered to this population, and promoting shared decision-making in the clinical setting.

ATOPIC DERMATITIS

Atopic dermatitis (AD) is an increasingly common condition estimated to affect more than 30 million children and adults of all colors in America, albeit with significant differences in prevalence, response to treatment, and molecular biology.^{7,8} In population studies, AD has been found to be more prevalent in African American and Asian/Pacific Islander individuals than Caucasians.^{9,10} This may be explained by increased inflammation due to higher affinity IgE receptors and decreased innate immune markers including Th1 and Th17 found in African Americans when compared to European Americans with the condition.¹¹ As Sanyal and colleagues discuss in their article, differences on the molecular level may begin to explain why African Americans don't respond to treatment exactly like other groups, and tend to require higher levels of corticosteroids, have a higher risk for hypopigmentation, and are more likely to need higher doses of cyclosporine and ultraviolet B phototherapy.

Similar studies examining Asians and Pacific Islander populations found a stronger Th17/Th22 response compared to that of Caucasians, leading to increased inflam-

mation and more pronounced presentation of AD, especially since it may present as more of a mix of AD and psoriasis in this population.^{9,12} Notably, the markers Th2, Th22, and IgE are all correlated with increased AD severity, and these are markers that are more common observed in African American and Asian populations.¹¹

In terms of presentation, African Americans have increased risk for post-inflammatory dyspigmentation and plaques on extensor surfaces instead of traditional flexor surfaces and have scattered distinct plaques, while patients with Asian heritage are more likely to have scaling and lichenification than Caucasians.⁹ Erythema, a clinical marker in atopic dermatitis less obvious in darker skin types, is commonly used in atopic dermatitis severity scoring tools, and this may lead to a delay in diagnosis and treatment in this population.¹³

Another layer of complexity is added when examining the disparities in healthcare access in populations affected by AD. For example, non-Hispanic blacks had 33 percent lower odds of keeping follow-up appointments for their AD, and those who did access medical care had more ambulatory visits and filled more prescriptions than non-Hispanic whites.¹⁴ Additionally, a literature review examining socioeconomic status and atopic dermatitis prevalence found that increased socioeconomic status was correlated with an increased prevalence of atopic dermatitis, however increased severity of disease was associated with lower socioeconomic status.¹⁵

Atopic dermatitis leads to both direct and indirect costs with appointment bills, medications, transportation, and psychological burden, making this a very expensive condition, especially for patients from lower socioeconomic households.¹⁵ The disparities in atopic dermatitis are due to a combination of genetic and environmental differences, thereby demonstrating a need for increasing the diversity in clinical trials in order to obtain personalized, evidence based treatment recommendations for patients.

MELANOMA

The disparities related to melanoma are quite striking.

// Alarming, the prevalence of physician skin exams varied by patient language abilities. A study surveyed 4,766 individuals who identified as Hispanic and found that patients who mostly or only spoke Spanish were almost three times less likely to report ever having had a physician skin examination compared to Hispanic patients who mostly or only spoke English."

Although 95 percent of cases are diagnosed in people with white or light skin,¹⁶ the remaining five percent of melanoma in African Americans and Hispanics have poorer prognosis due to diagnosis at more advanced stages and the subtype of melanoma.¹⁷ Multiple studies^{18,19} have found that the five-year survival rate in African Americans and Hispanics is much lower than that of Caucasians: 72-81 percent versus 90 percent.¹⁹ People of color diagnosed with melanoma tend to have the acral lentiginous subtype, which is more invasive.²⁰ A group of researchers proposed an educational intervention to address this disparity and found that education catered to manifestations of melanoma in ethnic skin versus traditional education that focused on melanoma in Caucasians showed a greater increase in skin self-examinations and knowledge of warning signs to watch out for.²¹ However, it is important to note that skin cancer disparities are due to more than just the pigmentation of skin. Chronic inflammation, immune responses, and genetic mutations such as BRAF and NRAS mutations being two times more likely in Caucasians than those with African ancestry also help explain the differences in risk between population groups.²²

Focusing on Hispanic populations, it has been found that they are about 20 percent less likely than non-Hispanics to perform skin self-examination.²³ Alarming, the prevalence of physician skin exams varied by patient language abilities. A study surveyed 4,766 individuals who identified as Hispanic and found that patients who mostly or only spoke Spanish were almost three times less likely to report ever having had a physician skin examination compared to Hispanic patients who mostly or only spoke

English.²⁴ These findings suggest that increasing the diversity of dermatologists and the diversity of the information delivered to patients may increase skin cancer detection by making patients feel more comfortable communicating with a provider who speaks their language and knows their cultural practices, and making them more mindful about what skin cancer may look like in their own skin type.²⁵

HIDRADENITIS SUPPURATIVA

Hidradenitis suppurativa (HS) is a chronic inflammatory condition that affects up to four percent of the US population²⁶ and in several studies in the US has been found to be more common in African American and Hispanic female patients.^{27,28,29} This may be due to these two populations being more likely to be obese, have metabolic syndrome, and smoke cigarettes, all of which are risk factors for the development of HS.²⁷ In a Dutch population, this disease was found to be associated with lower socioeconomic status.³⁰ Low socioeconomic status makes it difficult for families to buy fresh produce, and their neighborhoods may preclude them from exercising outside for safety reasons, thereby contributing to obesity and metabolic syndrome and ultimately dermatologic conditions such as acanthosis nigricans and HS. Patients that lack access to healthy foods and exercise are at increased risk for metabolic problems, and, ultimately, skin manifestations. It is the role of dermatologist to work alongside primary care providers to encourage lifestyle modifications, in addition to treating and researching the skin condition.

Anatomic and genetic differences also play a role in the differences in HS across ethnic groups. A study in the early 1900s concluded that people of African heritage had three times the amount of apocrine glands as compared to Caucasians, a finding that is striking and prompts further investigation.^{27,31} Few studies have looked at the genetic differences in patients affected by HS, and no trials to date have examined the efficacy of adalimumab, the only FDA approved systemic medication for the condition, across ethnic groups. This is important because African American women have been found to be more likely to fail medical treatment and undergo surgery for this disease.³²

MELASMA

Melasma is a common condition of hyperpigmentation primarily occurring on the face and other sun exposed areas. The national and worldwide prevalence is unknown, however many studies have found that it is more common in populations of Hispanic, African, and Asian/Pacific Islander descent, and pigmentation disorders overall are within the top five most common dermatologic con-

cerns.^{33,34,35} Melasma is influenced by hormones and is more likely to arise or worsen in pregnancy and in women taking oral contraceptives.^{36,37} All patients must be advised to use appropriate sun protection.

Treatment response varies by a patient's skin type. Patients with darker skin are at higher risk for post-inflammatory hyperpigmentation after laser therapy and further dyspigmentation and keloid formation following deep peel treatments.³⁵ In addition to patients' concerns about appearance, melasma greatly affects everyday life, including social interactions, health, and financial concerns.³⁸ Patients with melasma have higher rates of anxiety and depression and are more likely to take antidepressants than those without the condition.³³

Finally, the most prominent risk factor for melasma onset and exacerbation is sun exposure. One small cohort study looking at Puerto Rican women found that in all cases, mandibular melasma was exacerbated by sun exposure and led to hyperpigmentation on histology.³⁹ This finding suggests that communities closer to the equator, or more tropical locations, tend to have more risk factors for worsening melasma. Mahmoud and colleagues tested this concept and found that both visible light (400-700nm) and long-wavelength UVA1 (340-400nm) caused more prominent pigmentation in volunteers with darker skin (Fitzpatrick IV-VI), than those with skin type II, suggesting that even broader-spectrum sunscreens should be recommended, including those with iron oxide, as a tint to help block visible light.⁴⁰ Sun protection, thus, is every bit as important for patients with skin of color: in addition to increasing the risk of skin cancer, sun exposure also plays a critical role in pigmentary disorders.

VITILIGO

Whereas melasma represents the overproduction of pigmentation, vitiligo presents as the opposite problem: no pigmentation at all. Vitiligo affects about one percent of the population; incidence does not vary by skin color, and it affects men and women equally.⁴¹ The pathogenesis of vitiligo remains controversial, however a common theory supports an autoimmune origin, since many patients with vitiligo are also diagnosed with autoimmune diseases, especially those involving the thyroid.⁴² These factors add to



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the burden of disease, which has been studied in patients with vitiligo. A national study by the American Academy of Dermatology was completed using 2013 claims data to examine the burden of disease in various skin diseases. The medical costs for vitiligo were calculated at \$49 million and lost productivity of \$6 million.⁴³ Although this was on the lower end of the spectrum compared to the other skin diseases studied, it still demonstrates the very real financial burden posed by this disease. Patients with darker skin types tend to fail conservative treatments and are more likely to need phototherapy, which can be more expensive and time-consuming.⁴⁴

That being said, some may argue that the psychosocial burden of vitiligo is even more salient. Across ethnicities, patient vignettes on the effect of this disease show themes of low self-esteem, grief, and humiliation that affect every day life. There is not a consensus on the effect of skin color on psychosocial burden from vitiligo. Several studies demonstrate that patients with darker skin types (Middle Eastern, Caribbean, and Indian heritage) perceived greater burden compared to lighter-skinned individuals,⁴⁵ and another claimed that African Americans experience loss of racial identity,⁴⁶ yet the overall stress associated with vitiligo was the same across ethnic groups in more recent works.⁴⁷ The burden of disease in vitiligo is significant across every group, and dermatologists need to keep psychosocial factors in mind when treating all patients with vitiligo.

CONCLUSION

There are important factors affecting LGBT patients and patients with skin of color in the field of dermatology.

These disparities are multifactorial and related to genetic differences, socioeconomic status, education level, language abilities, and environmental factors. Individuals who embody several of these identities may be at even higher risk of having poor outcomes, higher prevalence of disease, or increased severity of disease. Ideally, dermatologists will unite around their patients by continuing public education on skin exams and skin protection in various languages and for all skin types and work with primary care colleagues to enhance screening and referrals. Increasing diversity among practicing dermatologists may also help to combat these disparities.

Any dermatologist can become more knowledgeable about these issues by joining the Skin of Color society, whose mission to educate both providers and patients on issues related to the wellbeing of skin of color⁴⁸ as well as becoming comfortable with the appropriate terminology to use with LGBT patients and knowing what questions to ask. There is also a need to increase diversity of enrollment in research trials, and make them more representative of the populations most affected by each condition in order to ultimately have evidence-based treatment recommendations for each skin type and identity. The origin of dermatologic disparities is multifactorial; therefore the solution will need to be multifactorial as well. ■

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