

Epidemiology of Skin Diseases in People of Color

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The epidemiology of skin diseases in people of color has not been extensively studied. Many skin diseases (eg, acne vulgaris; eczematous dermatitis; infections caused by bacteria, fungi, or viruses) are common to most people of color—blacks, Asians, Hispanics/Latinos, and Native Americans. Diseases of more cosmetic concern (eg, melasma, postinflammatory pigmentation, acne keloidalis nuchae, scalp and facial folliculitis, keloids, alopecias) occur more in skin of color than in white skin.

The epidemiology of skin diseases in people of color has not been extensively studied. Instead, our understanding of these diseases has been gleaned from dermatology practice surveys and from dermatologists' published reports of their clinical experience in treating skin of color.¹ This understanding of epidemiology is important in advancing therapies for the diseases and in allocating resources to dermatologic education and research. In the dermatology literature are reports of several surveys conducted for black and Asian adults and children in private and clinic practice populations.²⁻⁸ Similar survey reports are lacking for Hispanics/Latinos and Native Americans.

Blacks

Six practice population surveys have been conducted for cutaneous diseases in black adults.^{2,4-8} First, in a 1908 survey, Fox² compared cases of skin disease in 2200 blacks and 2200 whites. The 12 leading diseases in blacks were syphilis (595 blacks [B], 279 whites [W]), eczema (521 B, 490 W), scabies (170 B, 243 W), impetigo contagiosa (154 B, 197 W),

acne vulgaris (101 B, 163 W), urticaria (62 B, 38 W), tinea capitis (56 B, 17 W), dermatitis (50 B, 89 W), herpes zoster (31 B, 28 W), seborrheic dermatitis (28 B, 28 W), pruritus senilis (22 B, 11 W), and pediculosis corporis (20 B, 15 W). Six of these diseases are infectious; the other 6 are inflammatory.

Hazen^{5,6} conducted 2 surveys—the first, in 1914, studied 2000 blacks and whites, and the second, in 1935, studied 11,729 blacks. Excluding syphilis, which was epidemic at the time, the diseases in the 2 surveys are quite similar. The 1914 study reported the following conditions: acne vulgaris (162 B, 180 W), scabies (211 B, 136 W), urticaria (125 B, 82 W), tinea tonsurans (81 B, 32 W), eczema (75 B, 78 W), eczema papulosum (71 B, 70 W), and impetigo contagiosa (53 B, 78 W). Half the diseases Hazen identified as occurring commonly in US blacks in 1935—eczema, acne vulgaris, tinea versicolor, urticaria, contact dermatitis, verrucae vulgaris—were identified as common in a survey conducted by Halder et al⁴ in 1983. Hazen⁶ also listed diseases that appeared to be unique to blacks, although the conditions were not in the top 10 diagnoses for blacks: chloasma (melasma), cicatrices, dermatitis papillaris capillitii (acne keloidalis nuchae [AKN]), dermatosis papulosa nigra, dermatitis vegetans, erythema ab igne, fibroma, granuloma inguinale, tinea tonsurans, keloids, pellagra, tinea corporis, pityriasis faciei, pyoderma, scabies, miliaary tuberculosis, tuberculosis, and vitiligo. Of these disorders, melasma, AKN, keloids, and vitiligo continue to be the most common in blacks.

The fourth survey, written by Kenney⁷ in 1965, tabulated the 12 most common dermatoses occurring among 3860 black patients treated in his Cleveland, Ohio, private practice in 1961. Kenney compared his diagnoses with those reported in 1960 by Welton⁹ for 27,000 white patients. (Welton gathered data from 50 dermatologists throughout the United States.) The diagnoses compiled by Kenney and Welton included atopic dermatitis (11.7% B, <3.0% W), fungal infections (10.8% B, 5.4% W), acne vulgaris (9.1% B, 18.0% W),

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Table 1.

Common Dermatologic Diseases Among US Whites, US Blacks, and UK Blacks*

US Whites ¹⁰	US Blacks ⁴	UK Blacks ⁸
Acne vulgaris	Acne vulgaris	Acne vulgaris
Psoriasis	Eczema	Acne keloidalis nuchae/ scalp folliculitis
Nonmelanoma skin cancer (basal cell carcinoma, squamous cell carcinoma)	Pigmentary disorders other than vitiligo	Eczema
Verrucae vulgaris	Seborrheic dermatitis	Psoriasis
Dermatitis	Alopecias	Keloids
	Fungal infections	Pityriasis versicolor
	Contact dermatitis	Postinflammatory hyperpigmentation
	Verrucae vulgaris	Alopecia areata
	Tinea versicolor	Dermatofibroma
	Keloids	Urticaria
	Pityriasis rosea	Pityriasis rosea
	Urticaria	Lichen simplex

*Listed in order of incidence.

pityriasis rosea (5.9% B, <3.0% W), eczematoid dermatitis (5.5% B, 7.0% W), pyoderma (5.5% B, 3.7% W), seborrheic dermatitis (5.2% B, 3.3% W), dermatitis venenata (4.7% B, 8.0% W), urticaria (2.5% B, <3.0% W), warts (2.0% B, 6.3% W), drug eruption (1.6% B, 3.0% W), and vitiligo (1.6% B, <3.0% W). Kenney also listed the diseases he found occurring frequently in blacks; these diseases included pigmentary changes (hypopigmentation, hyperpigmentation), dermatosis papulosa nigra, pseudofolliculitis of the beard, dermatitis papillaris capillitii, and perifolliculitis abscedens et suffodiens (dissecting cellulitis of the scalp).⁷ All these diseases remain common in blacks.

In the fifth survey, published in 1983, Halder et al⁴ tabulated the 12 most common diagnoses of 2000 black patients in a private practice in Washington, DC. These diagnoses were compared with 550 white patients' diagnoses derived from a private practice in the same geographic area. The diagnoses included acne vulgaris (27.7% B, 29.5% W), eczema (20.3% B, 10.7% W), pigmentary disorders other than vitiligo (9.0% B, 1.7% W), seborrheic dermatitis (6.5% B, 1.8% W), alopecias (5.3% B), fungal infections

(4.3% B, 1.1% W), contact dermatitis (4.2% B, 2.2% W), verrucae vulgaris (3.1% B, 8.4% W), tinea versicolor (2.4% B, 0.2% W), keloids (2.2% B), pityriasis rosea (2.1% B), and urticaria (2.0% B, 1.2% W)(Table 1). As noted earlier, many of the cutaneous diseases reported in the various surveys for blacks have remained the same throughout the 20th century; these diseases include acne vulgaris, eczema, seborrheic dermatitis, fungal infections, urticaria, contact dermatitis, and warts. Furthermore, the survey results of Halder et al⁴ showed a new trend—more blacks pursuing dermatologic care for diseases of more cosmetic concern (eg, pigmentary disorders, alopecias, keloids).

In 1996, Child et al⁸ conducted the sixth survey. They reported diagnoses from 274 consecutive black (African, Afro Caribbean, mixed-race) adult patients treated at the dermatology clinic at King's College Hospital in London, England. The 12 most common cutaneous diagnoses were acne vulgaris (13.7%); AKN/scalp folliculitis (13.7%); eczema (9.6%); psoriasis (4.8%); keloids (4.1%); pityriasis versicolor (3.8%); postinflammatory hyperpigmentation (3.4%); alopecia areata (3.1%); dermatofi-

broma (2.7%); and urticaria, pityriasis rosea, and lichen simplex (1.7% each)(Table 1). Seven of these diagnoses—acne vulgaris, AKN/scalp folliculitis, eczema, psoriasis, keloids, pityriasis versicolor, and postinflammatory hyperpigmentation—made up more than 50% of the dermatoses encountered. Despite differences in geographic location and number of patients, 9 of the 12 diagnoses in the survey by Child et al⁸ overlap diagnoses in the survey by Halder et al⁴—acne vulgaris, eczema, pigmentary disorders, alopecias, fungal infections, tinea versicolor, keloids, pityriasis rosea, and urticaria.

In summary, published survey results have shown a wide spectrum of skin diseases in black adults. Results from at least 3 of the 6 surveys of diagnoses in black adults have placed acne vulgaris, eczema, fungal infections, urticaria, scabies, impetigo, seborrheic dermatitis, contact dermatitis, and verrucae vulgaris on the list of 12 leading cutaneous diseases. By contrast, results from a survey of diagnoses in US whites placed acne vulgaris, psoriasis, non-melanoma skin cancer (basal cell carcinoma, squamous cell carcinoma), verrucae vulgaris, and dermatitis on the list of most commonly treated dermatologic diseases (Table 1).¹⁰ In addition, results of surveys conducted in the second half of the 20th century showed a trend toward reporting more diseases of more cosmetic concern (eg, acne vulgaris, pigmentary disorders, alopecias, AKN/scalp folliculitis, keloids).

Two surveys of cutaneous diseases in the black pediatric population have been reported.^{8,11} In Miami, Florida, Schachner et al¹¹ reported diseases in 1016 black children and 562 white children. Of the 2043 cases reported, the 6 most common diagnoses were atopic dermatitis (73.4% B, 26.6% W), impetigo (84.6% B, 15.4% W), tinea capitis (90.0% B, 10.0% W), acne vulgaris (49.3% B, 50.7% W), verrucae vulgaris (37.4% B, 62.6% W), and seborrheic dermatitis (73.2% B, 26.8% W). Child et al⁸ surveyed 187 consecutive black children at King's College Hospital in London. The 7 most common diagnoses were atopic eczema (36.5%), tinea capitis (26.5%), pityriasis alba (3.7%), viral warts (3.7%), keloids (2.6%), molluscum contagiosum (2.1%), and alopecia areata (2.1%). In the black pediatric population, atopic dermatitis and 2 infectious diseases, tinea capitis and verrucae vulgaris, were the 3 leading diagnoses reported in the surveys by Schachner et al¹¹ and Child et al.⁸

Asians

Results of a survey of 74,589 Asian adults treated at the National Skin Centre in Singapore showed the spectrum of disease in this population.¹² Of these

patients, 77.2% were Chinese, 9.9% were Indian, 7.6% were Malay, and 5.3% were other races. The 11 most common diagnoses were dermatitis (34.1%), acne vulgaris (10.9%), viral infections (5.7%), fungal infections (5.4%), urticaria (4.7%), contact dermatitis (4.7%), psoriasis (3.3%), bacterial infections (3.0%), alopecias (2.4%), nonvenomous insect bites (2.3%), and postinflammatory hyperpigmentation (1.9%)(Table 2).

Other reports in the literature and observations made by practicing dermatologists indicate that several other diseases occur in Asian populations. Chloasma (melasma) is thought to be common, but prevalence data are scant.¹³ Lichen amyloidosis reportedly is more common in Chinese people than in other ethnic groups.¹⁴⁻¹⁶ Photodamage, another common cutaneous problem in the Far East, occurs in various patterns within Asian groups.¹⁷⁻²⁰

Items on a list of traditional Korean treatments are clues to some skin disorders common among Koreans.²¹ Korean spa waters are used for psoriasis and eczema. Three healing methods are used for vitiligo. Medicated pastes are used for furunculosis. Topical applications and certain teas are used for warts. Urine (containing the active ingredient urea) is used for dry skin conditions including keratosis pilaris, atopic dermatitis, ichthyosis, xerosis, and chapped skin.

The epidemiology of skin diseases in Asian populations is gleaned from survey data and published reports of clinical experience. Asians are similar to blacks in that diseases such as acne vulgaris; dermatitis; urticaria; contact dermatitis; and fungal, viral, and bacterial infections are common. Diseases of more cosmetic concern (eg, alopecias, photodamage, chloasma, postinflammatory pigmentation) also occur in Asians.

Skin diseases in Asian pediatric populations treated at the National Skin Centre in Singapore were also the subject of a retrospective clinical survey.³ Survey results showed that, among 9273 children, the 11 most common diagnoses were eczema (49.3%), viral infections (6.5%), pigmentation disorders (5.5%), bacterial infections (4.9%), insect bites (4.8%), parasitic infections (3.8%), urticaria (3.8%), acne vulgaris (3.1%), fungal infections (2.5%), alopecias (1.8%), and psoriasis (1.1%). Eczema seems to be the most common skin disease in Asian pediatric populations.

Hispanics/Latinos

The epidemiology of skin diseases in Hispanics/Latinos has not been formally monitored. Results of a survey (M. Sanchez, MD, unpublished data) show that the cutaneous diseases that commonly affect

Table 2.

Common Dermatologic Diseases Among Asians, Hispanics/Latinos, and Native Americans*

Asians ¹²	Hispanics/Latinos [†]	Native Americans ²⁸
Dermatitis	Acne vulgaris	Impetigo
Acne vulgaris	Eczema	Verrucae vulgaris
Viral infections	Verrucae vulgaris	Nevi
Fungal infections	Postinflammatory hyperpigmentation	Seborrheic keratoses
Urticaria	Melasma	Head lice
Contact dermatitis	Erythema dyschromicum perstans	Acne vulgaris
Psoriasis	Actinic prurigo	Vitiligo
Bacterial infections	Hermansky-Pudlak syndrome	Atopic dermatitis
Alopecias	Skin cancer	Molluscum contagiosum
Nonvenomous insect bites		Erythema nodosum
Postinflammatory hyperpigmentation		

*Listed in order of incidence.

†M. Sanchez, MD (unpublished data).

Hispanics/Latinos also commonly affect the general population—acne vulgaris, eczema, warts, and fungal infections (Table 2). In addition, pigmented basal cell carcinomas are more common in Hispanics than in non-Hispanics.²² Malignant melanoma occurs in both southeastern and southwestern US Hispanics.^{23,24} According to 1988–1993 California Cancer Registry data, age-adjusted rates of malignant melanoma incidence were highest for non-Hispanic whites, lowest for blacks and Asians, and intermediate for Hispanics.²⁵

Several skin diseases that are uncommon in the general population seemingly have a predilection for Hispanics/Latinos. Hermansky-Pudlak syndrome, a form of oculocutaneous albinism associated with excessive bleeding and ceroid storage, primarily affects Puerto Ricans. Erythema dyschromicum perstans or ashy dermatosis—an idiopathic disorder marked by an ashy hypermelanosis—has been reported in San Salvador, Venezuela, Colombia, Mexico, northern Europe, and the United States.

Among Hispanics/Latinos, pigmentary disorders (eg, melasma, postinflammatory hyperpig-

mentation) are of significant concern.²⁶ Sanchez²⁷ indicated that pigmentary disorders are the third most frequently occurring dermatologic problem in this population. The incidence of melasma in Hispanics/Latinos is as high as 80% (in pregnant Mexican women). Likewise, postinflammatory hyperpigmentation, the result of either various inflammatory diseases or cutaneous injury, is commonly treated by dermatologists serving Hispanics/Latinos.

Native Americans

The epidemiology of skin diseases in Native Americans has not been formally studied or monitored. As with other people of color, the spectrum of diseases in Native Americans is discerned from reports in the literature and from observations made by practicing dermatologists. In 1958, Goldman,²⁸ practicing on a Navaho reservation, reported treating impetigo, verrucae vulgaris, nevi, seborrheic keratoses, head lice, acne vulgaris, vitiligo, atopic dermatitis, molluscum contagiosum, and erythema nodosum, among other diseases (Table 2). Frequently reported

in Native Americans are photodermatoses, which include hereditary polymorphic light eruptions, familial polymorphous light eruptions, and actinic prurigo.^{29,30} Collagen vascular disease, particularly systemic sclerosis (scleroderma), also has been reported.³¹ Acanthosis nigricans was found in 38% of the Alabama-Coushatta tribe of Texas and in 19% of Omaha and Winnebago tribal children.³²

Conclusion

The spectrum of cutaneous diseases occurring in people of color is broad. Many skin diseases (eg, acne vulgaris; pigmentary disorders; eczematous dermatitis; infections caused by bacteria, fungi, or viruses) are common to most people of color—blacks, Asians, Hispanics/Latinos, and Native Americans. Over recent years, diseases of more cosmetic concern—pigmentary disorders (eg, melasma, postinflammatory pigmentation), AKN/scalp and facial folliculitis, keloids, alopecias, and photoaging—have emerged. Identification of cutaneous diseases affecting these rapidly growing populations will help us to focus our research and clinical resources appropriately.

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