

Report

A survey of self-reported skin disease in the elderly African-American population

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Funding: None.

Conflicts of interest: None.

doi: 10.1111/ijd.12520

Abstract

Background In the USA, the geriatric population, almost 12% of which will be comprised of African-Americans, is expected to exceed 88 million by 2050. Data on dermatologic conditions in elderly African-Americans are deficient.

Objectives This study aimed to identify prevalences of self-reported skin disease and skin-related concerns in elderly African-Americans, and to assess participants' perceptions of skin disease and awareness of skin cancer.

Methods Elderly African-Americans were recruited into a cross-sectional study and asked to complete a 17-item questionnaire.

Results A total of 101 participants aged 60–91 years (median age: 71 years) completed the questionnaire. The majority (75.2%) of the subjects were female. The most common self-reported skin diseases were eczema/dermatitis (28.7%), fungal skin infections (16.8%), alopecia (6.9%), viral skin infections (4.9%), and urticaria (4.9%). The most common skin concerns were dry skin/pruritus (40.6%), moles (27.7%), hair loss (25.7%), skin discoloration (20.8%), and wrinkles (15.8%). Overall, 40.6% of participants reported concern about skin cancer, and 75.2% reported examining their skin regularly. However, 34.7% did not believe that people with darker skin types should be concerned about skin cancer.

Conclusions This study provides an important overview of the most common self-reported skin conditions in elderly African-Americans. Substantial age-related differences in the frequencies of skin disorders were apparent. It is important to include the elderly population within campaigns to educate minority group members on skin cancer.

Introduction

The population of the USA has undergone major demographic shifts in the last several decades. Most notably, there has been a rapid rise in the elderly population. Not only is the elderly population steadily increasing, but it is growing at a rate faster than that of the general population.¹ This change in the demographic profile is not limited to age as there are major shifts occurring in the racial and ethnic compositions of the population. According to the US Census Bureau, the geriatric population is expected to exceed 88 million by 2050, and nearly 12% of the geriatric population will be comprised of African-Americans.² Unfortunately, research in the field of geriatric medicine, specifically geriatric dermatology, has failed to keep pace with the growth in this patient population. Even more limited, if not completely deficient, are data on dermatologic conditions faced by elderly African-Americans.

The elderly population is commonly afflicted with skin disease. This is attributable to both the intrinsic effects of

aging, which include progressive degenerative changes, as well as extrinsic damage caused by the cumulative effects of ultraviolet light exposure, smoking, and other environmental irritants.³ In addition, elderly patients have an increased vulnerability to skin disease owing to their heightened risk for chronic illnesses, polypharmacy, and inadequate nutrition.³ A number of studies have identified prevalences of dermatologic findings in the elderly patient population.^{4–6} Additionally, a number of studies and review papers on the epidemiology of skin disease in the African-American population have been published.^{7–11} These introduce prevalence data for the most common diseases found in non-White subjects with darker skin types, as well as differences in their characteristic clinical presentations.^{7–11} Surprisingly, not one of these papers addressed the skin conditions faced specifically by elderly African-American patients.

Clearly, there is a paucity of dermatoepidemiologic data for the elderly African-American population. Because this minority subgroup is rapidly growing, it is important

to fill some of these gaps in the data. There were several objectives to the present study. The first objective was to identify the prevalences of self-reported skin disease and skin-related concerns in elderly African-Americans. The second objective was to gain insight into patient perceptions of skin disease and its effect on the seeking of medical care. Lastly, this study sought to assess participants' knowledge and awareness of skin cancer.

Materials and methods

African-American senior citizens were recruited from a senior community center in Detroit over a 2-month period. A total of 101 self-identified African-American participants, aged 60–91 years, agreed to partake in this cross-sectional study. Participation in the study involved the completion of a single 17-item survey questionnaire. The study was approved by the Institutional Review Board of Wayne State University (IRB protocol no. 1009008851).

All survey questions were developed with the aim of maximizing their clarity and participant understanding. The survey was not pretested in a pilot sample; however, an investigator was present at all times to answer questions. After participants had provided informed consent, they were asked to complete the survey questionnaire. They were instructed to complete the survey in its entirety and given the opportunity to ask questions of a supervising investigator if they needed clarification on any element of the questionnaire. It took participants approximately 10–15 minutes to complete the questionnaire. Specific components of the survey included demographic information, participant knowledge of previous dermatologic diagnoses, skin complaints, dermatologic care-seeking patterns, barriers to receiving dermatologic care, and skin cancer awareness.

Results

Sample characteristics

A total of 101 participants aged 60–91 years successfully completed the questionnaire and were included in the analysis. Demographic data on the participants, including age, sex, education level, and annual household income, are shown in Table 1. The majority (75.2%) of the study subjects were female. The median age of participating subjects was 71 years. Their median level of education was a high school diploma. All participants had completed schooling to at least eighth grade. The median annual household income was ≤ US\$20 000.

Self-reported dermatologic diagnoses and dermatologic concerns

The most common self-reported skin diseases diagnosed in the past by a dermatologist or primary care physician

Table 1 Demographic data on study participants ($n = 101$)

	Subjects, n (%)
Sex	
Male	25 (24.8)
Female	76 (75.2)
Age group, years	
60–70	49 (48.5)
71–80	32 (31.7)
81–91	20 (19.8)
Highest level of education	
Middle school/some high school	13 (12.9)
High school diploma	52 (51.5)
College degree	28 (27.7)
Postgraduate degree	8 (7.9)
Annual household income level	
≥ US\$40,000	19 (18.8)
≤ US\$40,000	10 (9.9)
≤ US\$30,000	13 (12.9)
≤ US\$20,000	59 (58.4)

were eczema/dermatitis (28.7%), fungal skin infections (16.8%), alopecia (6.9%), viral skin infections (4.9%), and urticaria (4.9%) (Table 2). Only one participant had been previously diagnosed with skin cancer (specifically basal cell carcinoma). A large percentage of participants (45.7%) had never been diagnosed with a skin condition by a physician. In response to questions on specific concerns related to the skin, 69.3% of participants reported at least one concern. Most participants recorded multiple skin concerns. The most common skin concerns were dry skin/pruritus (40.6%), moles (27.7%), hair loss (25.7%), skin discoloration (20.8%), and wrinkles (15.8%) (Table 3). Female and male participants reported an average of 1.5 and 1.3 skin complaints per person, respectively. There were no significant differences in the

Table 2 Prevalences of skin diseases in the study population ($n = 101$)

	Subjects, n (%)
Eczema/dermatitis	29 (28.7)
Fungal skin infection	17 (16.8)
Alopecia	7 (6.9)
Viral skin infection	5 (4.9)
Urticaria	5 (4.9)
Keloid	3 (2.9)
Pseudofolliculitis barbae	2 (1.9)
Bacterial skin infection	2 (1.9)
Psoriasis	1 (0.9)
Seborrheic dermatitis	1 (0.9)
Lupus	1 (0.9)
Rosacea	1 (0.9)
Basal cell carcinoma	1 (0.9)

Table 3 Prevalence of skin complaints in the study population ($n = 101$)

	Subjects, n (%)
Dry skin/pruritus	41 (40.6)
Moles	28 (27.7)
Hair loss	26 (25.7)
Skin discoloration	21 (20.8)
Wrinkles	16 (15.8)
Facial hair	14 (13.9)
Rashes	14 (13.9)

number of skin complaints reported among the different age groups.

Prior visits to a dermatologist

A total of 45.5% of participants reported having seen a physician for a skin concern in the past, and 28.7% of participants had specifically consulted a dermatologist. Of those reporting a past visit to a dermatologist, 41.0% currently see a dermatologist on a regular basis. Participants were also questioned on whether they had experienced any barriers in scheduling an appointment; 82.7% reported no difficulties in attaining dermatologic care.

Patterns of dermatologic care seeking

The majority of participants (69.3%) reported at least one skin-related concern in the questionnaire. However, only 28.7% of participants stated that they had seen a dermatologist in the past. Of the skin concerns listed (dry skin/pruritus, rashes, moles, skin discoloration, facial hair, redness, wrinkles, hair loss), rashes and dry skin emerged as the most likely reasons for consulting a physician and were cited by 20.8% and 17.8% of participants, respectively. The majority (71.3%) of the study subjects reported that they would not consult a physician for any of the skin concerns listed above.

Perceptions of skin cancer

Overall, 40.6% of participants reported concern about developing skin cancer. When asked how often they examined their own skin for changes to moles or the development of any new skin condition, 75.2% of participants reported examining their skin on a daily, weekly, or monthly basis. Of note, 17.8% of participants reported that they never examined their own skin. Of those who reported never examining their skin, 66.6% were not concerned about developing skin cancer. Furthermore, 34.7% of participants did not believe that people with darker skin types, including African-Americans, should be concerned about developing skin cancer.

Discussion

The elderly African-American subgroup constitutes a growing fraction of the US population. To date, this is the only survey-based study on skin disease to specifically target the elderly African-American population. One of the objectives of this study was to provide data on the prevalences of skin diseases in African-American patients over the age of 60 years. Previous studies of skin disease in African-American populations have identified acne vulgaris, eczema, pigmentary disorders, seborrheic dermatitis, alopecias, fungal infections, contact dermatitis, warts, tinea versicolor, keloids, pityriasis rosea, and urticaria as the most common diagnoses (Table 4).^{4,10,11} These findings are similar to the data that emerged in the present study, but there are notable differences in the order of frequency. In the current study, dermatitis/eczema emerged as the most common self-reported dermatologic diagnosis. Although acne is the dermatologic diagnosis most commonly found in several epidemiologic studies of subjects with darker skin types, including African-Americans,⁷⁻¹¹ Arab Americans,¹² and Hispanic populations,¹³ it is not a disease of the elderly population.

Previous studies have also identified pigmentary disorders as commonly affecting African-American skin types.⁷⁻¹¹ However, none of the subjects in the present study had been diagnosed with a pigmentary condition by a physician. Despite the absence of diagnoses of pigmentary conditions, a significant number of participants were concerned about skin discoloration. Post-inflammatory hyperpigmentation and hypopigmentation are common complications of several inflammatory conditions in darker skin types.⁸ This is thought to reflect the increase or decrease of the melanogenic function of the melanocyte

Table 4 Published studies describing most frequent diagnoses in African-American or elderly patients

Alexis <i>et al.</i> ¹⁰	Halder <i>et al.</i> ¹¹	Beauregard & Gilchrist ⁴
Acne	Acne vulgaris	Actinic keratosis
Dyschromia	Eczema	Tinea pedis
Contact dermatitis and other eczema	Pigmentary disorders	Contact dermatitis
Alopecia	Seborrheic dermatitis	Seborrheic dermatitis
Seborrheic dermatitis	Alopecias	Stasis dermatitis
Lesion of uncertain behavior	Fungal infections	Skin cancer
Hirsutism	Contact dermatitis	
Folliculitis	Warts	
Atopic dermatitis	Tinea versicolor	
Keloids	Keloids	
	Pityriasis rosea	
	Urticaria	

by inflammatory mediators, a process that makes darkly pigmented skin more susceptible to post-inflammatory pigmentary changes.^{14,15} Given that dermatitis/eczema represented the most common self-reported diagnosis in our participants, it is likely that post-inflammatory hyper- and hypopigmentation correlate to the high frequency of participants reporting skin discoloration as a concern.

A number of studies have investigated the frequencies of geriatric dermatoses. Tindall and Smith⁶ surveyed 163 White and Black volunteers and found lax skin in 94%, seborrheic keratoses in 88%, dermatophytosis in 79%, and asteotosis in 77% of participants. This is similar to our findings of xerosis as the most common skin concern (40.6%) among participants and of fungal skin infections as the second most common self-reported diagnosis (16.8%). None of our participants reported a diagnosis of seborrheic keratosis; however, several participants reported concern about moles. Because the present study did not include a clinical assessment by a dermatologist, it is unclear whether participants who reported moles as a skin concern were referring to nevi, seborrheic keratoses on the body, or dermatosis papulosa nigra.

In another survey study of the elderly population, Beauregard and Gilchrist⁴ enrolled 68 non-institutionalized volunteers aged 50–91 years in a study that included the administration of a 33-item questionnaire followed by a cutaneous examination. They found that two-thirds of their participants reported medical concerns about their skin and that pruritus was the most frequent complaint.⁴ The skin conditions identified most frequently by cutaneous examination were actinic keratoses, tinea pedis, contact dermatitis, seborrheic dermatitis, stasis dermatitis, and skin cancer.⁴ Similarly, pruritus was a common skin concern in the present participants, and dermatitis and fungal infections represented the two most common self-reported diagnoses. A notable difference concerns the number of actinic keratoses and skin cancers found in previous studies of elderly patients. In the present study population, this difference may be explained by the increased protection of melanin against photodamage in darker skin types.

Another aim of the current study was to gain a better understanding of participants' perceptions of skin diseases and their effects on the seeking of medical care. Beauregard and Gilchrist⁴ noted that despite the high prevalence of dermatologic concerns in their study, very few subjects had consulted a physician for these concerns. In the present study, 69.3% of participants reported the presence of at least one skin-related concern in the questionnaire, but only 28.7% reported that they had seen a dermatologist in the past. The majority (71.3%) of participants reported that they did not think it was necessary to consult a dermatologist for their skin concerns. Most participants

reported that any future consultation with a dermatologist would most likely be related to the evaluation of a rash or dry skin. The present study did not directly question participants for the exact reasons why they did not find it necessary to seek the care of a dermatologist for skin concerns. These reasons may refer to costs or to the fact that patients do not find skin-related concerns to be as pressing as other health complaints, but future studies might explore this issue further. Surprisingly, very few participants reported barriers to seeking dermatologic care. Of those reporting difficulty in accessing dermatologic care, lack of health insurance coverage, cost of out-of-pocket payments, and transportation were the most common barriers reported.

Finally, this study sought to assess participants' knowledge and awareness of skin cancer. Only 40.6% of participants were concerned about developing skin cancer, and 34.7% of all participants surveyed did not believe people with darker skin types, including African-Americans, should be concerned about developing skin cancer. Although skin cancer is less common in some ethnic skin types, several studies have shown that skin cancer in ethnic minorities is associated with greater morbidity and mortality.^{16–18} A number of factors affecting the stage of melanoma at presentation have been identified, including skin cancer awareness, cultural beliefs, health literacy, and access to care.^{19,20} As a result of these findings, several studies have been initiated to identify the level of skin cancer awareness in ethnic minority groups in order to ascertain ways of enhancing educational campaigns that target ethnic minorities.²⁰ A study comparing the level of skin cancer awareness in minority group patients and patients of White European extraction showed that minority groups (including African-American, Hispanic, Asian and other minority groups) had lower levels of skin cancer awareness than White groups.²¹ However, this study also found that more African-American than Asian or Hispanic patients believed skin cancer could occur in darker skin types.²¹

Although campaigns to educate minorities on skin cancer are improving, it is important to include the elderly population within these campaigns. It is hoped that this will be achieved in the future by reaching out to churches, as well as to community centers for senior citizens. As only a small percentage of our participants had consulted a dermatologist, skin self-examinations and educational materials on skin cancer should also be emphasized at primary care visits.

This study provides an important overview of the most common self-reported skin conditions and skin concerns afflicting the elderly African-American population. Although prevalences of these skin diseases show several similarities with those in African-American individuals

across all age groups, important age-related differences in the frequencies of skin disorders were apparent.

The present study is subject to a few important limitations. Firstly, its data were collected from a single site consisting of a senior citizens community center in Detroit, Michigan. Although the community center attracted senior citizens from several suburbs in the Detroit area, this sample may not be representative of the broader elderly African-American population. Sampling at a single site also creates the possibility of selection bias. Therefore, future studies involving multiple study locations and larger sample sizes may provide more representative data. A second limitation of the study was that the questionnaire was not pretested in a pilot sample. Another limitation concerns the fact that data on the prevalences of skin conditions were obtained from self-reported diagnoses by the study subjects. Only 45.5% of the study subjects had seen a physician for their skin condition or concern, and therefore the majority of participants might have had undiagnosed dermatologic findings. This study structure affords the potential for the wrongful selection of diagnoses by participants and for the missing of dermatologic findings that might have been revealed in a cutaneous examination. This could be corrected in future studies by including a clinical examination by a dermatologist.

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