

# The spectrum of skin diseases seen in a Jamaican tertiary academic medical center



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**Background:** The diversity of skin diseases seen in a dermatology clinic varies with the composition of the population.

**Objective:** The aim was to document the spectrum of cutaneous disorders seen and the variation with sex, age, and seasons.

**Methods:** This was a retrospective study on new patients attending an academic dermatology clinic in Jamaica during 2018. Disease frequencies and prevalence by sex, seasons, and age group were recorded.

**Results:** There were 547 new patients with 329 females (60%) and 218 males (40%). The mean age was 36.8 years, ranging from 2 weeks old to 103 years old. The largest number of patients were in the third decade (20-29 years) (n = 139). More patients presented in the dry season and in spring and summer. The most common diagnoses were: seborrheic dermatitis (n = 65, 11.9%), acne (n = 56, 10.2%), and contact dermatitis (n = 38, 6.9%). The most common disease groups were dermatitis (n = 161, 29.4%), infections (n = 130, 23.8%), and inflammatory disorders (n = 129, 23.6%).

**Limitations:** The generalizability of our findings may be limited, and selection bias may play a role in patients choosing to attend an academic dermatology clinic.

**Conclusions:** Skin diseases varied with age, sex, and season with seborrheic dermatitis being most common. (JAAD Int 2021;4:59-64.)

## INTRODUCTION

In a hospital-based dermatology practice, one sees a wide spectrum of skin disorders with a mixture of simple cases and more complex diagnoses requiring admission. As a result of the number of referred cases from other hospital-based specialties, there is an opportunity to see rare and unusual mucocutaneous disorders that are manifestations of diseases occurring elsewhere in the body. Patients tend to be of all age groups and both sexes.

Studies on clinic attendance and diagnoses have been done in a variety of dermatology clinics

including public, private, and hospital-based. Some have been done in single ethnic groups, whereas others have been done in multiple ethnic groups, comparing the dermatologic diseases that predominate in each ethnic group. In research done in persons of African descent and non-White ethnic groups, acne, eczema/dermatitis, and dyschromia were common problems and in 1 of the studies, the use of skin-lightening agents was a concern in up to 95% of participants.<sup>1-6</sup> Skin cancers including basal cell carcinomas, squamous cell carcinomas, and melanomas were predominant in White patients.<sup>6</sup>

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Jamaica is a multiethnic society with predominantly persons of African descent. Over 93% of Jamaicans have some degree of African ancestry.<sup>7</sup> According to the Jamaican Census, Jamaicans of pure African descent represent 76.3% of the population, followed by 15.1% Afro-European, 3.4% East Indian and Afro-East Indian, 3.2% Caucasian, 1.2% Chinese, and 0.8% others.<sup>8</sup> These other ethnic groups include persons of Middle Eastern origin.<sup>7</sup> The Jamaican climate is warm with mild variations in temperature between the traditional seasons of winter, spring, summer, and autumn; the average annual temperature is slightly cooler in winter (24°C) and warmest in summer (27°C).<sup>9,10</sup> The rainfall pattern is bimodal and so rainy and dry seasons are identified. There are 2 rainy seasons, which extend from May to June and again from September to November, whereas the 2 dry seasons are from July to August and December to April.<sup>10,11</sup>

The Dermatology Clinic at the University Hospital of the West Indies is a tertiary referral center that receives referrals from within the hospital and from other hospitals and private and public clinics throughout the island.

Our aims and objectives were to document the spectrum and frequencies of dermatologic diseases seen in our clinic and to study the variation of disease prevalence with age groups. We also aimed to record any variations in disease frequencies during the traditional seasons (winter, spring, summer, and autumn) and the rainy versus dry seasons.

## METHODS

Ethical approval was obtained from the Mona Campus Research Ethics Committee of the University of the West Indies (Ref: ECP196, 18/19). All rules of confidentiality and anonymity were upheld.

The study was a retrospective, descriptive study conducted on all new patients attending the Dermatology Outpatient clinic at the University Hospital of the West Indies from January 1, 2018 to December 31, 2018. Demographic data, date and season of presentation, and dermatologic diagnoses were obtained from the patient files. The seasons recorded were the rainy and dry seasons as well as the traditional seasons of winter, spring, summer, and autumn.

The individual diagnoses were noted and also classified into groups as follows: dermatitis, infections (including infestations), inflammatory (including noninfectious papulosquamous, autoimmune, and hypersensitivity diseases), follicular disease and alopecia, benign tumors/hamartomas/nevi, premalignant and malignant lesions, dyschromia, nail disease (except infections), venous/arterial/lymphatic disease (except dermatitis and tumors), scars, adnexal disease (except tumors), and miscellaneous (heterogenous group). The frequencies of each diagnosis and each disease group were calculated.

The clinic attendees were also divided into age groups corresponding to decades. These decades were ages 0 to 9 years, 10 to 19 years,

20 to 29 years, 30 to 39 years, 40 to 49 years, 50 to 59 years, 60 to 69 years, 70 to 79 years, 80 to 89 years, 90 to 99 years, and 100 to 109 years. The data were analyzed using the STATA statistical analysis program. The frequencies and prevalence of diagnoses and diagnostic categories were calculated. These were then further analyzed by age, sex, rainy and dry seasons, as well as traditional seasons.

## RESULTS

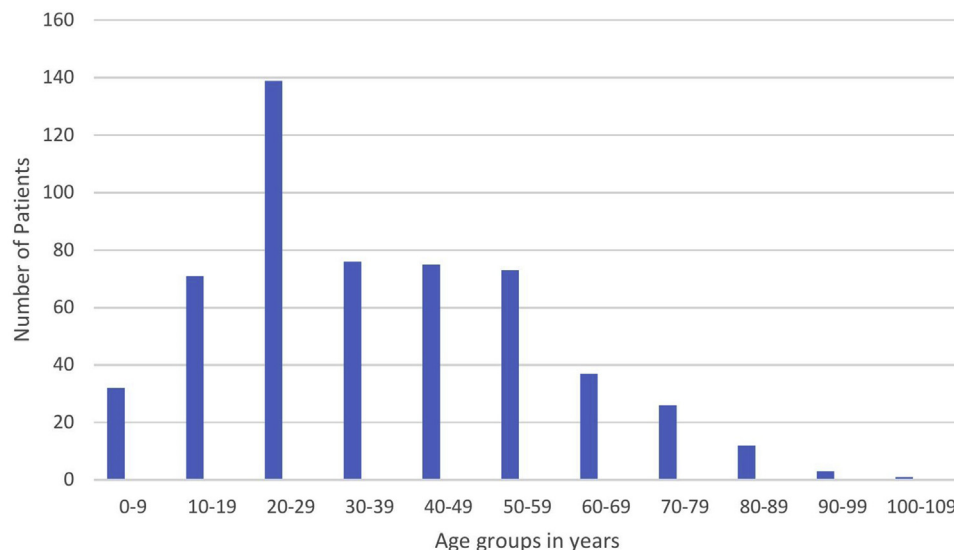
Five hundred forty-seven new patients were seen during the period of study. The mean age was 36.8 years with a standard deviation of 20.5 years; ages ranged from 2 weeks (14 days) old to 103 years old. The largest number of patients was in the 20 to 29 years age group (third decade) with 139 persons presenting in that decade (Fig 1). There were 329 females (60%) and 218 males (40%).

The number of new patients who attended per month ranged from 23 to 62 with an average of 46 per month. The lowest number (n = 23) could be explained by the fact that clinics are usually closed for approximately 10 days for the holiday period in December. The majority of the patients (n = 299) presented in the dry season with the remaining 248 presenting in the rainy season. All diseases and disease categories tended to present more frequently in the dry season. In the traditional seasons, more patients presented in spring and summer (144 and 151, respectively) than in autumn and winter (135 and 117, respectively).

Many patients had multiple diagnoses; 373 patients had only 1 diagnosis, 132 had 2 diagnoses, 33

## CAPSULE SUMMARY

- This article shows that, compared with other studies, there are both similarities and differences that vary with age and sex in a predominantly Black population.
- The article raises awareness that certain diseases occur more frequently with seasonal changes in temperature and rainfall so patients' needs may be anticipated.



**Fig 1.** Number of new patients attending the clinic according to decade of age.

had 3 diagnoses, 8 had 4 diagnoses, and 1 had 5 diagnoses. Therefore, there were a total of 773 diagnoses with an average of 1.4 diagnoses per patient. The most common diagnoses were: seborrheic dermatitis (n = 65, 11.9%), acne (n = 56, 10.2%), and contact dermatitis (n = 38, 6.9%). Other frequent diagnoses were: tinea (dermatophyte infection) (n = 27, 4.7%) and urticaria (n = 21, 3.8%) (Table I).

The prevalences for the 3 most common diseases, seborrheic dermatitis, acne, and contact dermatitis, in each age group showed that seborrheic dermatitis was most prevalent in the 20 to 39 year age groups (third and fourth decades), whereas acne was most prevalent in the 10 to 29 year (second and third decades) age groups; contact dermatitis was most prevalent in the 40 to 59 year (fifth and sixth decade) and the 70 to 79 year (eighth decade) age groups (Fig 2).

For all 3 diseases, the number of females exceeded the number of males. In seborrheic dermatitis, 40% (n = 26) were male and 60% (n = 39) were female. With respect to acne, 21% (n = 12) were male whereas 79% (44) were female. Patients with contact dermatitis consisted of 29% (n = 11) male and 71% (n = 27) female.

Seborrheic dermatitis had its highest frequency of presentation in winter with a sharp decrease in spring but increased again for summer and autumn. Both acne and contact dermatitis presented more frequently in summer (Fig 3).

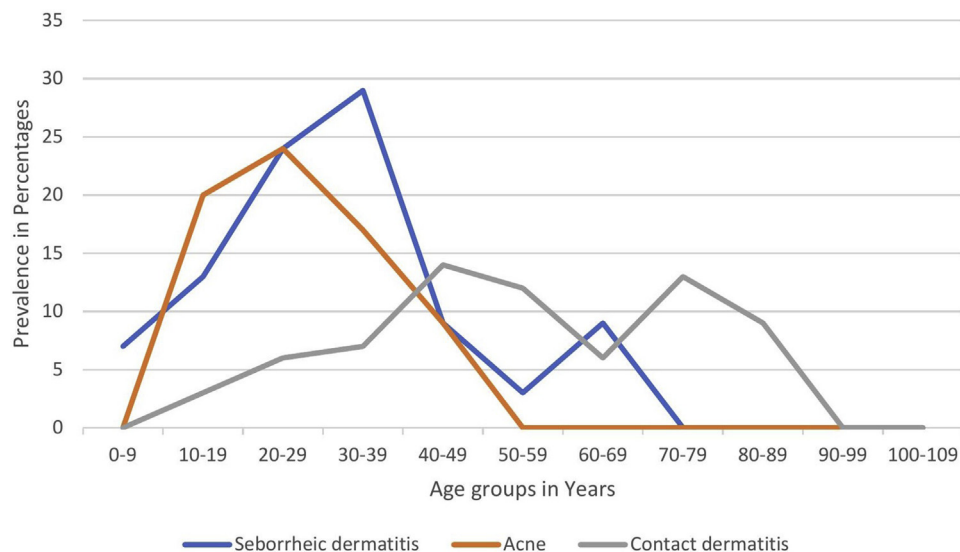
The most common groups of diseases were dermatitis (n = 161, 29.4%), infections (n = 130, 23.8%), and inflammatory disorders (n = 129, 23.6%). Other common categories were follicular diseases and alopecia (n = 82, 15.0%) as well as benign

**Table I.** Most common diagnoses in new patients attending the clinic

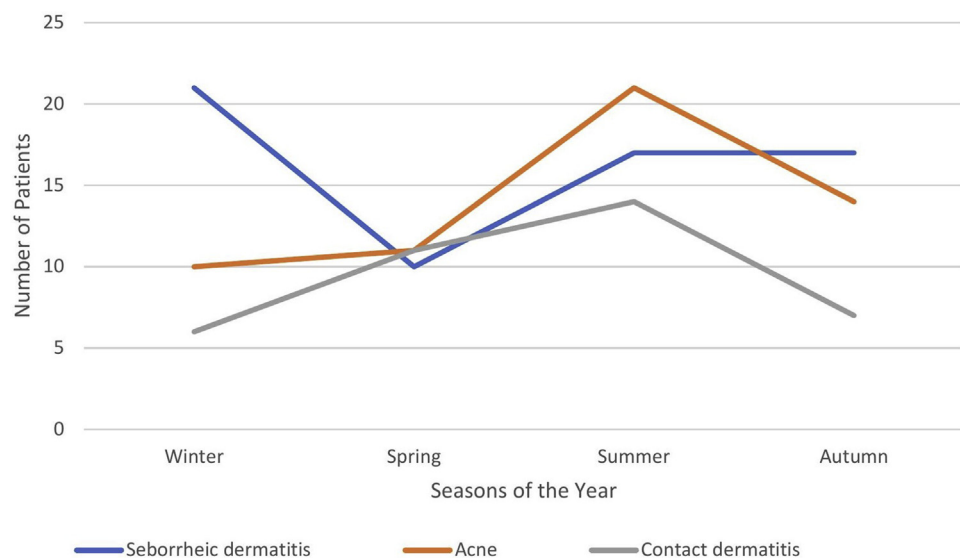
Diagnosis	Number of patients (percentage)
Seborrheic dermatitis	65 (11.9%)
Acne	56 (10.2%)
Contact dermatitis	38 (6.9%)
Tinea (dermatophyte infection)	27 (4.7%)
Urticaria	21 (3.8%)
Pityriasis rosea	18 (3.3%)
Pityriasis versicolor	18 (3.3%)
Papular urticaria	17 (3.1%)
Scabies	17 (3.1%)
Post-inflammatory hyperpigmentation	14 (2.6%)
Lichen planus	12 (2.2%)
Keloid scars	12 (2.2%)
Atopic dermatitis	11 (2.0%)
Psoriasis	10 (1.8%)
Pseudofolliculitis barbae	10 (1.8%)
Acne keloidalis nuchae	8 (1.5%)
Nevi	8 (1.5%)

tumors, hamartomas, and nevi (n = 47, 8.6%). In a country with mainly persons of color, it was not surprising that dyschromia (n = 34, 6.2%) was also fairly common (Table II).

Both dermatitis and inflammatory disorders were more common in females whereas infections were more common in males. For dermatitis, 40% (n = 65) were male and 60% (n = 96) female; for inflammatory disorders, 38% (n = 49) were male and 62% (n = 80) were female. On the other hand, for infections, 52% (n = 68) were male and 48% (n = 62) were female.



**Fig 2.** Prevalence of seborrheic dermatitis, acne, and contact dermatitis in each age group.



**Fig 3.** Frequency of seborrheic dermatitis, acne, and contact dermatitis in the traditional seasons.

Dermatitis was most prevalent in the 80 to 89 years age group (ninth decade). Infections were most prevalent in the very young and the very old with peaks in the 0 to 9 years age group (first decade) and 90 to 109 year age groups (tenth and eleventh decade of life). There was no age group in which the prevalence of inflammatory disorders was obviously elevated; however, this group of disorders was slightly decreased in the 50 to 59 years age group (sixth decade) with a marked decrease in the 80 to 89 year age groups (ninth decade) and totally absent in the 90 to 109 year age groups (tenth and eleventh decade) (Fig 4). Both dermatitis and inflammatory

disorders presented more frequently in the summer, whereas skin infections presented more commonly in the spring.

## DISCUSSION

The results showed variations of disease frequencies and prevalence with age, sex, and seasons. Some findings confirmed those in other studies, whereas some results were peculiar to our population. The fact that seborrheic dermatitis was seen even more commonly than acne and atopic eczema seems to reflect the high proportion of persons of color in our population. Seborrheic dermatitis has

been reported to have a higher incidence in African Americans and West Africans.<sup>12-16</sup>

The highest prevalence for both seborrheic dermatitis and acne were as expected with seborrheic dermatitis mainly presenting in the third and fourth decade and acne being prevalent slightly earlier in the second and third decades. It should be noted, however, that patients continued to present with acne up to and including the fifth decade (40- 49 year age group). Seborrheic dermatitis has been found most commonly in men in most other studies and so our finding of a higher frequency in females may be anomalous and probably explained by our higher female clinic population.<sup>17</sup> The occurrence of acne in more females than males in our study mirrors similar results in other studies even

though the higher levels of androgens in males and their contribution to pathogenesis would lead one to expect the opposite.<sup>18</sup>

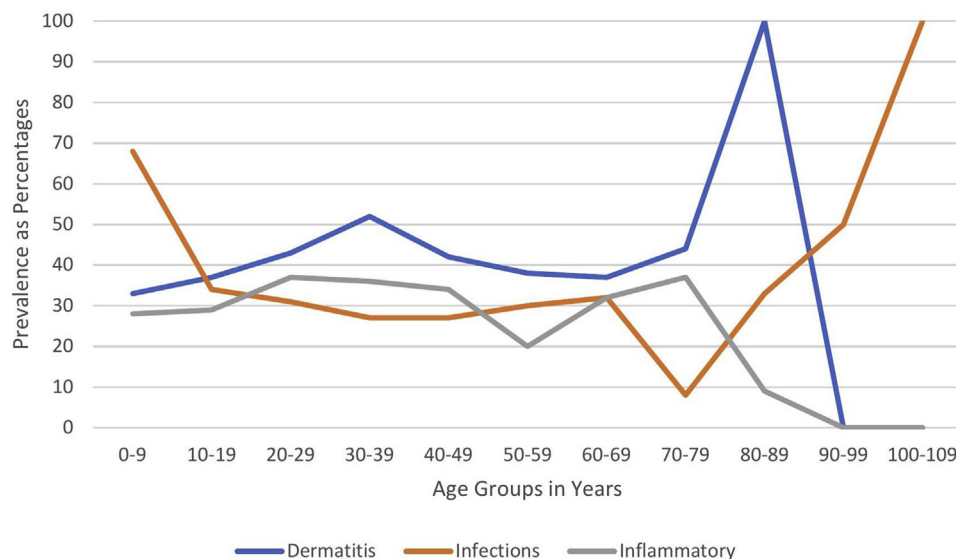
The slight preponderance of female patients (60%) versus male patients (40%) may be because of skin diseases occurring more commonly in females than in males. However, we suspect that it may reflect more health care-seeking behavior in women and because skin diseases tend to affect appearance, it may also demonstrate a higher concern for one's appearance occurring in females. Other studies have shown a similar slight female preponderance.<sup>2,6</sup>

The increased attendance in the dry season could have resulted from factors outside the scope of this study such as decreased access to transportation and unsatisfactory conditions for travel during the (rainy) wet seasons. With regard to traditional seasons, even though there are only slight variations in temperature, the findings suggested that dermatologic conditions seem to occur, flare, or become more symptomatic during the summer (which is the warmest season), particularly for acne, dermatitis, and inflammatory disorders. Similar findings have been seen in some other studies and reviews.<sup>19,20</sup>

A major limitation of this study was that the clinic was an academic hospital-based referral center and therefore the diversity of patients seen may not reflect the actual distribution of skin conditions in the overall population. As a consequence, this may affect the generalizability of our findings. As the study was retrospective, another limitation was that other factors that were not recorded, such as social upheaval or unusual weather events, may have affected attendance at particular times.

**Table II.** Dermatologic disease categories and their frequencies in numbers and percentages

Diagnosis	Number of patients (percentage)
Dermatitis	161 (29.4%)
Infections	130 (23.8%)
Inflammatory	129 (23.6%)
Follicular disease and alopecia	82 (15.0%)
Benign tumors, hamartomas, nevi	47 (8.6%)
Dyschromia	34 (6.2%)
Nail disease (except infections)	18 (3.3%)
Premalignant and malignant lesions	17 (3.1%)
Venous, arterial, lymphatic disease (except dermatitis and tumors)	12 (2.2%)
Scars	12 (2.2%)
Adnexal disease (except tumors)	4 (0.73%)
Miscellaneous (heterogenous group)	33 (6.0%)



**Fig 4.** Prevalence of dermatitis, infections, and inflammatory skin diseases in each decade of age.

**Conflicts of interest**

None disclosed.

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