

The Dynamics of Dermatitis Presentation Across the Ages in a Tropical Dermatology Practice in Nigeria

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Abstract: Dermatitis as an inflammatory skin disorder is characterized by erythema and scaling of the cutaneous surface of the body. The pattern of occurrence differs across the ages and varies in different parts of the body.

The records of all patients with a diagnosis of dermatitis presenting to the dermatologic clinic of Irrua Specialist Teaching Hospital, Irrua Edo State Nigeria over a ten years period between April 2005 and April 2015 were reviewed and analyzed retrospectively and subjected to simple statistical analysis.

One thousand six hundred and twenty patients (1620) with various types of dermatitis were seen during this period representing 22% of all dermatologic presentations. Among the different types of dermatitis encountered, atopic dermatitis accounted for the highest prevalence at 28.1% occurring equally in the young and the old, followed by contact dermatitis occurring in 18.2% of the patients (mainly in young adults). Those with the lowest prevalence were stasis dermatitis (2.4%) and asteatotic eczema (3.6%) both occurring majorly in the elderly. Seborrhoic dermatitis (8%) and onchodermatitis (5%) were the major infective dermatitis found.

The spread of dermatitis in a tropical dermatology practice from this study varies greatly among different age groups and several factors such as inherent immunity and various environmental conditions from activities of daily living are responsible for these and the knowledge of this variation may help to exclude other lesions such as psoriasis and drug eruptions which can present with a similar clinical picture.

Keywords: Dermatitis; Presentation; Ages; Nigeria.

INTRODUCTION

Dermatitis is an inflammatory skin disorder presenting with erythema and scaling of the cutaneous surface of the body. It may be primary or secondary to a variety of underlying medical conditions or medications¹. It may also be acute or chronic depending on the duration before presentation. There are various ways in which dermatitis presentations may be classified ranging from the part or extent of the body affected, etiologic agent, and duration before presentation.

The occurrence of dermatitis in different parts of the body varies across the ages and from one part of the world to the other. While some variants such as atopic dermatitis appear commoner in the young², others like exfoliative and asteatotic dermatitis appears commoner with advancing ages¹.

The underlying mechanism of the different types of dermatitis appears to be linked to the activity of the immune system³ at different stages of life, however, type 1 and 3 immunologic mechanisms appears to be more prominent in their manifestation³. There are usually no sex differences except for regional affectation in areas such as the nipples or genitalia⁴.

This study aims to look at the dynamics of such presentation across the ages in a tropical dermatologic practice in Nigeria and compare the findings to that from other places where the prevalence of dermatitis had been previously documented.

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MATERIALS AND METHODS

The records of all patients with a diagnosis of dermatitis who presented to the dermatologic clinic of Irrua Specialist Teaching Hospital Irrua Edo State Nigeria over a ten years period (April 2005- April 2015) were analysed. Data was obtained from the records. This included socio-demographic and relevant clinical data. These were subjected to simple statistical analysis using Epi-info 2007. Institutional consideration was granted by the Ethical committee of the hospital.

RESULTS

A total of 7350 dermatologic patients were seen during the ten year period. One thousand six hundred and twenty (1620) of these presented with various types of dermatitis representing 22% of all dermatologic presentations.

See table beneath for distribution

TYPE OF DERMATITIS	<1 year	1-5 years	6-10 years	11-20 Years	21-30 years	31-40 years	41- 50 years	51-60 years	61-70 years	71- 80 years	81- 90 years	TOTAL
Atopic	15	40	59	80	100	41	120 Chronic (43)					455(28.1%)
Contact			21	38	62 Infected -38	Plantar-19 Nipple-17	80	20				295(18.2%)
Serb Derm	25				23	23	21	18		20		130(8%)
Exfoliative					17	40	19	22	81	60	25	264(16.3%)
Phytophoto				22					19		15	56(3.5%)
Palmoplantar					97							97(6%)
Lichen simplex chronicus				19	63		22		40			144(8.9%)
Stasis							18	20				38(2.4%)
Asteatotic									20	19	20	59(3.6%)
Onchodermatitis				21	20					41		82(5%)
TOTAL	40	40	80	180	420	140	280	80	160	140	60	1620(100%)

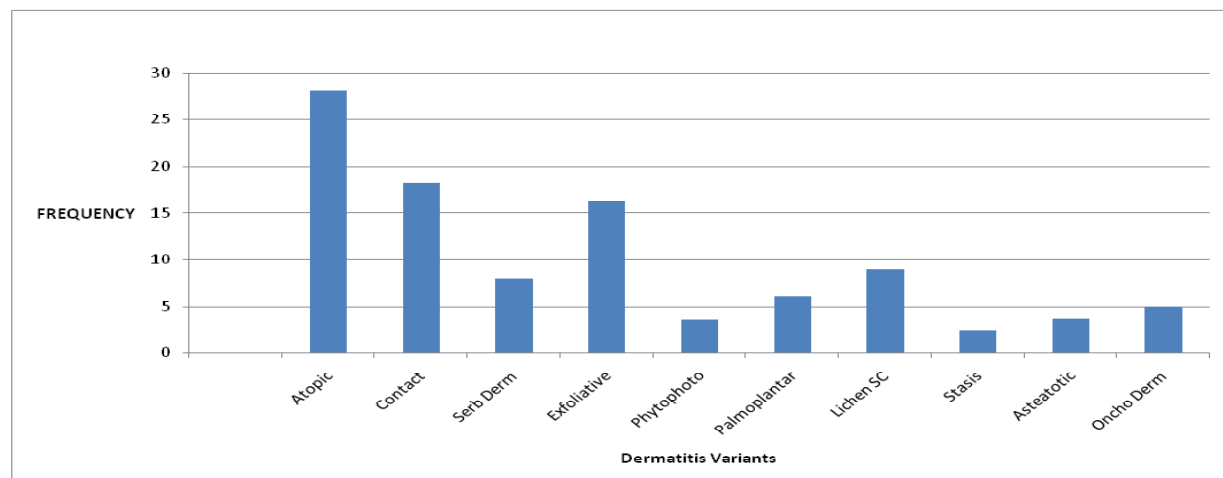


Fig1. Occurrence of Different Types of Dermatitis Encountered

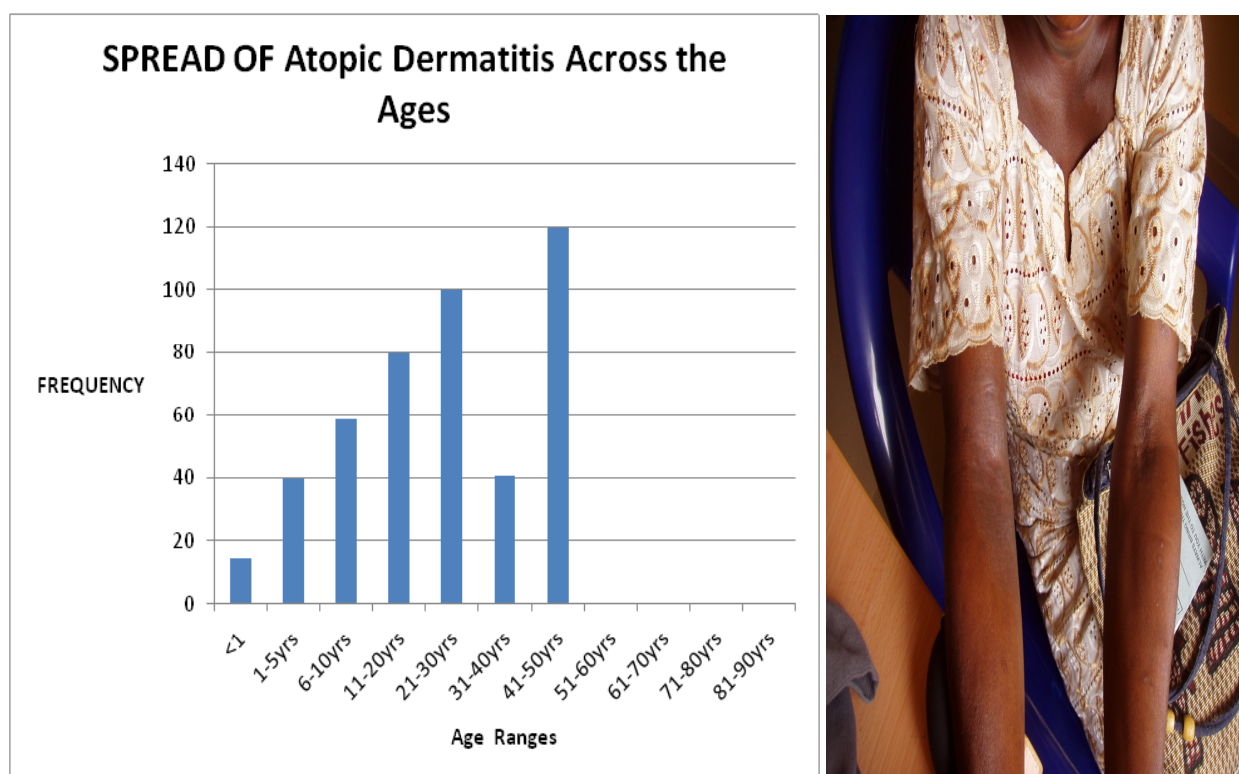


Fig2. Distribution of Atopic dermatitis across the age groups

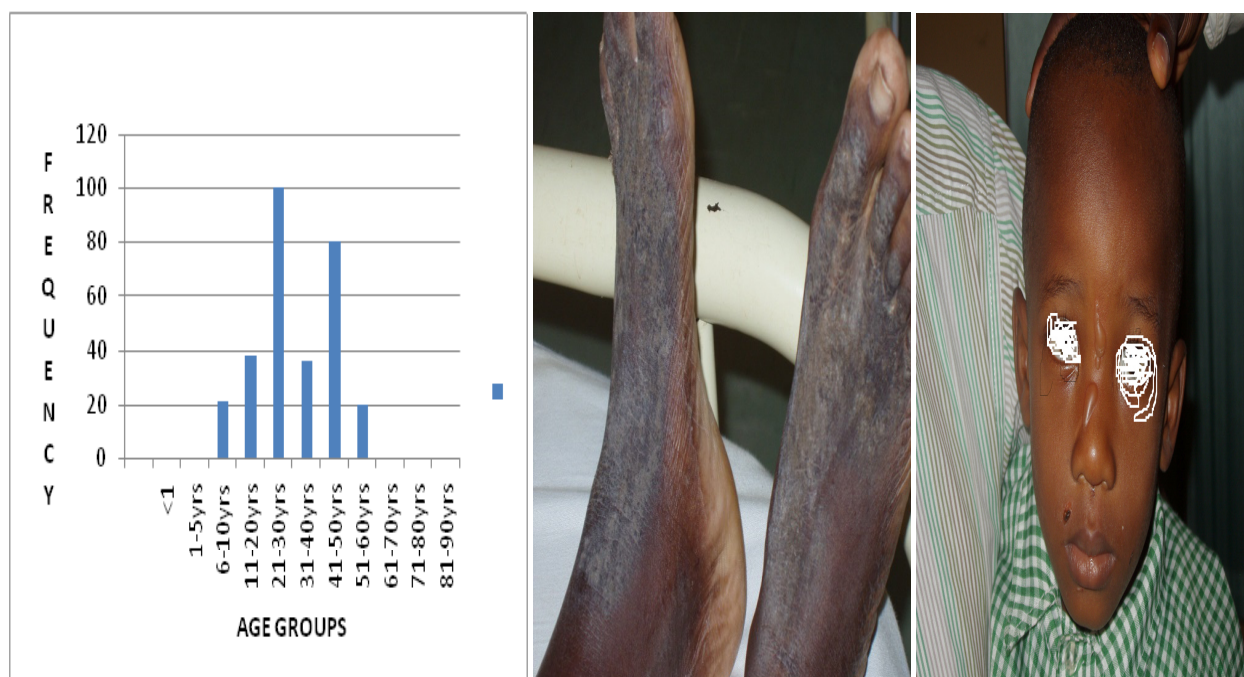
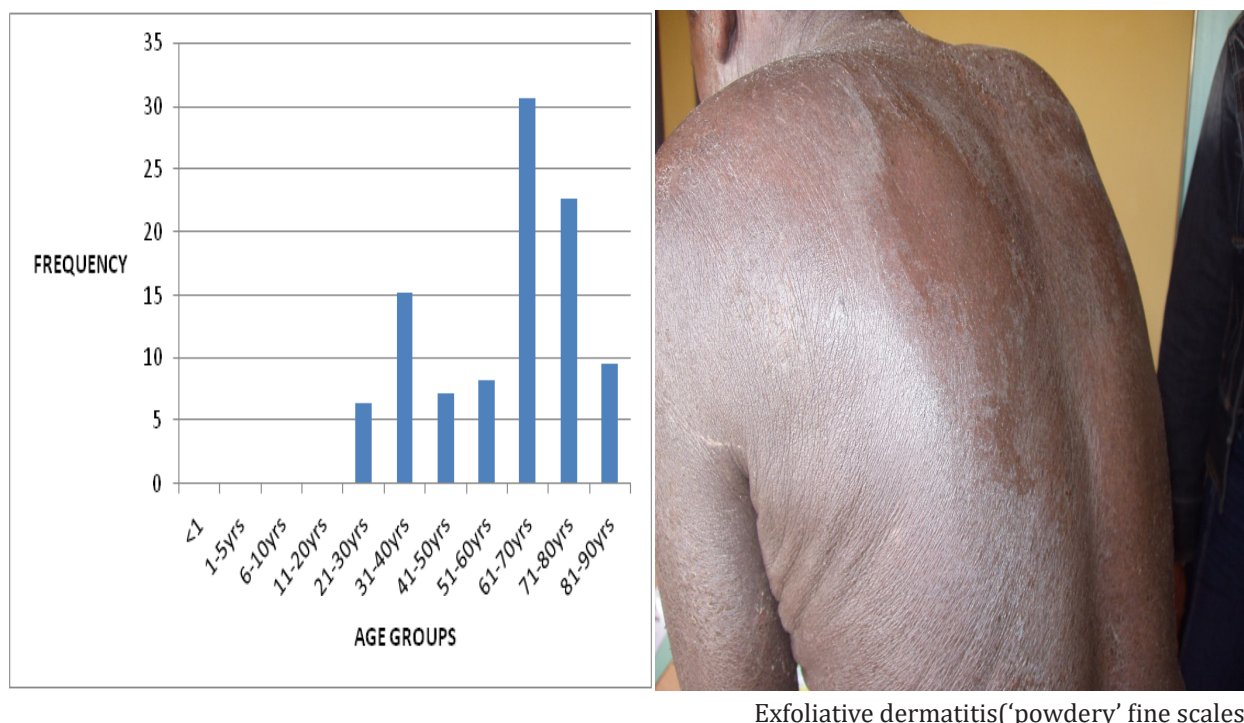


Fig3. Distribution of Contact Dermatitis Across the Age Groups



Exfoliative dermatitis('powdery' fine scales)

Fig4. Exfoliative Dermatitis Distribution

DISCUSSION

The prevalence of dermatitis found in this study is 22% compared to other dermatologic presentations. This is similar to the 20.9% found by Ubonu et al in Benin- city⁵ probably due to the similar population and proximity (in the same state) to our centre. It is however different from the 27% prevalence found by Akinboro et al in Osogbo⁶ (south west Nigeria) and the 35% found by Yahya in Kaduna⁷ (north central Nigeria). This is possibly a reflection of the dynamic nature of dermatitis among different geopolitical zones of the country. It also confirms the importance of dermatitis as a significant clinical presentation to the average dermatologic clinic as reported from other parts of Nigeria by other researchers as well⁸⁻¹⁰.

Atopic dermatitis accounted for the commonest type of dermatitis seen in this study occurring in 28% of patients with dermatitis. This is similar to the 29.8% reported by Akinboro et al⁶ but contrasts with the 13.8% found by Yahya⁷, and the 7.92% found by Onunu et al¹¹ respectively. Atopic dermatitis however represents only 6.1% of all dermatologic presentation. This is similar to the 8.5% reported by Nnoruka in Enugu, south east Nigeria¹². In some parts of the world the prevalence of atopic dermatitis appears to be lower such as in Singapore as reported by Tay et al¹³ where a prevalence of 2% was found. This may be due to the different geographical location of the study site compared to ours and perhaps less environmental allergic stimulants as found in Africa. However atopic dermatitis has been found to be the commonest type of dermatitis both in Nigeria¹⁴ as well as other parts of the world. Ayala et al also found a prevalence of 13.5% of atopic dermatitis among their patients¹⁵ thus corroborating the high prevalence of atopic dermatitis documented from most parts of the world¹⁵. In our study, atopic dermatitis affects the 21- 30 year age group more than the other ages. This may be due to the predominantly adult nature of the dermatology clinic in our centre as this age bracket also has the highest prevalence of the various types of dermatitis presentation (25.6%).

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Contact dermatitis is the second commonest type of dermatitis found in this study occurring in 18.21% of patients presenting with dermatitis. This is in contrast to the 12.3% prevalence reported by Olumide in Lagos south west Nigeria¹⁶. Also, Ayanlowo et al¹⁷ found a prevalence of 7.7% of allergic contact dermatitis among patients investigated with patch testing in Lagos, Nigeria. Contact dermatitis in adults has been largely related to the various occupational activities of adult patients. This has been extensively studied by foremost workers on this subject like Olumide et al in various publications¹⁸⁻²². The commonest age group affected is also the 21-30 years old age group (33.3%). This age group is likely to be affected by contact dermatitis compared to others because young adults constitute the group most involved with occupational and aesthetic activities that are likely to predispose them to the various types of contact dermatitis from different agents. Forty percent (40%) of our patients presented with infected irritant contact dermatitis lesions showing the propensity of this type of lesions to become secondarily infected. Irritant contact dermatitis which is a non-specific inflammatory dermatitis brought about by activation of the innate immune system by the pro-inflammatory properties of irritants is the most common type of contact dermatitis reported from most studies in Nigeria¹⁶⁻²². This type is majorly due to occupational activities as noted by Soyinka in his study of this disorder among bricklayers²³⁻²⁴ while allergic contact dermatitis is a delayed-type hypersensitivity response with a skin inflammation mediated by hapten-specific T cells²⁵. Olumide had earlier noted the very high prevalence of occupational contact dermatitis in various parts of the body in her research on contact dermatitis in Lagos, Nigeria¹⁸⁻²². This ranges from 10.7% hand dermatitis alone¹⁸ with 20.4% occurring in men¹⁹ as a result of their various occupational pursuits. 13% of neck dermatitis was reported from necklaces²⁰ and 61% of feet dermatitis was detected by patch testing²¹. Patch testing has been used to study the prevalence of this type of contact dermatitis by Ayanlowo et al and Olumide in Lagos Nigeria^{17,18}. 71.4% of feet dermatitis was confirmed by patch testing to be of the allergic contact dermatitis variant by Olumide in Lagos²¹.

In this study 6% of our patients presented with palmoplantar dermatitis perhaps related to the significant farming population in this rural community. Omokhodion et al had reported a prevalence of 5% hand dermatitis among hairdressers in Ibadan south west Nigeria²² confirming the occupational predisposition to some types of contact dermatitis. Phytophoto dermatitis was observed in 3% of our patients which were mostly children largely from contact with flowers and plants in schools where they are used to improve the aesthetic, landscaping appearance of the environment. Similarly regional contact dermatitis such as Nipple dermatitis (5.8%) in this study was found in young women from brassieres and breastfeeding.

In this study exfoliative dermatitis occurred in 16.3% of our patients with dermatitis. It has a bimodal age distribution occurring in 31% of the 61-70 years old, 23.1% in the 71-80 years old and 15.4% in the younger age group of 30-40 years old. This pattern of distribution had earlier been observed by Salami et al²⁶ and may be due to increasing suspicion of underlying occult malignancies among patients advanced in age/ or elderly patients presenting with exfoliative dermatitis while cutaneous drug reactions particularly in patients with HIV infection in the more sexually active younger age group of 30-40 years may be responsible for this in young adults²⁷. A similar pattern in young adults with HIV infection has also been reported by other researchers from other parts of Nigeria²⁸⁻³⁰.

Lichen simplex chronicus (LSC) (picture below) was found in 8.9% of our patients with dermatitis in this study. It was noted mostly among the 21- 30 years age bracket where it affected 43% of patients followed by 29% in the 61-70 years age group. This is in contrast to the 3% found by Yahya in Kaduna Nigeria and Bilgi et al in Turkey^{7,31}. Liao et al had also noted a preponderance of LSC among elderly patients with anxiety disorder particularly those with obsessive compulsive disorders in a population study in China³². LSC has also been observed by An et al to impart negatively on the quality of life of affected patients³³.



Asteatotic dermatitis (see below) is another type of dermatitis seen commonly in elderly patients as a result of the increased dryness of the skin due to the less moisturizing nature of the skin with advancing ages leaving the skin dry and prone to itching. It was found in 3.6% of our patients and this was mainly in the 60 years and above age group. This is roughly half of the 6.5% prevalence reported by Ayala et al in their patients¹⁵. This may be due to the presence of more elderly patients in developed countries due to the longer life span compared to that in the developing countries like Nigeria.



Similarly stasis dermatitis (see below) accounted for 2.35% prevalence in our study possibly due to similar reasons.



Among the infective dermatitis, seborrhoeic dermatitis (SD) occurred the most in this study. It was present in 8.03% of patients presenting with dermatitis and occurs fairly equally between the ages of 21-60 years.

This is similar to the 6.3% found by Ayala et al¹⁵ but contrasts to the 2.2% found by Bilgi et al in Turkey³¹.



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SD in adults is among the common cutaneous manifestations of HIV infection in Nigeria^{30,34}.

Only 16.7% of infantile seborrhoeic dermatitis was seen in this study and this could be attributed to the fact that this condition is less symptomatic than atopic dermatitis and they are more likely to present to the paediatrician.



Onchodermatitis was present in only 5.07% of our patients. This may be due to the lesser skin affectation compared to other parts of the body such as the eyes³⁵ and the lymphatics³⁶ and also with the previous intense therapeutic campaigns launched to eradicate the infection in this country³⁷.

CONCLUSION

In conclusion the various manifestations of dermatitis are well documented locally; however their prevalences differ across the ages and in different parts of the world. The knowledge of the spread of dermatitis across the different age groups may help in ascertaining the likely etiology and result in better management for the individuals. This knowledge will also assist dermatologists to whom this condition can present a challenge.

LIMITATIONS. This is majorly an observational study among patients presenting to the adult dermatologic clinic and may not be reflective of the spread of dermatitis in the larger community. However the 10 years duration of the observation may partially compensate for this.

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