Clinical Medicine Insights: Dermatology



ORIGINAL RESEARCH

# The Pattern of Dermatoses in a Skin Clinic in Calabar, Nigeria: A Baseline Study

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**Abstract**

**Background:** Despite several reports of the pattern of dermatoses in different geographical areas of Nigeria, information on skin diseases in South-South region of Nigeria is nonexistent perhaps because of the absence of a resident dermatologist. This prospective study was carried out over a period of 9 months by a visiting dermatologist at a novel skin clinic of the University Teaching Hospital in Calabar, the capital city of Cross River State located in South-South region of Nigeria.

**Methods:** All the new cases of skin diagnosis made over this period were included. Diagnosis was made by a consultant dermatologist and confirmed by laboratory investigations and histology as at when required. Demographic and clinical data was collated and analyzed with descriptive statistics. The skin diseases seen were classified into 10 groups based on etiologic and morphologic criteria and a miscellaneous group.

**Results:** A total of 252 patients were seen during this period and the ages ranged from less than one year to 69 years. There were 106 males and 146 females giving a male:female ratio of 1:1.4. The highest number of people in this series were between the range 20–29 years of age making 26% of the total. Infective skin disorders topped the list of the groupings with 32.5% followed by eczematous dermatitis with 25%. Fungal infections made up 67% of the infective dermatoses.

**Conclusions:** The pattern of dermatoses presented here did not differ much from studies in other geographical parts of Nigeria and is an expression of poverty, ignorance, overcrowding and the humid climate. Attention is also drawn to the need for availability of dermatologists in every hospital setting.

**Keywords:** pattern, dermatoses, Calabar, baseline

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## Introduction

Skin diseases have always maintained a place of relevance in health care delivery spanning from primary to tertiary health care in developing countries. The ratio of a dermatologist to a patient in most developing countries is low due to scarcity of specialists in this area and the enormous population. Many of the dermatologists involved in daily clinical work in these parts of the world are in the big cities and cases in rural areas need to be referred to the cities before they can access skin care. This applies to South and Central America, Asia and Africa.[1] This results in poor coverage for dermatological services in many parts of Nigeria. Most of the diagnoses of skin diseases are made by primary care physicians as they are usually the first contact with the patient in the hospitals. The availability of accurate baseline data for planning intervention can only however be based on expert dermatological services provided mainly in tertiary hospital settings where diagnosis of lesions can be confirmed by laboratory support.

Even though a number of workers have reported different patterns of skin diseases in different geographical areas of Nigeria, information on pattern of skin diseases in South-South of Nigeria is nonexistent. This study was initiated in Calabar, Cross River State in the South-South of Nigeria to document baseline data for the pattern of skin diseases in this area where there was no attending dermatologist prior to study.

## Background

Calabar (also referred to as Callabar, Calabari, Calbari, Kalabari and Kalabar) is a city in Cross River State, south eastern Nigeria. The City with a total area of 233.2 sq mi (604 $km^2$), and coordinates latitude 4 degrees 57' N longitude 8 degrees 19E is watered by the Calabar River and Great Qua Rivers and creeks of the Cross River.[2] It has an average annual rainfall of 3060 nm, mean monthly temperature of 30.8 degrees centigrade and high relative humidity of 84%.[3] Calabar is the capital of Cross River State and has an estimated population of 1.2 million residents. As far back as the 16th century, Calabar had been a recognized international sea port. During the era of the Atlantic slave trade, it subsequently became a major port in the transportation of African slaves.[2] The city is a major transportation center, with good road connections to the rest of south eastern Nigeria and neighboring Cameroon. It has an excellent natural harbor and airport. The city is the market center for the surrounding area. Industries in this city include sawmilling, boat building, cement and ceramics production, and food processing. The people are well noted for their hospitality and culture.

## Methodology

This prospective study was carried out over a period of 9 months at a newly inaugurated outpatient skin clinic of a tertiary hospital located in Calabar in Nigeria. All the new cases of skin diagnosis made over this period were included. The demographic and clinical data collected included age, sex and diagnosis. Diagnosis was made by a consultant dermatologist and confirmed by laboratory investigations and histology as at when required. The skin diseases seen were classified into 10 groups based on etiologic and morphologic criteria and a miscellaneous group. Descriptive statistics were carried out.

## Results

A total of 252 patients were seen during this period and the ages ranged from less than one year to 69 years. There were 106 males and 146 females giving a male: female ratio of 1:1.4. The highest number of people in this series was between the range 20–29 years of age making 26% of the total. Females dominated this age range 20–29 years accounting for 53(80%) of this age group presenting with skin disease at the clinic. Ninety percent of the total number of patients were aged between 0–49 years (Table 1 and Figure 1).

**Table 1.** Age distribution among patients in the ucth skin clinic during a 9 month period.

| Age range (yrs) | Sex | | Total | Percentage (%) |
|---|---|---|---|---|
| | Male | Female | | |
| 0–9 | 24 | 18 | 42 | 16 |
| 10–19 | 14 | 21 | 35 | 14 |
| 20–29 | 13 | 53 | 66 | 26 |
| 30–39 | 23 | 24 | 47 | 19 |
| 40–49 | 21 | 16 | 37 | 15 |
| 50–59 | 5 | 10 | 15 | 6 |
| 60–69 | 6 | 4 | 10 | 4 |
| Total | 106 | 146 | 252 | 100 |

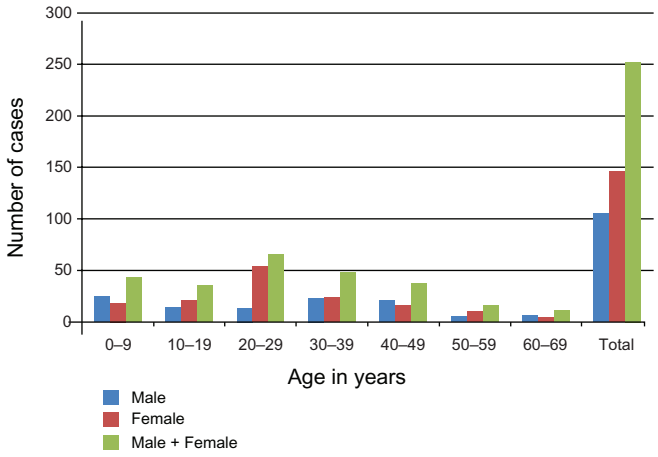


**Figure 1.** Age and sex distribution of patients in the ucth skin clinic during a 9 month period.

The diagnoses of skin diseases made were divided into ten etiological groups and an eleventh group as miscellaneous (Table 2 and Figure 2).

Infective skin disorders topped the list of the groupings with 32.5% followed by eczematous dermatitis with 25%. Infective dermatoses and Eczematous dermatitis accounted for more than half (57.5%) of all diagnosis made.

Fungal infections made up 67% of the infective dermatoses while parasitic, viral and superficial bacterial infections accounted for the remaining 33% almost equally Table 3 and Figure 3. Atopic dermatitis made up 23% of Eczematous dermatitis followed by Seborrhoeic dermatitis in 16% and contact eczema is 13% of all eczemas (see Table 3).

Papular Urticaria (39%) accounted for the highest number in allergic group, Vitiligo (29%) in Pigmentary group, Acne (33%) in diseases of Pilosebaceous gland and Pityriasis Rosea accounted for (50%) of the Papulosquamous diseases (Table 3).

There were records of hypertrophic scars, keloids, neurofibromatosis, Xanthelesma, Syringoma, squamous cell carcinoma and three cases of Kaposi Sarcoma confirmed by histology. Others were nutritional dermatoses, delusion of parasitosis and Necrobiosis Lipodica Diabeticorum.

## Discussion

Baseline studies are descriptions of existing conditions to provide a starting point against which progress can be assessed or comparisons made. They provide valuable social and economic information which is critical to project decision-making and prediction of impacts. It is essential to determine the prevalence/incidence of skin diseases in a community because it provides, among other things, an index of community development. Focusing on patterns of disease, as opposed to individual conditions, offers important avenues for environmental health risk reduction. Most epidemiological studies of skin disease are based on those who present themselves for treatment especially where expert care is available.

Skin disease forms a substantial part of the total spectrum of ill health. Since most skin disorders are not disabling and have a negligible mortality they are treated mainly at the general practice or outpatient level of care, and self medication is very common. Statistics derived from hospital figures are only an approximate guide to the incidence of disease in the community served by the hospitals. Many factors determine the selection of people who are seen

**Table 2.** Pattern of dermatoses in the skin clinic of the university of calabar teaching hospital during a 9 month period.

| Ages of patients | 0–9 | 10–19 | 20–29 | 30–39 | 40–49 | 50–59 | 60–69 | Total | % |
|---|---|---|---|---|---|---|---|---|---|
| Infection | 9 | 14 | 23 | 15 | 11 | 7 | 3 | 82 | 32.5 |
| Eczema/dermatitis | 16 | 5 | 11 | 8 | 13 | 4 | 5 | 62 | 25 |
| Pigmentary | 6 | 3 | 7 | 2 | 2 | 0 | 1 | 21 | 8 |
| Pilosebaceous | 1 | 4 | 5 | 4 | 1 | 0 | 0 | 15 | 6 |
| Papulosquamous | 1 | 3 | 7 | 4 | 1 | 0 | 0 | 16 | 6.25 |
| Allergy | 6 | 2 | 6 | 3 | 4 | 0 | 0 | 21 | 8 |
| Tumor/growth | 0 | 0 | 1 | 1 | 2 | 2 | 0 | 6 | 2.5 |
| Neurocutaneous | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 3 | 1.25 |
| Nutritional | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| Psychocutaneous | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0.5 |
| Miscellaneous | 1 | 3 | 4 | 7 | 5 | 2 | 1 | 23 | 9 |
| Grand total | 42 | 35 | 65 | 46 | 39 | 15 | 10 | 252 | 100 |

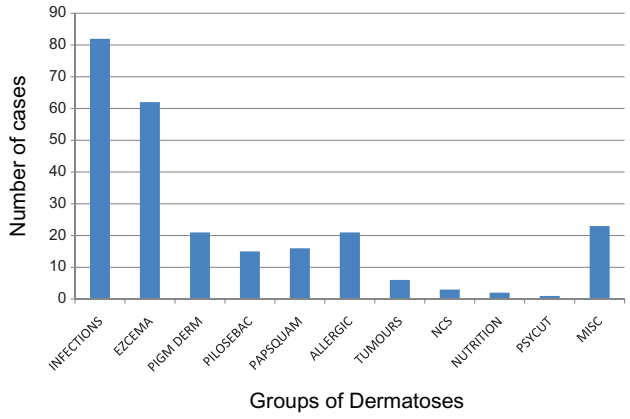


**Figure 2.** Pattern of dermatoses in the skin clinic of the university of calabar teaching hospital during a 9 month period.
**Abbreviation:** NCS, Neurocutaneous syndromes.

at the hospital including referrals and information of available expertise.

The incidence of skin diseases differs widely in various geographical locations in many hospital based studies, presumably influenced by racial and environmental factors. Even within Nigeria various but similar patterns were recorded in hospital based studies from different regions.[4–7]

The pattern of skin diseases peculiar to different regions, among other parameters, is an index of community development and of quality of the provided health care. The skin clinic in Calabar was novel and therefore represented a source for baseline data for skin disease in this region since there were no other referral centers for skin diseases during this period. The establishment of a facility for skin care enabled collection of data for planning and information.

Skin diseases as seen in this study cut across all age groups and sex (Table 1). The incidence of infective dermatoses was the highest among the groups of skin diseases particularly fungal infections, probably due to the hot and humid climate and hence increased sweating. Climate and socio-economic factors have an impact on the pattern of diseases observed at any one time in a society.

The finding of high occurrence of infectious dermatoses is in keeping with many similar studies documented in the developing world.[6,8] Transmissible skin disease has been repeatedly shown to make up the bulk of skin disease in African populations: 85% in coastal Tanzania, 78% in Malawi, 71.5% in

**Table 3.** Groups of dermatoses of patients in a skin clinic of a tertiary health institution.

| Infective/infestive dermatoses | No. of cases | Percentage (%) |
|---|---|---|
| Superficial fungal dermatoses | 55 | 67 |
| Parasitic skin diseases | 10 | 12 |
| Viral diseases of skin | 9 | 11 |
| Superficial bacterial dermatoses | 8 | 10 |
| Total | 82 | 100 |
| **Ezcema/dermatitis** | | |
| Atopic dermatitis | 14 | 23 |
| Contact eczema | 8 | 13 |
| Sebborrhoeic eczema | 10 | 16 |
| Stasis eczema | 6 | 10 |
| Hand and foot eczema | 4 | 7 |
| Nipple eczema | 2 | 4 |
| Intertrigenous eczema | 2 | 4 |
| Lichen simplex chronicus | 6 | 7 |
| Cosmetic dermatitis | 5 | 8 |
| Exfoliative dermatitis | 5 | 8 |
| Total | 62 | 100 |
| **Allergy/drug reaction** | | |
| Papular urticaria | 10 | 39 |
| Urticaria | 7 | 27 |
| Fixed drug eruption | 4 | 15 |
| Pruritic papular eruption | 4 | 15 |
| Pruritus | 1 | 4 |
| Total | 26 | 100 |
| **Pigmentary skin diseases** | | |
| Vitiligo | 6 | 29 |
| Post inflammatory | 4 | 19 |
| Hypopigmented lesions | 3 | 14 |
| Naevus | 2 | 10 |
| Pityriasis alba | 3 | 14 |
| Seborrhoeic keratosis | 3 | 14 |
| Total | 21 | 100 |
| **Pilosebaceous diseases** | | |
| Acne | 5 | 33 |
| Alopecia | 2 | 13 |
| Folliculitis | 5 | 33 |
| Folliculitis decalvans | 2 | 13 |
| Hydradenitis supprativa | 1 | 8 |
| Total | 15 | 100 |
| **Papulosquamous diseases** | | |
| Pityriasis rosea | 11 | 50 |
| Lichen nitidus | 1 | 5 |
| Lichen striatus | 2 | 10 |
| Psoriasis | 3 | 15 |

(*Continued*)

**Table 3.** (*Continued*)

| | | |
|---|---|---|
| Keratoderma | 1 | 5 |
| Callus | 1 | 5 |
| Icthyosis | 1 | 5 |
| Xerosis | 1 | 5 |
| Total | 21 | 100 |
| **Tumours/growths** | | |
| Kaposi sarcoma | 3 | 20 |
| Squamous cell carcinoma | 1 | 7 |
| Cysts | 2 | 13 |
| Keloid/hypertrophic scars | 4 | 26 |
| Syringoma | 1 | 7 |
| Xanthelesma | 1 | 7 |
| Neurofibromatosis | 3 | 20 |
| Total | 15 | 100 |
| **Others** | | |
| Nutritional dermatosis | 2 | 20 |
| Delusions of parasitosis | 1 | 10 |
| Necrobiosis lipodica diabeticorum | 1 | 10 |
| Miscellaneous | 6 | 60 |
| Total | 10 | 100 |

Ethiopia, 66.8% in Rwanda, 66.7% in Zambia, and 40.1% in Uganda.[9–14]

The trend in Nigeria has not altered significantly from earlier studies carried out in the Savannah area three decades prior to present study where 40% of cases of skin diseases were found to be due to infective causes.[4] Onayemi et al recorded an incidence rate of 44.4% for infective dermatoses in a hospital based study in Northern Nigeria.[6] The preponderance of fungal infections among infective dermatoses (67%) agrees with earlier trends in literature.[5,6]

The picture of skin diseases seen in developing countries mirrors to a great extent the situation in Europe around the beginning of the twentieth century when skin infections and parasitic infestations dominated the clinical picture due to the poor socioeconomic situation. Although there has been some improvement in the socio-economic situation, with a tendency towards Westernization in urban areas, there is still extensive underdevelopment and poverty particularly in many rural areas in developing countries.

Eczema in its different presentations was the next to infectious skin diseases in this series with 26% of cases presenting in 0–9 yr age group (Table 2, Figure 2).

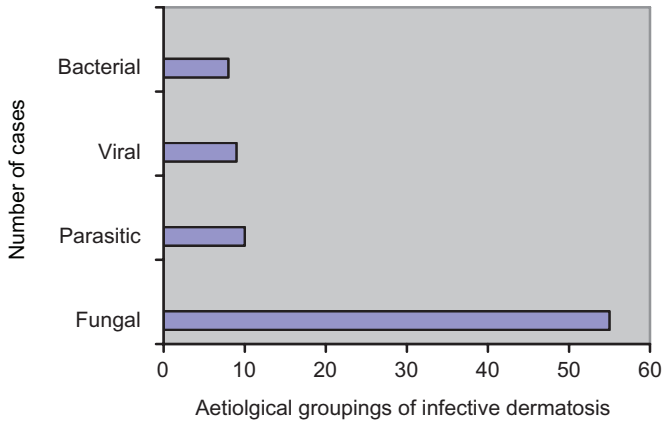


**Figure 3.** Aetiological groupings of infective dermatoses.

In this age group, atopic eczema is quite common. In the Ogunbiyi et al series in Western Nigeria, eczemas accounted for 30%, Nnoruka's study in South East of Nigeria it made up 20% and in the Northern Central area of Nigeria, in a study by Husain Yahya, eczema made up 35% of all skin diagnosis, in all topping the list of the skin diseases and showing a departure from earlier trends.[5,7,15] These findings were attributed to urbanization, industrialization and probable changes in socioeconomic factors. Atopic (23%), Contact (13%) and Seborrhoeic (16%) eczema, as in the current study represented a significant portion of all the eczemas in all the series mentioned. Our findings support the findings of similar studies showing the increasing trend of eczemas in the pattern of dermatoses in Nigeria.

Vitiligo accounted for 29% of the pigmentary dermatoses followed by post inflammatory hypopigmentation. Vitiligo is an acquired idiopathic loss of skin pigmentation. Pigmentary dermatoses, though not usually symptomatic put a lot psychosocial impact on the patient because of its visibility especially in black skin.[16] This results in patients seeking health care.

## Conclusion

Epidemiology studies of skin diseases are important in the study of disease pattern, changes in disease pattern and for planning dermatology services and research for a country. The pattern of dermatoses presented here is an expression of poverty, ignorance, overcrowding and humid climate. The skin occupies a powerful position as an organ of communication and plays an important role in socialization. Despite the fact that skin diseases are often associated with

limited mortality, skin disorders are a leading cause of disability.[3]

The high proportion of transmissible disease makes a preventive approach to skin disease in such a setting a logical one. The treatment of individuals without an improvement in socioeconomic conditions is unlikely to provide lasting change in a community, or even at an individual level, because early re-infection is probable.

Emphasis should be placed on this group of common skin diseases at all levels of personal health care, and suitable public health policies should be implemented in order to manage the problem rationally. An effort to improve dermatologic care and alleviate the burden on patients should be the target of a skin friendly health policy.

## Disclosure

This manuscript has been read and approved by all authors. This paper is unique and is not under consideration by any other publication and has not been published elsewhere. The authors and peer reviewers of this paper report no conflicts of interest. The authors confirm that they have permission to reproduce any copyrighted material.

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