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Age-Specific Patterns of Childhood Skin Disease in Southwestern Nigeria: A Multi centre Study

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ABSTRACT

Paediatric dermatoses contribute substantially to childhood morbidity and impaired quality of life, yet data from resource-poor settings remain limited. This study describes the age-specific and geographic distribution of dermatoses in children attending dermatology clinics in suburban and semi-urban centres in Southwestern Nigeria A 5-year retrospective multicentre study (January 2020–December 2024) was conducted among children aged ≤16 years attending dermatology clinics in suburban (Ile-Ife) and semi-urban (Owo) communities in Nigeria. Demographic characteristic and primary diagnoses were extracted from clinical records. Diagnoses were categorized by aetiology and age-group. Data were analyzed using descriptive statistics, chi-square tests, and crude odds ratios with 95% confidence intervals, with statistical significance set at p<0. 05. Among 589 children (mean age 7.9±4.8 years; 53.7% male), non-infectious dermatoses (71.1%), particularly eczematous (29.2%) and hereditary disorders (10.2%) predominated. Infectious dermatoses (36.8%) were significantly more common among children aged 0–11 years (p=0.012). Fungal infections peaked among school-aged children (p=0.013), while viral dermatoses were most frequent in preschool-aged children (p<0.001). Children in the suburban cohort had significantly higher odds of infectious (OR=1.72; 95% CI 1.18–2.50; p=0.004) and eczematous dermatoses (OR=1.72; 95% CI 1.15–2.56; p=0.008). Whereas hereditary skin conditions (OR = 0.60; 95% CI 0.34–1.03; p = 0.061) and papulosquamous dermatoses (OR = 0.60; 95% CI 0.33–1.06; p = 0.098) were more frequently observed in the semi-urban setting Eczematous dermatoses dominate paediatric-dermatology consultations in Southwestern Nigeria, with distinct age and geographic patterns. Early-childhood programmes should prioritise recognition and management of infectious and eczematous conditions, while school health services should strengthen fungal screening and treatment.

Keywords: Dermatitis; Eczema; Child, Adolescent; Mycoses; Prevalence

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INTRODUCTION

Skin diseases represent a substantial and enduring component of the global burden of disease, with children accounting for a disproportionately high share of incident cases worldwide[1,2]. Across diverse health-care settings, skin disorders consistently rank among the most common reasons for paediatric outpatient visits, comprising an estimated 9–30% of consultations[3–6]. Children in low-and middle-income countries (LMICs) are disproportionately affected, particularly within low–middle sociodemographic index (SDI) regions, where infectious exposures, poverty, overcrowding, and limited access to dermatologic care converge to heighten vulnerability[2]. Within these contexts, younger children appear especially at risk[7]. Epidemiologic evidence consistently show that the highest incidence of paediatric skin diseases occur in the 0–4-year age group[2,7,8].

The prevalence and pattern of paediatric dermatoses vary considerably across geographic and socioeconomic settings and is influenced by genetics, environmental, and structural determinants[2,4,5,7–12]. In high-income countries, inflammatory and allergic dermatoses, particularly atopic dermatitis, acne vulgaris, and autoimmune skin disorders, account for most paediatric dermatology consultations[13,14]. In contrast, many LMICs continue to experience a substantial burden of infectious and infestation-related skin diseases, often with marked intra-regional variability[6–11,15]. Overcrowding, inadequate sanitation, humid tropical climates, delayed health-seeking behaviour, and restricted access to specialist care contribute the sustained transmission of fungal, bacterial, and parasitic dermatoses in these populations.

Across sub-Saharan Africa, fungal infections, parasitic infestations, and bacterial skin diseases remain highly prevalent among children, particularly among school-aged populations[6,9,10,15]. Tinea capitis, scabies, pyoderma, and superficial fungal infections rank among the most frequently reported paediatric dermatoses in both community-based and hospital-based studies[9,10,15]. At the same time, inflammatory skin disorders including atopic dermatitis, seborrhoeic dermatitis, and other inflammatory skin conditions are increasingly recognized contributors to paediatric outpatient attendance in the region[16,17]. This evolving dual burden of infectious and non-infectious dermatoses presents important diagnostic and therapeutic challenges in LMICs where access to trained dermatologist remains limited. Despite these trends, data on geographic variations and the evolving burden of paediatric dermatoses in these regions remains sparse.

Although often perceived as non-life-threatening conditions, childhood skin diseases impose profound physical, psychosocial, educational and economic consequences on affected children and their families[2,18,1911]. Chronic or highly visible skin diseases can impair self-esteem, peer relationships, social participation and emotional wellbeing during critical

developmental periods[11,18,19]. Pruritic and inflammatory skin conditions including scabies and eczemas further contribute to sleep disturbance, impaired concentration, reduced school attendance, and diminished quality of life [11]. In LMICs, delayed or incorrect diagnosis is common, predisposing children to secondary bacterial and potentially severe systemic complications including cardiovascular diseases and malignancies[10,20–22].Consequently, paediatric skin diseases represent not only a dermatologic concern, but also an important public-health and developmental challenge.

Despite the substantial burden of paediatric dermatoses in LMICs, contemporary epidemiologic data from many African settings remain limited. Studies from Nigeria for example, are often confined to ingle-centre urban populations, with few offering detailed age-stratification or meaningful geographic comparisons that highlight regional variation in disease patterns. In addition, relatively little attention has been given to suburban and semi-urban populations, where environmental exposures and structural determinants differ considerably from those in major urban cities. These gaps restrict the evidence base needed for planning targeted interventions including school-based infection control programs and the allocation of resources for specialist dermatologic services.

The present study characterizes the spectrum of paediatric dermatoses presenting to tertiary dermatology clinics in southwestern Nigeria and examines geographic and age-related patterns of disease presentation over a five-year period. By providing clinic-based epidemiological data from a resource limited setting, the study aims to strengthen the evidence base for targeted paediatric dermatology services, improved diagnostic strategies and inform region specific public health interventions.

Study Objectives

This study aims to describe the spectrum and demographic distribution of among children referred for specialist consultation across two skin diseases in children attending a tertiary dermatology clinic over a five-year period. By characterizing the most common diagnoses and their demographic patterns, we provide insights into disease burden, evolving patterns with a bid to inform clinical strategies for improved paediatric dermatologic care.

MATERIALS AND METHOD

Study Design and Setting:

This was a retrospective, clinic-based observational study conducted across two tertiary dermatologic clinics in southwest Nigeria between January 2020 and December 2024. The first study site was the Dermatology Department of the Obafemi Awolowo University Teaching Hospital Complex (OAUTHC) in Ile-Ife, Osun State, a suburban referral centre serving surrounding communities and neighbouring towns. The second site was the

Dermatology Clinic of the Federal Medical Centre (FMC) Owo, situated in Ondo State. Owo is a semi-urban town with a large catchment population drawn from both rural and semi-urban areas of the state. Both clinics function as tertiary referral centres, receiving paediatric dermatology cases from primary and secondary health facilities within their respective regions. Together, they provide a representative spectrum of paediatric dermatological conditions in semi-urban and suburban Nigerian settings.

Study Population

All children aged 0- 16 years who presented as new referrals to the dermatology clinic during the study period were eligible for inclusion. A total of 597 new paediatric consultations were documented. Of these, 589 were included in the final analysis. Eight cases were excluded due to inconclusive diagnosis or default before completion of diagnostic evaluation.

Inclusion and Exclusion Criteria

Inclusion criteria:

- Children aged 0-16 years presenting for the first time to the dermatology clinic within the study period.
- Cases with a definitive clinical diagnosis established by a dermatologist
- Residence in the study locations or neighbouring non-urban settlements.

Exclusion criteria;

- Patients with incomplete diagnostic work-up
- Cases lost to foll0w-up before confirmation of diagnosis
- Records with insufficient clinical information for classification.

Data Collection

Data were collected retrospectively using structured proforma to extract relevant information from the medical records. Information obtained include; demographic variables (age, sex and residence) and clinical variables (presenting complaints and final dermatologic diagnosis)

Diagnostic process

All diagnoses were made clinically by consultant dermatologists, with laboratory investigations including skin scrapings, cultures or histopathology performed where indicated to enhance diagnostic accuracy. Each patient was assigned a primary diagnosis, defined as the condition most responsible for referral and clinical evaluation. Skin diseases were systematically classified by pathogenesis or aetiology into 12 major categories, following established frameworks used in previous studies[14]. For analytic clarity, each category was further coded as either infectious or non-infectious dermatoses enabling comparison across broad etiologic groups.

Data management and Statistical Analysis Methods

All data were entered into SPSS (version 20.0; IBM Corp., Armonk, NY, USA) and cross checked for accuracy. Descriptive statistics were used to summarize demographic and clinical characteristics. Frequencies and proportions were calculated for categorical variables, while means and standard deviations were reported for continuous variables. For comparison between age groups, age was stratified into four groups; 0-2 years (infants/toddlers), 3- 5 years (preschool age 6-11 years (school age) and 12-16 years (adolescent). Statistical associations between demographic variables and diagnostic categories were assessed using chi-square test. Crude odds ratios (ORs) with 95% confidence intervals (CIs) were calculated to estimate the strength of associations. A p-value <0.05 was considered statistically significant

Ethical considerations

Ethical approval was obtained from the Ethics and Research Committee OAUTHC with National registration number: NHREC/17/03/2021 and protocol number ERC/2022/12/11). Written informed consent was obtained parents or guardians, and assent was sought from older children where appropriate. Patient confidentiality was strictly maintained throughout data collection and analysis.

RESULTS AND DISCUSSION

A total of 589 children aged 0–16 years were included in the study, with a mean age of 7.87±4.83 years. Males constituted 53.7% of participants, giving a male-to-female ratio of 1.2:1. The largest proportion of patients were aged 6–11 years (36.7%), followed by adolescents aged 12–16 years (28.7%). Most participants were from Osun State (68.9%). There were no statistically significant sex-related differences in age distribution as shown in Table 1.

Table 1. Sociodemographic Characteristics of Paediatric Patients Attending Dermatology Clinics in Southwestern Nigeria (N=589)

Variable	Female n=273 (%)	Male n=316 (%)	Total N=589 (%)	Statistic	*p* value
Mean age (years)	7.71 ± 4.84	8.02 ± 4.83	7.87 ± 4.83	$t = -0.78$	0.440
Age group				$\chi^2=1.08$	0.783
0–2 years	53 (19.4)	55 (17.4)	108 (18.3)		
3–5 years	47 (17.2)	49 (15.5)	96 (16.3)		
6–11 years	95 (34.8)	121 (38.3)	216 (36.7)		
12–16 years	78 (28.6)	91 (28.8)	169 (28.7)		
State of residence				$\chi^2=0.56$	0.455
Osun State	184 (67.4)	222 (70.3)	406 (68.9)		
Ondo State	89 (32.6)	94 (29.7)	183 (31.1)		

Table 2 shows the distribution of major categories of skin conditions stratified by sex. Non-infectious dermatoses accounted for over two-thirds (71.1%) of paediatric consultations, with eczematous disorders representing the most frequent diagnostic category (29.2%). Infectious dermatoses constituted 36.8% of cases, predominantly fungal infections (16.5%) and parasitic infestations (9.5%). Although males demonstrated slightly higher frequencies of infectious dermatoses and viral skin diseases, no statistically significant sex-related differences were identified across any diagnostic category.

Table 2. Distribution of Paediatric Dermatoses Among Study Participants

Dermatoses	**Female n=273 (%)**	**Male n=316 (%)**	**Total N=589 (%)**	**OR (95% CI)**	***p* value**
Infectious dermatoses	95 (34.8)	122 (38.6)	217 (36.8)	1.18 (0.84–1.65)	0.34
Bacterial dermatoses	11 (4.0)	15 (4.7)	26 (4.4)	1.19 (0.54–2.63)	0.67
Fungal infections	48 (17.6)	49 (15.5)	97 (16.5)	0.86 (0.56–1.33)	0.50
Parasitic infestations	22 (8.1)	34 (10.8)	56 (9.5)	1.38 (0.78–2.41)	0.27
Viral dermatoses	15 (5.5)	27 (8.5)	42 (7.1)	1.61 (0.84–3.09)	0.15
Non-infectious dermatoses	198 (72.5)	221 (69.9)	419 (71.1)	0.88 (0.62–1.26)	0.49
Eczematous dermatoses	84 (30.8)	88 (27.8)	172 (29.2)	0.87 (0.61–1.24)	0.44
Hypersensitivity/autoimmune disorders	20 (7.3)	29 (9.2)	49 (8.3)	1.28 (0.71–2.32)	0.42
Hereditary/congenital disorders	32 (11.7)	28 (8.9)	60 (10.2)	0.73 (0.43–1.25)	0.25
Papulosquamous disorders	21 (7.7)	27 (8.5)	48 (8.1)	1.12 (0.62–2.03)	0.70
Skin tumours	18 (6.6)	13 (4.1)	31 (5.3)	0.61 (0.29–1.26)	0.18
Acneiform eruptions	10 (3.7)	9 (2.8)	19 (3.2)	0.77 (0.31–1.93)	0.58
Hair disorders	6 (2.2)	8 (2.5)	14 (2.4)	1.16 (0.40–3.37)	0.79
Other non-infectious dermatoses	13 (4.8)	13 (4.1)	26 (4.4)	0.86 (0.39–1.88)	0.70

Age related distribution of paediatric dermatoses.

Distinct age-related variations in dermatoses were observed. Infectious dermatoses were more frequent among younger children, particularly those aged 0–11 years (40.0% vs 29.0%; *p*=0.012), whereas non-infectious conditions predominated among adolescents. Bacterial infections and eczematous disorders were significantly more common in infants and toddlers (p=0.007 and p=0.002 respectively), while fungal infections peaked among school-aged children aged 6–11 years (p=0.013). Viral dermatoses occurred predominantly in preschool-aged children (p<0.001). In contrast, papulosquamous disorders, acneiform eruptions, and hair disorders increased significantly in older age groups.

Table 3. Age-Stratified Distribution of Paediatric Dermatoses

	0–2 years n=108 (%)	**3–5 years** n=96 (%)	**6–11 years** n=216 (%)	**12–16 years** n=169 (%)	***p* value**
Infectious dermatoses	41 (38.0)	40 (41.7)	87 (40.3)	49 (29.0)	0.09
Bacterial dermatoses	11 (10.2)	6 (6.3)	4 (1.9)	5(3.0)	**<0.01**^
Fungal skin infections	10 (9.3)	10 (10.4)	46 (31.3)	31 (18.3)	**0.01**
Parasitic skin diseases	14(13.0)	8 (8.3)	22 (10.2)	12 (7.1)	0.41
Viral infections	7(6.5)	16 (16.7)	16 (7.4)	3 (1.8)	**<0.01**

Non-infectious dermatoses	79 (73.1)	60 (62.5)	147 (68.1)	133 (78.7)	**0.02**
Eczematous dermatoses	48 (44.4)	24 (25.0)	56 (25.9)	44(26.0)	**<0.01**
Hypersensitivity/autoimmune disorders	12 (11.1)	8 (8.3)	14 (6.5)	15 (8.9)	0.55
Hereditary/congenital disorders	5 (4.6)	9 (9.4)	26 (12.0)	20 (11.8)	0.17
Papulosquamous disorders	2 (1.9)	6 (6.3)	28 (13.0)	12 (7.1)	**<0.01**
Skin tumours	4 (3.7)	6 (6.3)	9(4.2)	12 (7.1)	0.50
Acneiform eruptions	1 (0.9)	1 (1.0)	5(2.3)	12 (7.1)	**0.01**
Hair disorders	0 (0.0)	1 (1.0)	2(0.9)	11 (6.5)	**<0.01**^
Other non-infectious dermatoses	10 (9.3)	5 (5.2)	4 (1.9)	7 (4.1)	**0.03**^
Pigmentary disorders	4 (3.7)	4 (4.2)	10 (4.6)	12 (7.1)	0.55

^= Likelihood ratio

Significant geographic differences were identified between study locations. Infectious skin conditions were significantly more frequent in the sub-urban cohort compared with the semi-urban cohort (OR = 1.72; 95% CI, 1.18–2.50; p **<0.01**). Although individual diagnostic subgroups did not reach statistical significance, children in the sub-urban setting had 2.56-fold higher odds of bacterial infections (OR = 2.56; 95% CI 0.87–7.69) and 1.67-fold higher odds of fungal infections (OR = 1.67; 95% CI 0.99–2.78). Eczematous dermatoses were also more common in the sub-urban cohort, with children exhibiting 1.72-fold higher odds of eczema compared with their semi-urban counterparts (OR = 1.72; 95% CI 1.15–2.56; p < 0.01). In contrast, hereditary skin conditions (OR = 0.60; 95% CI 0.34–1.03; p = 0.06) and papulosquamous dermatoses (OR = 0.60; 95% CI 0.33–1.06; p = 0.10) were more frequently observed in the semi-urban setting, although these differences did not reach statistical significance (Table 4).

Table 4. Distribution of paediatric dermatoses in semi-urban versus sub-urban settings

Variable	Suburban Cohort n=406 (%)	Semi-Urban Cohort n=183 (%)	OR (95% CI)	*p* value
Age group				
Pre-pubertal (0-11 years)	**300 (73.9)**	**120 (65.6)**	**1.49 (1.02-2.17)**	**0.04**
Adolescent (12 -16 years)	106 (26.1)	63 (34.4)		
Infectious dermatoses	**165 (40.6)**	**52 (28.4)**	**0.58 (0.40–0.85)**	**<0.01**
Bacterial dermatoses	22 (5.4)	4 (2.2)	0.39 (0.13–1.15)	0.08
Fungal infections	75 (18.5)	22 (12.0)	0.60 (0.36–1.01)	0.05
Parasitic infestations	40 (9.9)	16 (8.7)	0.88 (0.48–1.61)	0.67
Viral dermatoses	32 (7.9)	10 (5.5)	0.68 (0.33–1.41)	0.29
Non-infectious dermatoses	286 (70.4)	133 (72.7)	1.12 (0.76–1.65)	0.58
Eczematous dermatoses	132 (32.5)	40 (21.9)	0.58 (0.39–0.87)	**<0.01**
Hypersensitivity and autoimmune dermatoses	33 (8.1)	16 (8.7)	1.08 (0.58–2.02)	0.80
Hereditary/congenital disorders	35 (8.6)	25 (13.7)	1.68 (0.97–2.90)	0.06
Papulosquamous disorders	28 (6.9)	20 (10.9)	1.66 (0.94–3.03)	0.10
Skin tumours	22 (5.4)	9 (4.9)	0.90 (0.41– 2.00)	0.80
Acneiform eruptions	12 (3.0)	7 (3.8)	1.30 (0.51– 3.37)	0.58
Hair disorders	10(2.5)	4 (2.2)	0.89 (0.27– 2.86)	0.55#

Other non-infectious dermatoses	21 (5.2)	5 (2.7)	0.52 (0.19– 1.39)	0.18
Pigmentary disorders	18 94.4)	12 (6.6)	1.51 (0.71- 3.21)	0.28

= Fishers Exact test

Over the five-year period, non-infectious dermatoses consistently accounted for the largest proportion of paediatric dermatology consultations and demonstrated a steady upward trajectory. After a slight dip in 2021, their prevalence rose progressively, exceeding 80% in the last year of the study. Eczematous dermatoses contributed substantially to this increase, showing a gradual rise throughout the study period. In contrast, infectious dermatoses displayed a fluctuating but overall declining trend. They peaked at approximately 45% in 2021 before falling to around 30% by 2023. Other diagnostic groups including fungal infections, parasitic infestations, viral dermatoses, hereditary disorders, and autoimmune conditions remained relatively stable and consistently below 20% across all time points (Figure 1).

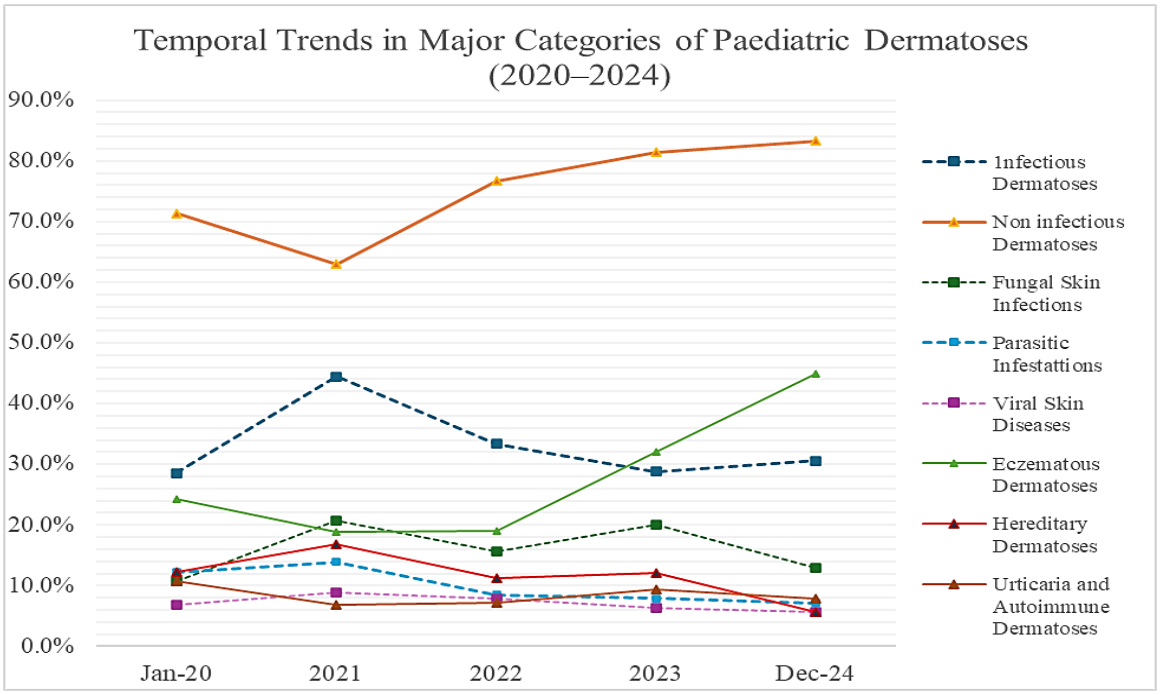

Figure 1. Trends in Infectious and Non-Infectious Dermatoses Among Children Attending Dermatology Clinics Over a 5 Year Period

DISCUSSION

This multicentre study provides evidence on the spectrum and age-related distribution of paediatric dermatosis in suburban Southwestern Nigeria and highlights geographic variations in disease patterns in the region. The demographic profile of the study population with a slight male predominance is comparable to reports from other Nigerian and sub-Saharan African dermatology clinics where school-aged children often represent the largest proportion of attendees[20,23–25]. While the absence of sex-related differences in the diagnostic subgroups

contrasts with the findings of Onsoi et al[20] and Kelbore et al[25], It suggests that biological sex plays a limited role in the epidemiology of paediatric skin diseases particularly within the younger age brackets. Instead, age, environmental exposures and other social and structural factors appear to exert a greater influence.

A key finding of this study is the predominance of non-infectious dermatoses which accounted over two-thirds of all diagnosis. Eczematous disorders were the most frequent subgroup, representing nearly one third of all presentations. Although this pattern contrasts with earlier reports from other regions in Nigeria as well as from Ghana and Gabon, where infectious dermatoses particularly remain the dominant diagnostic group [6,15,26], it aligns with recent evidence form several LMICs where non communicable skin diseases are increasingly recognized as major contributors to paediatric dermatologic consultations[10,17,20,27].

Furthermore, the gradual rise in referrals for non-infectious dermatoses particularly eczematous conditions, mirrors the findings of Teclessou et al., who reported increasing rates of atopic dermatitis and other eczematous disorders among paediatric patients[24]. This temporal trend supports growing evidence of an epidemiologic shift in resource poor settings towards disease profiles more commonly seen in Western populations. Such a shift likely reflects urbanization, changing environmental exposures, evolving lifestyles and increasing awareness of chronic inflammatory skin conditions.

Despite the high prevalence of non-infectious dermatoses, skin infections remained an important reason for dermatology consultation in our study population. Fungal infections constituted the second largest diagnostic subgroup. This finding highlights a dual burden of both infections and non-infectious skin diseases in the study cohort and is consistent earlier reports in which fungal skin infections are frequently identified as predominant cause of infectious dermatoses across both LMICs and high-income settings[2,7,9,10,23,28]. This widespread pattern can be attributed in part to their ease of transmission, and their ability to persist and remain viable in environmental reservoirs. Their predominance across diverse geographic and socioeconomic context highlights their public health importance, despite the rising prevalence of non-communicable skin conditions in among children in LMICs.

Age specific patterns and developmental susceptibility

Age was significantly associated with the distribution of dermatologic presentations in this study and reflects the role of age-dependent cutaneous biology as well as behavioural exposures in the susceptibility to skin diseases. Prepubertal children, (aged 0-11 years), carried a disproportionately higher burden of infectious dermatoses compared to older children. This pattern is consistent with findings from Nigeria, Madagascar, Nepal, Thailand, and Brazil, where early childhood vulnerability to infectious skin diseases have been

documented[7,10,20,23,29]. Several factors likely contribute to this observation including immature epidermal barrier function in infancy, caregiver-dependent hygiene practices, close physical contact during play and the high transmissibility of parasitic and infectious dermatoses in school environment.

Bacterial skin infections particularly impetigo were significantly more common among infants and toddlers (0-2years). This finding aligns with global epidemiological data showing bacterial skin diseases disproportionately affect younger children especially neonates with the highest DALY burden observed in infants in low-SDI regions[30]. The vulnerability of this age group is likely related to the immature skin barrier function, frequent micro trauma and close care giver contact which facilitate bacterial colonization and transmission. Likewise, viral skin infections occurred significantly more frequently in the 3–5-year (pre-school) age group. This pattern is consistent with reports from Greece, where viral skin infections constituted 12.5% of paediatric dermatoses[14]. The preponderance of viral skin infections in this age group can be explained by increased participation of this age group in playgroups, daycare centres and pre-school environment, coupled with an immune system that is still undergoing maturation.

Fungal infections also varied significantly across age groups, rising from 9.3% in infants and toddlers to 18.3% among adolescents, and peaking at 31.3% in school-aged children. This peak mirrors findings from multiple African school- and community-based surveys, where prevalence rates of superficial fungal infections commonly range between 23% and 36%[31–33]. The predominance of fungal infections in school-aged children is likely due to a combination of behavioural exposure patterns and environmental resilience of fungal spores. School-aged children experience increased closed contact, shared fomites and greater participation in group activities, all of which facilitate transmission. Additionally, dermatophytes are known for their ability to survive harsh conditions and persist in environmental reservoirs, thereby enabling sustained transmission within households and school environment, resulting in the high prevalence across diverse geographical settings.

Adolescents presented with a significantly different pattern of skin diseases, dominated by non-infectious dermatoses particularly acne and hair related disorders. This trend is well documented in studies from diverse settings[23,29]. For instance, in Brazil, adnexal disorders including acne accounted for 12.5% of paediatric dermatoses with marked rise in adolescence. The relatively higher prevalence of non-infectious dermatoses among older children reflects the influence of hormonal and immune maturation, evolving cosmetic and grooming practices as well as psychosocial stressors experienced in this age bracket. However, although non-infectious dermatoses were generally commoner in older children,

atopic dermatitis and related eczematous conditions showed a distinct age-related distribution in our cohort. Consultations for eczemas were significantly higher among infants and toddlers, stabilizing at approximately 25 -26% in the older age groups. This pattern aligns with the natural history of AD, which typically begins before the age of two.

Geographical variations in pattern of skin diseases suburban and semi urban towns.

Geographical variations in the pattern of paediatric skin diseases between sub-urban and semi-urban settings in our study suggest a potential role of environmental factors in shaping skin health. In this study, Ile-Ife, a sub-urban town with higher population density, better infrastructure, and closer proximity to urban cities, showed significantly higher frequencies of both infectious dermatoses and eczematous disorders compared with Owo, a semi-urban town characterized by more rural–urban transition features. The prevalence of bacterial and fungal infections were 2.6-fold and 1.7-fold higher, respectively in the suburban cohort. While the significant age difference between cohorts may partly explain this pattern, variations in environmental exposures, housing conditions, and health care access are also likely contributing factors.

Moreover, the higher burden of infectious dermatoses in the sub-urban cohort in this study, is consistent with reports from southeast Nigeria, where fungal infections were significantly more prevalent among children in urban settlements than rural areas[34]. Kelbore et al., similarly reported higher prevalence of infectious skin diseases in urban compared with rural communities in Ethopia[25]. Although our comparison involved a sub-urban and a semi-urban setting rather than strictly urban and rural areas, the sub-urban centre is more likely to mirror the transmission patterns seen in neighbouring urban towns, while semi-urban communities may more closely resemble rural environments. Higher population density, over-crowded classrooms and greater child-to child contact in sub-urban settings likely facilitate anthropophilic transmission, particularly of fungal pathogens. In contrast semi-urban communities generally have lower density and more outdoor living, reducing opportunities for close contact spread.

The higher frequency of eczematous disorders in the sub-urban cohort is also consistent with evidence that atopic dermatitis and related inflammatory dermatoses are more common in urbanized and transitioning environments, where factors such as air pollution, reduced microbial diversity, and increasing adoption of westernized lifestyles contribute to rising prevalence. This reflects current global trends in which non-communicable skin diseases are increasingly recognized as major contributors to paediatric dermatology consultations in LMICs.

Although hereditary and papulosquamous disorders appeared more common in the semi-urban cohort, these differences did not reach statistical significance. This may reflect limited sample size, but it also raises the possibility of underlying genetic, environmental, or cultural factors that warrant further investigation. Larger, multi-site studies incorporating environmental sampling, genetic profiling, and socioeconomic indicators would help clarify whether these observed differences represent true geographic variation or sampling variability.

Implications for practice and policy

These findings carry important implications for paediatric dermatology and public health planning in southwestern Nigeria and similar settings. The rising burden of non-infectious dermatoses underscores the need to strengthen capacity for diagnosing and managing chronic inflammatory skin diseases. This includes caregiver education, enhanced training for healthcare workers, and improved infrastructural support to facilitate early diagnosis, streamlined referral pathways and timely access to appropriate therapies.

At the same time, the persistent burden of infectious dermatoses in especially in school age children highlights the continued relevance of school-based hygiene programmes, community level prevention strategies, and efficient referral systems. The observed geographic differences further reinforces the need for context specific resource allocation and targeted outreach to communities with higher infectious disease burdens.

Strengths and limitations

Strengths of this study include its multicentre design, large sample size, and the detailed age- and geography-stratified analysis, which together provide a robust overview of paediatric dermatoses in this region. However, its clinic-based retrospective nature may not fully reflect community prevalence, and the relatively short study period (five years) limits the ability to assess longer-term trends. Future research incorporating community-based sampling, longitudinal follow-up, and environmental assessments would help clarify causal pathways and deepen understanding of paediatric skin disease in this setting.

CONCLUSION

This multicentre study demonstrates clear age-specific and geographic variations in paediatric dermatoses in Southwestern Nigeria. Non-infectious dermatoses particularly eczematous conditions constitute the predominant diagnostic group overall, while infectious dermatoses especially superficial fungal infections remain a substantial burden among younger children. Eczematous skin conditions showed a steady upward trend across the stud period, reflecting an evolving epidemiologic pattern of paediatric dermatoses, in which inflammatory dermatoses are becoming increasingly prominent.

Children in sub-urban settings, exhibited nearly two-fold higher odds of both infectious and eczematous conditions, highlighting the influence of population density, environmental exposures, and local living conditions on disease distribution. These findings highlight the need for strengthened paediatric dermatology services, targeted school-based health initiatives, and context-specific public health strategies capable of address the high burden of skin disease among children in resource-limited settings.

Authors Contribution:

All the authors contributed substantially to the study protocol, data collection and drafting of the manuscript.

Disclosure:

The Authors declare no conflict of interest

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