

## Prevalence of Skin Diseases in Nigerian Children: - (The University of Port Harcourt Teaching Hospital) Experience

\*Altraide D D, FWACP \*\*George I O, FMCPaed, \*\*Frank-Briggs A I, FMCPaed

\*Department of medicine, University of Port-Harcourt Teaching Hospital, Port-Harcourt, Nigeria \*\*Department of Paediatrics, University of Port-Harcourt Teaching Hospital, Port-Harcourt, Nigeria.

### Abstract

**Background:** Skin diseases are frequently encountered in the tropics and are a serious cause of morbidity, disfigurement and distress in all age groups. The aim of this study is to determine prevalence and common dermatological conditions encountered in UPTH.

**Methods:** Children aged 0-16 years attending the dermatology clinic in UPTH from June 2005 to November 2007 were prospectively studied.

**Results:** A total of 1,226 skin disorders were seen, 247 (20.1%) were children aged 0-16 years. Skin disorder was commoner in females 139(56.3%) than males 108(43.7%). Papular urticaria 36(14.6%), atopic dermatitis 34(13.8%) and tinea 31(12.6%) were the most commonly observed childhood skin diseases.

**Conclusions:** Skin diseases such as papular urticaria and atopic dermatitis are important dermatological problems in our environment. Implementation of public health policies and improvement in personal hygiene would reduce the prevalence of skin diseases in Nigerian children.

**Keywords:** Prevalence; Skin diseases; Children.

Date accepted for publication 20<sup>th</sup> July 2008

Nig J Med 2008; 417 - 419

Copyright©2008 Nigerian Journal of Medicine

### Introduction

Skin diseases are important public health problem in developing countries and a serious cause of morbidity, disfigurement and distress in all age groups.<sup>1</sup> The disease agents and the host (man) are important factors determining the pattern of skin diseases. The temperature of the tropical and sub tropical regions, the rainfall and humidity in the rain forest regions, the dust and aridity of the desert and savannah regions and the vagaries of climatic changes favour the disease agents and their vectors.

Man contributes to his skin diseases by his way of life such as poor personal and community hygiene, disease infected rural dwelling, overcrowding in rural and unplanned urban settings, poor nutrition, low socio-economic level based on poor scientific and technological development. The disease agents flourish in the environment of home, surroundings, farms, forests, water sources, markets and work places.

The prevalence of common skin diseases in children rises with age.<sup>2</sup> This may reflect both increasing exposure to environmental factors, disease agents and increasing distance from maternal care. Successful management of any skin condition requires correct diagnosis and prompt treatment. Wrong diagnosis will lead to ineffective treatment and this can subsequently lead to dangerous complications such as septicaemia and renal failure.

Most studies on skin disorders in Nigeria were conducted in adults,<sup>3-5</sup> and reports on childhood dermatoses are scanty in many African countries. Hence, by determining the prevalence of childhood skin diseases in this environment, this study hopes to contribute to improving the quality of health care given to children. Also knowledge of common childhood diseases will improve diagnostic ability of the attending health workers leading to improved management as well as introduction of appropriate preventive measures.

### Materials and Methods

We collected prospectively all cases of skin diseases aged 0-16 years diagnosed during consultations at the dermatology clinic of the University of Port-Harcourt Teaching Hospital, Port-Harcourt, from June 2005 to November 2007. The dermatology clinic of UPTH runs once a week and attends to all referred cases from peripheral hospitals and the clinics within the hospital including paediatrics clinics. The consultations are provided by the consultant dermatologist in collaboration with residents. Data collected included diagnosis, sex and age of each patient. Diagnoses in most cases were based on history and physical examination but where necessary, bacteriological, mycological and histological confirmations were obtained. Mycological diagnosis included mounting of skin scrapings with potassium hydroxide solution and viewing under the microscope. Mycelia and hyphae are identified in fungal skin infections. In those with suspected bacterial skin infections, swabs were taken for gram staining, microscopy, culture and sensitivity. However, in suspected Hansen's disease, skin slit, smear and staining for acid fast bacilli using Ziehl-Nelson's stain was done.

## Results

A total of 1,226 cases of skin diseases were seen in the dermatological clinic of the UPTH. Two hundred and forty seven (20.1%) were children aged between 0-16years. Of these children 108 (43.7%) were males while 139 (56.3%) were females, with a male: female ratio of 1:1.3. The age distribution is as shown in table 1.

Table II shows the distribution of the various skin diseases with their percentages. Papular urticaria (14.6%), atopic dermatitis (13.8%), and tinea (12.6%) were the most common skin diseases. Others include pityriasis rosea (6.5%),verrucae (4.8%), contact dermatitis (4.5%),and seborrheic dermatitis (4.0%).

**Table I: Age distribution of children with skin diseases**

Age (Years)	Number of cases (%)
0 - < 5	117 (47.4)
5 - < 10	58 (23.5)
10- 16	72(29.1)
Total	247 (100)

**Table II: Types of skin diseases among the Children**

Skin diseases	No. of Cases (%)	Skin diseases	No. of Cases
Scabies	2(0.8)	Urticaria	4(1.7)
Onchodermatitis	1(0.4)	Pityriasis rosea	16 (6.5)
Fungal infections		Lichen planus	4 (1.6)
Dermatophytosis		Papular urticaria	36(14.6)
T. capitis	6 (2.4)	Erythroderma	3(1.2)
T. corporis	9 (3.6)	Vitiligo	7(2.8)
T. pedis	6 (2.4)	Pruritic papular eruption of HIV	5(2.0)
Others	3 (1.2)	Post-inflammatory hyperpigmentation	2(0.8)
T. vesicolor	7(2.8)	Keratoderma	4(1.6)
Candidiasis/paronychia	1 (0.4)	Fixed drug eruptions	3(1.2)
Dermatitis		Syringoma	1(0.4)
Atopic	34(13.8)	Acneiform eruptions	2(0.8)
Contact allergic	11(4.5)	Phyromoderma	3(1.2)
Seborrheic dermatitis	10(4.0)	Lichen simplex chronicus	3(1.2)
Others	12(4.8)	Lichen nitrides	2(0.8)
Impetigo	6(2.4)	Keloids	3(1.2)
Molluscum contagiosum	7 (2.8)	Tuberous sclerosis	1(0.4)
Pityriasis lichen chronicus	2 (0.8)	Hansen's disease	2(0.8)
Verrucae	12 (4.8)	Haemangioma	1(0.4)
Seborrheic keratosis	2(0.8)	Others	10(4.0)
Epidermal naevus	4(1.6)		

## Discussion

Variability of skin diseases across the world is a factor of ethnicity, environmental sanitation, living condition of the people and climate.<sup>6</sup> This study has demonstrated that paediatric skin diseases accounted for 20.1% (247 of 1,226) of cases of dermatological conditions seen at the dermatology clinic of UPTH. Papular urticaria 36(14.6%), atopic dermatitis 34(13.8%) and tinea 31(12.6) were the

most frequent skin diseases encountered in our series. Papular urticaria is as a result of bite of arthropod such as fleas, mites, bedbugs and mosquitoes. It occurs principally in the first decade of life. Poor environmental living conditions may encourage the spread of the disease. In this study, papular urticaria, was found to be the most prevalent skin disorder accounting for 14.6% of all skin diseases in our study. However, a lower prevalence of 4.4% and 5.9% had been reported in previous studies.<sup>7,8</sup> The difference may be attributable to smaller sample size in our study.

Atopic dermatitis is a chronic, relapsing and itchy inflammatory skin condition. The causes are not well understood and are probably due to a combination of genetic and environmental factors.<sup>9</sup> This was the second most common skin disorder encountered in our study accounting for 13.8% of cases. This figure is comparable the with global range of 5-20%.<sup>10</sup> Our finding is higher than 3.6% reported by Alabi in Ibadan many years ago.<sup>6</sup> This rising trend in Nigeria could be explained by early introduction of cow's milk to complement breast milk.

The prevalence of tinea infection was 12.6% in this study. This figure is comparable to prevalence of 15-25% reported in an African study.<sup>11</sup> However; field survey conducted in a Nigerian study<sup>12</sup> showed a prevalence of 1.8%. The fact that the present study was a hospital based study could explain the differences.

Scabies is a highly itchy and contagious skin disorder caused by burrowing and release of toxic substances by the female mite *Sarcoptes scabiae*. It affects all ages. Children have been reported to develop glomerulonephritis as result of streptococcal impetiginization of scabetic lesion. In our study scabies accounted for 0.8% of cases. This figure is at variance with that of Oduko, Onayemi, and Oyedeji where a prevalence of 16.5% was reported.<sup>13</sup> The low prevalence rate reported in our series may be explained by the fact that there may be an improvement in general living conditions of the populace.

Impetigo accounted for a prevalence of 2.4%. Higher values of 15.7% and 33.4% had been reported previously.<sup>6,7,13</sup> It is possible that most cases of impetigo were treated in the paediatric clinics without being referred to the dermatology clinic.

Dermatological diseases are a cause of concern in our community as it poses long term stress, stigmatization and morbidity. Knowledge of prevalence of common childhood diseases will enable us work out effective

interventional measures such as environmental sanitation, poverty eradication, and improved housing scheme among others.

## References

1. Anonymous. Skin disease and public health medicine. Lancet 1991; i: 1008-1009.
2. Okoro AN. Dermatological Disorders .In Azubuike JC, Nkanginieme KEO. Paediatrics and Child Health in a tropical region. (1<sup>st</sup> ed), Nigeria: African educational Services 1999; 522-535.
3. Shrank AB. A field survey in Nigeria. Trans St. John's Hosp Derm. 1965; 51: 85-94.
4. Okoro AN. Skin diseases in Nigeria. Trans St. John's Hosp Derm. 1973; 59: 69-72.
5. Ratman AV, Jayaraju K. Skin diseases in Zambia. Bri. J. Dermatol. 1979; 101: 449-454
6. Alabi GO, La Grenade L. The pattern of common childhood diseases in Jamaica. W.I.Med. J. 1981; 30: 3-7.
7. Antoine M, Idrissa AH, Cisse, Ousmane F, Hawa TN, Pascal N. Skin diseases in Bamako. Int J Dermatol 1998, 37: 673-676.
8. Oduko OM, Onayemi O, Oyedeji GA. A Prevalence Survey of Skin Diseases in Nigerian Children. Nig J.Med, vol.10, No.2, April-June. 2001.
9. Sly MR. Allergic Disorder. In: Richard EB, Robert MK, Ann MA, Nelson WE. Nelson's textbook of Pediatrics (15<sup>th</sup> ed), Philadelphia: WB Saunders Company 1996; 641-644.
10. Kay J, Gawkrödger DJ, Mortimer MJ et al. The Prevalence of childhood atopic eczema in a general population. J Am Acad Dermatol 1994; 30: 35-39.
11. Marshall J. Skin diseases in Africa- An essay in epidemiology Cape Town Maskew Miller 1974; 1-39.
12. Somorin AO, Nwabudike J, Adetosoye AI, Hunponuwusu OO. Dermatophytosis in school children. Nigerian Journal of Paediatrics 1997; 4(2): 18-21.
13. Oduko OM, Onayemi O, Oyedeji GA. A Prevalence Survey of Skin Diseases in Nigerian Children. Nig. J Med 2001; 10(2): 64-67.