

Prevalence and Pattern of Paediatric dermatoses among children in Aminu Kano teaching Hospital Kano, Nigeria

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Abstract. *Introduction:* Skin disorders are common among children, most especially the infections and infestations as the immunity is not fully developed during childhood. Skin disorders are among common causes of morbidity in developing countries of Sub-Saharan Africa. Skin disorders are major cause of concern among children. This study aimed to document the prevalence of skin diseases among children who attended the paediatric outpatient clinic of the Aminu Kano Teaching Hospital (AKTH) Kano, Nigeria. *Methods:* It was a cross-sectional study. The study population included children aged between 6 weeks and 14 years from the study area who attend Paediatric Out Patient Department (POPD) clinics recruited consecutively. Data obtained from the patients included age, gender, clinical features, socio-economic class and diagnosis. *Result:* Two hundred and twenty-three children aged 6 weeks to 14 years were enrolled into the study. The mean age of the children was 84.42 ± 40.12 . There were 110 males (49.3%) and 113 females (50.7%) with Male to female ratio 1:1.1. Fifty-five children (24.7%) had skin disorders. There were 14 specific diagnosis made. The leading categories were infections accounting for 18.3% of the skin disorders ($p < 0.001$). Seborrheic dermatitis was the commonest specific diagnosis found among 3.1% of the children. *Conclusion:* Prevalence of skin disorders among children attending POPD of Aminu Kano Teaching Hospital is 24.7%. Infections and infestations were the commonest category of skin disorders found. (www.actabiomedica.it)

Key words: Prevalence, Pattern, Paediatric dermatoses, Kano, Nigeria

Introduction

Dermatological problems are common among children, this is because of their under-developed immune system which predispose children to most especially infections and infestations (1). Skin disorders are among leading causes of morbidity among children in developing countries of Sub-Saharan Africa, which makes them a major cause of concern among children (2). A hospital based prospective study in Rome found the prevalence of skin disorders among children to be

42.0% (3). There are few documented studies from Nigeria on prevalence and pattern of skin disorders among children. Umoru et al (4) in Benin, Nigeria evaluated 100 children aged 18 months to 16 years for skin disorders. They found a prevalence rate of skin disorders to be 12.0%. Dermatophytosis (66.7%), Acne (16.7%) were the commonest observed in their study. In Lagos, Nigeria Osinaike et al (5) in 2015 examined 107 children in an attempt to determine the prevalence of skin disorders in them. They found a prevalence rate of skin manifestations of 67.3%. Katibi et al (6) in Ibadan,

Nigeria reported prevalence of skin disorders among children to be 18.1% in a cross-sectional study among 155 children. Miscellaneous skin disorders were the commonest reported in their study. Miliaria was the commonest presentation accounting for 7.7% of the miscellaneous skin disorders

There is a knowledge gap about the prevalence and pattern of skin disorders among children in Kano. Most of the studies done in Nigeria on the subject were conducted in the Southern part of the country. The aim of this study is to determine the prevalence and pattern of skin disorders among children in Aminu Kano Teaching Hospital Kano, Nigeria. This will provide better insight into the burden of skin disorders among children in this environment.

Methods

The study was a cross-sectional study. The study involved selecting sample of children from POPD clinic of Aminu Kano Teaching Hospital consecutively.

Aminu Kano Teaching Hospital (AKTH) is a tertiary health facility with 536-bed spaces located in Kano State, Nigeria. It serves as a referral centre for Kano and other neighboring states which include Jigawa, Katsina, Gombe, Bauchi and Yobe. Kano state lies between latitude 13° North in the North and 11° North in the South and longitude 8° West in the West and 10° in the East. It is one of the 36 states in Nigeria, and has 44 local government areas with a total land area of 20,760 square kilometers (7). The state is the most densely populated in Nigeria and has a population of approximately 9.4 million people (7). More than Forty five percent of the population are children less than 15 years, according to the 2006 census estimate. It is also one of the major industrial and commercial centers in Nigeria (7). The indigenes are mainly Hausa and Fulani who live in the ancient city of Kano. The people of Kano state are mainly traders, farmers and civil servants (7).

The study population included children aged between 6 weeks and 14 years from the study area who attended POPD clinic. The POPD clinic of the hospital attend to children aged 0-14 years. Both male and

female children, follow-up and new children are seen in the clinic. The Paediatric Out Patient Department (POPD) of AKTH is the unit where most cases are first seen and if necessary, referred to the appropriate specialty units. The unit attends to an average of 1500 children monthly (8). All the subjects were interviewed and their demographic and clinical information was obtained. Examination of the skin was conducted in a well-lit room. The prevalence and pattern of skin disorders was then studied. Children who refused a physical examination were excluded from the study.

Data analysis

The data from the questionnaire was entered into a statistical package for the social sciences (IBM Corp. Released 2011. IBM SPSS Statistics for Windows, Version 24.0. Armonk, NY: IBM Corp.) The data was used to generate frequency tables and charts. Prevalence of skin disease was defined as the total number of children who have any skin disorder during the period of this study, divided by the total number of children studied and it was expressed as a percentage of the total population of the children.

Results

Among the two hundred and twenty-three children enrolled, there were 110 males (49.3%) and 113 females (50.7%). Male to female ratio 1:1.1. This is shown in Table 1 which also displayed socio-economic class and ethnicity of the children.

The mean age for the children was 84.42± 40.12. Most of the subjects (43.9%) were in the 5-9-year age group while 110 (49.3%) were from lower socio-economic class. The leading categories of skin disorders were infections and infestations 18.3%, then inflammatory skin disorders (5.8%). This is shown in Table 2. Fourteen specific types of skin disorders were diagnosed among the children. Seborrheic dermatitis (3.1%), and dermatophytoses (2.7%) were the commonest specific diagnoses observed. This is shown in Figure 1.

Table 1: Socio-demographic characteristics of the study population.

Characteristic	n=223 (%)
Gender	
Male	110 (49.3)
Female	113 (50.7)
Age	
0-4years	77 (34.6)
5-9years	98(43.9)
10-14years	48 (21.5)
Socioeconomic class*	
Lower	110 (45.3)
Middle	97 (43.5)
Upper	25 (11.2)
Child's ethnicity	
Hausa	192(86.0)
Yoruba	9 (4.1)
Igbo	8 (3.6)
Others	14 (6.3)

* Social class I&II: upper, social class III: middle and social class IV&V: lower

Table 2. Types of skin disorders among the study population.

Category of skin disorder	Subjects n =223	
	Present	Absent
Infections and infestations	41 (18.3)	182 (81.7)
Viral	15 (6.7)	208 (93.3)
Fungal	12 (5.4)	211 (94.6)
Parasitic	1 (0.4)	222 (99.6)
Bacterial	13 (5.8)	210 (94.2)
Inflammatory	13 (5.8)	210 (94.2)
Miscellaneous	4 (1.8)	219 (98.2)

Some subjects had more than one diagnosis.

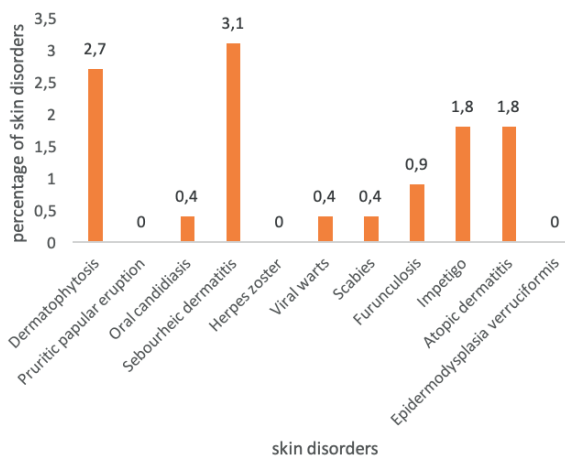
Discussion

The prevalence of skin disorders among children in this study was 24.7%. This is higher compared to what Umoru et al (4) and Katibi et al (6) found in Benin and Ibadan, where the prevalence of skin disorders was 12.0 %, 18.1% among children. This perhaps are because of higher population of people in Kano when compared with the population in Benin and Ibadan. The high illiteracy level in the Northern part of the country compared with the South may also be a

contributing factor (9). Literacy and health are closely related (10). Similarly lower prevalence of skin disorders among children was reported by Lowe et al (11) in Zimbabwe 14.0%. The prevalence of skin disorders among children observed by Valia et al (13) (53.6%) and Golfy et al (14) (68.2%) all from India, is higher when compared with our study finding. These differences may be because their studies were community based and conducted in rural areas where the socio-economic status of the people is poor compared to this study.

Different types of skin disorders observed in dermato-epidemiologic studies underscores the fact that occurrence of skin diseases is often subject to variety of factors such as environmental conditions as well as age of the study population recruited among others, which differ among various studies mentioned above. Some skin disorders have higher prevalence among some age groups and in certain localities which points to the effect of socio-demography in the occurrence of skin disorder (12).

In this study Infections and infestations were the leading category of skin disorders observed in 18.3% of the subjects followed by inflammatory skin disorders (5.8%). This is similar to findings by Umoru et al (4), Golfy et al (14) and Valia et al (13). This may be attributed to poor knowledge of hygienic practices due to high level of illiteracy among people in the developing world which predisposed people to develop skin disorders (15).

**Figure 1:** types of common skin disorders among the children.

Conclusion

This study shows that there is high prevalence and wide spectrum of skin disorders among children attending Paediatric Out Patient Department of Aminu Kano Teaching Hospital with infections and infestations being the commonest category.

Ethical approval: Ethical clearance for this study was obtained from the Ethical and Research Committee of Aminu Kano Teaching Hospital.

Consent and Assent: Verbal assent from the child if ≥ 7 years and consent from the guardian or parent was obtained. The informed consent form was presented to the subjects/parents and explained in the language they best understood.

Conflict of Interest: Each author declares that he has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article.

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