



## Epidemioclinical Profile of Dermatoses in Children Aged 0 to 18 Years in the Dermatology -Venereology Department of the National Hospital and University Centre - HKM of Cotonou (Benin)

Fabrice Akpadjan<sup>1\*</sup>, Hugues Adegbi<sup>1</sup>, Francis Lalya<sup>2</sup>, Olivia Yeko<sup>2</sup>, Bérénice Dégboé<sup>2</sup>, Marcelline d'Almeida<sup>2</sup>, Félix Atadokpédé<sup>1</sup>

<sup>1</sup>Department of Dermatology-Venereology, Faculty of Health Sciences of Cotonou, University of Abomey Calavi, Benin

<sup>2</sup>Department of Pediatrics, Faculty of Health Sciences of Cotonou, University of Abomey-Calavi, Benin

\*Corresponding Author: Fabrice Akpadjan, Department of Dermatology, Venereology, National Hospital and University Centre of Cotonou, Faculty of Health Sciences, Cotonou, Benin; E-mail: [barfice@yahoo.fr](mailto:barfice@yahoo.fr)

**Received Date:** 14-11-2020; **Accepted Date:** 05-12-2020; **Published Date:** 11-12-2020

**Copyright** © 2020 by Akpadjan F, et al. All rights reserved. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

### Abstract

**Introduction:** Skin diseases are a public health problem in all developing countries. In most African countries they are dominated by infectious, immuno-allergic, inflammatory and tumorous skin diseases. So far, no studies have been carried out on paediatric dermatoses in hospitals in our country.

**Methods:** This was a cross-sectional, descriptive study running from July to November 2019 with an exhaustive sampling that included all children aged 0 to 18 years seen during the study period for the first time in the Dermatology-Venereology Department of the NHUC-HKM in Cotonou. EPI data version 3.0 software was used for the statistical analysis.

**Results:** 119 children were included. The sex ratio was 2:1. The age group [0-5] years was the most represented (35.3%). Immuno-Allergic Dermatoses (IADs) predominated (47.1%) followed by infectious dermatoses (40.4%). Atopic eczema (25.2%) and prurigo strophulus

(14.3%) were the most frequent IADs, while candidiasis (29.1%) was the most frequent mycotic infection.

Conclusion: This study confirms the frequency of skin diseases in children in specialised hospitals in Benin. They are dominated by immuno-allergic dermatoses including atopic dermatitis and prurigo strophulus.

## Keywords

Epidemio-Clinical; Paediatric Dermatoses; Skin Diseases; Benin

## Introduction

Skin diseases are a public health problem in all developing countries. In sub-Saharan Africa they are dominated by infectious, immuno-allergic, inflammatory and tumourous dermatoses [1]. Bacterial, viral, fungal and parasitic skin infections as well as tumour and immuno-allergic skin diseases are therefore frequently observed in children. Their prevalence varies according to location, climate, culture, genetic factors and socio-economic conditions [2]. Despite the seemingly banal nature of certain skin conditions, early and appropriate treatment is necessary to avoid complications that can be very serious [2].

A study had already been carried out on children in the dermatology and venereology department of the NHUC-HKM from 2009 to 2013, but only concerned immuno-allergic dermatoses [3]. Another study carried out in the Neonatology Department of the NHUC-HKM in 2017, focused solely on neonatal dermatoses [4]. No data is available on all paediatric dermatoses in either the dermatology and venereology department or the Paediatrics department of the NHUC-HKM in Cotonou. Therefore, the diagnosis and management of common dermato-paediatric conditions continue to pose enormous problems during paediatric consultations. It is to fill this gap that we have carried out the present study, the aim of which is to describe the epidemiological and clinical profile of paediatric dermatoses in the dermatology and venereology department of the NHUC-HKM in Cotonou (Benin).

## Materials and Methods

This was a cross-sectional, descriptive study with prospective recruitment data from July to November 2019. The sampling was exhaustive and included all children aged between 0 and 18 years old seen during the study period for the first time in the Dermatology-Venereology Department of the NHUC-HKM in Cotonou. All the children included were examined by a

Akpadjan F | Volume 1; Issue 3 (2020) | JDR-1(3)-015 | Research Article

Citation: Akpadjan F, et al. Epidemioclinical profile of dermatoses in children aged 0 to 18 years in the Dermatology -Venereology Department of the National Hospital and University Centre - HKM of Cotonou (Benin). J Dermatol Res. 2020;1(3):1-6.

DOI: <http://dx.doi.org/10.46889/JDR.2020.1305>

dermatologist of the service. The diagnosis was made solely on the basis of the clinic. The children were recruited after informed consent from their parents. They were children who came directly for consultation in the dermatology service or children transferred from the NHUC-HKM paediatrics service to the NHUC-HKM Dermatology-Venereology service. A survey form was drawn up for the occasion and filled in by qualified personnel. Data entry and analysis was carried out using EPI data version 3.0 software.

## Results

During the study period, out of a total of 738 admissions we collected 229 cases of paediatric dermatoses, i.e. a hospital frequency of 31.3%, of which 119 were new cases making up the size of our sample. There were 81 boys against 38 girls, i.e. a sex ratio of 2.1. The age group from [0 to 5] years was the most represented (35.3%). Immuno-allergic dermatoses were at the top of the list with a frequency of 47.1% followed by infectious dermatoses (40.4%). These immuno-allergic dermatoses were more frequent (21.0%) in the [0-5] years age group. Their frequency decreases with increasing age (Table 1). Atopic eczema (25.2%) and prurigo strophulus (14.3%) are the most common immuno-allergic dermatoses (Table 2). Mycotic infections are the most common infectious dermatoses (Table 2). Candidiasis was the most represented of these mycoses (Table 3).

	Age Groups				
	[0-5]	[5-10]	[10-15]	[15-18]	Total (%)
<b>Infectious Skin Diseases</b>	10(8.4)	8(6.7)	15(12.6)	6 (5.0)	39(32.8)
<b>Immuno-allergic Dermatoses</b>	25(21.0)	18(15.1)	11(9.2)	2 (1.7)	56(47.1)
<b>Inflammatory Skin Diseases</b>	5(4.2)	2(1.7)	13(11.0)	3 (2.6)	23(19.3)
<b>Genodermatoses</b>	1(0.8)	0 (0.0)	0 (0.0)	0 (0.0)	1(0.8)
<b>Total</b>	41(34.4)	28(23.5)	39(32.8)	11 (9.3)	119 (100)

**Table 1:** Distribution of patients by dermatosis class and age.

		Effectives	Frequencies (%)
<b>Immuno-allergic Dermatoses</b>	Atopic eczema	30	25.2
	Contact eczema	5	4.2
	Prurigo strophulus	17	14.3
	Toxidermy	1	0.8
	Other	3	2.5
<b>Inflammatory Skin Diseases</b>	Seborrhoeic dermatitis	2	1.7
	Acne	4	3.4
	Lichen	4	3.4
	Other	4	3.4

<b>Infectious Dermatoses</b>	Mycotic	20	16.8
	Viral	10	8.4
	Bacterial	9	7.6
	Parasitic	9	7.6

**Table 2:** Distribution of the main dermatoses observed.

		<b>Effectives</b>	<b>Frequencies (%)</b>
<b>Mycotic</b>	Pityriasis versicolor	6	12.5
	Candidiasis dermatitis	14	29.1
<b>Viral</b>	Pityriasis Rosea of Gibert	7	14.5
	Varicella	3	6.3
<b>Bacterial</b>	Folliculitis	9	18.8
<b>Parasitic</b>	Larva migrans	4	8.4
	Scabiosis	5	10.4

**Table 3:** Distribution of the different infectious dermatoses observed.

## Discussion

This study makes a significant contribution to the epidemiology and clinical study of common dermatoses in children in hospital settings in our country. Thus, the frequency of childhood dermatoses was 31.3%. This is higher than a study carried out in Singapore by Goh et al., who estimated the frequency at 12.4% [5]. In Ivory Coast, Kourouma et al., found a frequency of 20.3% and in Bamako (Mali) Keita et al., found a frequency of 32.9% [6,2]. Despite this variability in frequency, these data show us that paediatric dermatoses are not rare in general dermatology. The sex ratio of 2.1 is in line with a study carried out in Guinea Conakry in 2011 by Tounkara T et al., who reported a sex ratio of 1.21 [7]. However, for Turner et al., the majority of paediatric consultations were female (53%) [8].

Immuno-Allergic Dermatoses (IAD) were the most common. In Benin, Adégbidi et al., in 2013 had recovered a frequency of 37%, making IADs the most frequent paediatric dermatoses in hospitals in Cotonou [3]. Our study found a higher frequency, estimated at 47.1%. These results are contrary to those of the sub-region, where the predominant pediatric dermatoses were infectious, but are similar to those observed in occidental countries [3]. This occidentalisation of the profil of paediatric dermatoses in hospitals in Benin, would be due to the fact that not all infectious dermatoses reach the NHUC-HKM. IADs being chronic affections, are often the subject of more consultations in dermatology. Some studies carried out elsewhere in the world have shown an increase in the frequency of immuno-allergic diseases such as asthma, allergic rhinitis and eczema of atopic origin probably linked to the industrialization, food and increasing pollution of these regions; hence the high prevalence of IADs especially in urban areas [3]. The

types of IADs observed in children at the end of our survey were atopic eczema (25.2 %,) and prurigo strophulus (14.3%) which alone accounted for 39.5%. These data are in line with those observed by Kourouma et al., in Ivory Coast where atopic dermatitis origin accounted for 48.8% of IADs and prurigo strophulus 12.1% [6]. For Youssouf et al., in Mali IADs represented 32.7% of all dermatoses and were dominated by atopic dermatitis (15.6%), prurigo (9.50%) [9]. The high frequency of these IADs could be explained by the fact that they are the subject of frequent consultations because they are more or less chronic dermatoses, pruritic and worrying for the parents. Also, in our study we found that the frequency of IADs decreased with age. This could be explained by a progressive adaptation of the human immune system to the environment with age, hence the regression of IADs with age.

Infectious dermatoses followed with a percentage of 40.4%. This frequency is close to that observed in Ivory Coast by Kourouma et al., 29.2% but much higher than that observed in Morocco by Najat et al., with a percentage of 15.69 [6,10]. This could be explained by the difference in climate between the tropical countries of Benin and Ivory Coast and the temperate climate of Morocco. The most frequent infectious dermatoses were mycotic dermatoses with a frequency of 16.8%, followed by viral dermatoses with a frequency of 8.4%. Bacterial and parasitic dermatoses were followed by bacterial and parasitic dermatoses with 7.6% respectively. These results are different from those observed in Morocco with a predominance of bacterial dermatoses 56.25% and viral dermatoses 25% and similar to those observed in Mali where mycotic dermatoses were at the top of the list with a frequency of 17.2% [9,10].

## Conclusion

This study confirms the frequency of skin diseases in children in specialised hospitals in sub-Saharan Africa. Contrary to most studies in the sub-region, immuno-allergic dermatoses are the most common paediatric dermatoses in the dermatology-venereology department of the NHUC-HKM in Cotonou. These immuno-allergic dermatoses also have the particularity of decreasing in frequency as age increases. Based on this epidemioclinical profile, we now have a database of paediatric dermatoses in general dermatology consultations. This will allow us to better orient the training of paediatricians on the knowledge and management of skin pathologies.

## References

1. Sosso-Kargougou N, Coulibaly A, Andonaba JB, Niamba P, Barro F, Traoré AT. Skin disorders in preschool environment in the city of Ouagadougou (Burkina Faso): Epidemiological, clinical and therapeutic aspects. *Our Dermatol Online*. 2019;10(e):e31.1-e31.8.

Akpadjan F | Volume 1; Issue 3 (2020) | JDR-1(3)-015 | Research Article

Citation: Akpadjan F, et al. Epidemioclinical profile of dermatoses in children aged 0 to 18 years in the Dermatology -Venereology Department of the National Hospital and University Centre - HKM of Cotonou (Benin). *J Dermatol Res*. 2020;1(3):1-6.

DOI: <http://dx.doi.org/10.46889/JDR.2020.1305>

2. Kéita S, Faye O, Ndiaye HT, Coulibaly A, Traoré P, Coulibaly K, et al. CO15-Aspects épidémio-cliniques et thérapeutiques des mycoses superficielles en milieu scolaire de Bamako (Mali). In *Annales de Dermatologie et de Vénérologie*. 2007;134(1):36-7.
3. Adégbidi H, Degboé B, Saka B, Elégbédé A, Atadokpédé F, Koudoukpo C, et al. Profil des dermatoses immunoallergiques chez les enfants dans le service de dermatologie du CNHU-C (Bénin). *Med Sante Trop*. 2014;24(4):446-8.
4. Adegbidi H, Atadokpede F, Koudoukpo C, d'Almeida M, Dégboé B, Alihonou F, et al. Epidemiological and clinical aspects of neonatal dermatoses at the national teaching hospital HKM of Cotonou Benin. *J Cosmet Dermatological Sci Appl*. 2017;7(3):204-10.
5. Goh CL, Akarapanth R. Epidemiology of skin disease among children in a referral skin clinic in Singapore. *Pediatr Dermatol*. 1994;11(2):125-8.
6. Kourouma H, Kouassi Y, Ecra E. Dermatoses de l'enfant: panorama des entités cliniques en consultation à Abidjan. *EDUCI*. 2017;19(2):144-8.
7. Tounkara T, Keita M, Soumah M, Diané B, Bangoura M, Camara A et al. Profil épidémiologique et Clinique des dermatoses infectieuses chez les enfants au Service de Dermatologie de l'hôpital national Donka. *Anales de Dermatologie et de Vénérologie*. 2012;139(12):137-8.
8. Tamer E, Ilhan MN, Polat M, Lenk N, Alli N. Prevalence of skin diseases among pediatric patients in Turkey. *J Dermatol*. 2008;35(7):413-8.
9. Fofana Y, Traore B, Dicko A, Faye O, Berthe S, Cisse L, et al. Profil épidémio-clinique des dermatoses chez les enfants vus en consultation dermatologique dans le service de dermatologie du centre national d'appui à la lutte contre la maladie à bamako (Mali). *Pan Afr Med J*. 2016;25:1-6.
10. Najat A. Dermatoses infantiles en milieu hospitalier: experience du Service de Dermatologie au CHU Mohamed VI. 2010:21-35.