

Profile of dermatoses in children according to the diagnostic lesional approach at the university clinics of Kinshasa: Democratic Republic of Congo.

Seudjip Nono Lydie Joelle *

Department of Dermatology, University Clinics of Kinshasa, University of Kinshasa, Democratic Republic of Congo

Abstract

Context and objectives: Several authors approach epidemiological studies on dermatoses using an etiological diagnostic approach, the Willanist school being mostly reserved for learners of dermatology and or non-dermatologist doctors. The objective of this study is to determine the profile of dermatoses in children using exclusively the type of elementary lesion.

Methods: In a retrospective, analytical and descriptive study, the data of children with dermatoses followed in the Dermatology Service of the University Clinics of Kinshasa between June 1, 2009 and December 31, were collected. The parameters of interest included epidemiological and clinical characteristics.

Results: The hospital frequency of dermatoses in children (ED) according to the lesional diagnostic approach is 40.89% (818/1994). Their median age was 60 months (QEI 60-65.9) with a female predominance. There were more infants (30.6%). ED predominated in the dry season (54%). The entangled (21.02%) and vesicular (20.29%) lesional types were the most numerous, with ringworm of the scalp (31.9%) and atopic dermatitis (54.2%) respectively. The papular, erythematous, tumor and entangled lesion types were related, pustular and tumor exclusively related to the season, in a statistically significant way ($p < 0.05$). Taken as a whole, the most frequent dermatoses were atopic dermatitis (11%), prurigo strophulus (10.8%), impetigo (7.4%), Tinea capitis (6.7%) and scabies (6.4%).

Conclusion: The importance of this work lies in the interest of taking into account the two approaches, lesional and etiological of dermatoses, for their global management and research studies. Indeed, the lesional approach, also important in the study of dermatoses, appears to our knowledge to be poor in references in the literature.

Keywords: Dermatoses, children, lesional diagnostic approach, Prurigo strophulus.

Accepted on 20 August, 2021

Introduction

Dermatoses are a frequent reason for consultation in pediatric settings. These are most often diagnosed according to the etiological approach by dermatologists and lesional by learners in dermatology and / or non-dermatologist doctors who have some notions of elementary lesions.

Several authors in the subject approach the epidemiological study of dermatoses by applying the school of William Dubreuilh which is based on the study of the etiology or pathophysiology of skin diseases, does not always require paraclinical confirmation in daily clinical practice.

On the strength of this observation, we proposed to conduct an epidemiological study of dermatoses using exclusively the description of elementary lesions in order to make a diagnosis of the type of dermatosis [1].

The purpose of our study is to determine the main dermatoses in children in hospitals using the lesion diagnostic approach.

Materials and Methods

Our work was carried out at the University of Kinshasa, specifically at the University Clinics of Kinshasa (CUK) in the

department of dermatology in the Democratic Republic of Congo (DRC).

It was a retrospective descriptive and analytical study on 818 files of patients from 0 to 18 years old, collected in the dermatology department of CUK in the DRC for a period of 31 months. 818 children were examined at the CUK dermatology department during the study period. Included were those who were 0-18 years of age whose medical records included the parameters of study interest and whose informed consent was obtained. Children over the age of 18 were not included in the study, or those of children who met the fixed age range but whose medical records were incomplete in relation to the variables sought and informed consent. The data listed were epidemiological (age, sex, month of the year and season) and clinical (lesion group and clinical diagnosis of ED). The age was distributed as follows: 0 to 2 years (infants), 3 to 5 years (preschool age), 6 to 12 years (school age) and 13 to 18 years (adolescence). The season was divided into two: rainy and dry. Thus, any dermatosis diagnosed during the month of January, February, April, May, September, October, November and December was considered to appear in the rainy season, on the other hand for those in the dry season, these were March, June, July and August. The diagnosis was based on the clinic alone at the start of the type of elementary lesion:

- **Elementary lesion:** Initial or secondary lesion, as it appears with the naked eye, thanks to it we make an immediate diagnosis and from there, a classification of the dermatosis.
- **Entangled lesion:** Association of more than one elementary lesion.
- **Lesional group:** Group of dermatoses having the same type of elementary lesion in common.
- **Clinical diagnosis:** Dermatosis objectified at the end of the clinical examination on departure from the type of elementary lesion.

Information useful for the study was taken from the registers and all patient consultation cards meeting the study standards and during the period selected for this purpose. They were then recorded on the data collection sheets, containing all of our study variables. An hp EliteBook brand laptop computer was used to compile this data in Excel software in order to identify, group and analyze all these variables of interest. Confidentiality and anonymity were respected when collecting data and taking photos for children whose informed consent was obtained. Difficulties encountered. There were many patient records that did not contain all of the study parameters. All the data were entered and analyzed using SPSS software (Statistical package for social sciences, Chicago) for Windows version 21. The statistical processing of the data consisted in calculating the means, the standard deviation, the median and the interquartile range for quantitative variables and proportions for qualitative variables [2]. Pearson's chi-square test or Fisher's exact test was used to compare the proportions as appropriate. The threshold for statistical significance was set at 5%.

Results and Discussion

Epidemiological data

Out of 1994 patients followed in the service during the study period, 818 were children (40.8%); according to Table 1, the female was predominant (55.7%) with a female / male ratio of 1.25. Their median age was 60 months (60-65.9 months), with extremes 0 to 218 months. Infants were the largest age group (30.6%). Dermatoses predominated in the dry season (54.0%) with peaks in February (12.3%) and July (11.9%).

Table 1. Epidemiological data.

Variables	n=818	Percentage
Gender		
Male	362	44.3
Female	456	55.7
Age		
0-2 years	250	30.6
3-5 years	188	23
6-12 years	215	26.3
13-18 years	165	20.2

Season		
Dried	442	54
Rainy	376	46
Month of admission		
January	53	6.5
February	101	12.3
March	88	10.8
April	70	8.6
May	55	6.7
June	55	6.7
July	97	11.9
August	77	9.4
September	68	8.3
October	31	3.8
November	51	6.2
December	72	8.8

Clinical data

The distribution of lesional types of dermatoses to had shown that entangled (28.01%) and vesicular (20.3%) were the most frequent with predominance in the male (28.21%, $p < 0.001$ for the entangled type). The papular (19.1%), erythematous-scaly (10.5%), tumor (5.9%), erythematous (4.6%) and entangled (28.01%) lesional types were sex-linked with $p < 0.05$.

The distribution of lesional types of dermatoses according to age

According to, the type of elementary lesion was related to age ($p < 0.05$), with the exception of dyschromias, nodules, scales, keratoses, hair loss and undefined lesions. Vesicular lesion types were most observed between 0 to 2 years old and 6 to 12 years old; however, the papular type was the prerogative of the pre-school and adolescence periods ($p < 0.05$).

The distribution of lesion types according to the seasons (Table 2) indicates that only the pustulars and the tumors were statistically significantly related to the season.

Table 2. Distribution of lesion types by season.

Lesional group	Dry season n=454	Rainy season n=364	p
Bladdery	91 (20.0)	75 (20.6)	0.445
Papular	81 (17.4)	75 (20.6)	0.309
Erythematous scaly	52 (11.4)	34 (9.3)	0.147
Pustular	41 (9.0)	60 (16.4)	0.003
Tumor	35 (7.7)	13(3.5)	0.005
Erythematosis	19 (4.1)	18(4.9)	0.156

Dyschromic	19 (4.1)	14(3.8)	0.408
Bullous	3 (0.6)	0(0.0)	-
Nodule	0 (0.0)	1(0.2)	-
Intricate	102 (26.4)	64(17.5)	0.288
Scaly	7 (1.5)	0 (0.0)	0.445
Keratosis	1 (0.2)	1 (0.2)	-
Hair loss	1 (0.2)	2 (0.5)	-
No elementary lesions	2 (0.4)	0 (0.0)	-

In terms of frequencies, the distribution of lesional types of childhood dermatoses had shown that atopic dermatitis (52.2%) was the most frequent in the group of vesicular dermatoses; prurigo strophulus (57.1%) in the papular group, pink pityriasis from Gibert (39.5%) for the erythematous type, impetigo (60.4%) for the pustular type; hypertrophic scars (31.3%) for the tumor type; diaper rash in W (63.1%) for erythematous; vitiligo (78.1% for the dyschromic type and tinea capitis (31.9%) for the entangled type [3].

According to Table 3, five diagnoses were found to be predominant with atopic dermatitis and prurigo strophulus leading, followed by impetigo, tinea capitis and scabiosis.

Table 3. Most frequent diagnoses.

Diagnostics	n	%
Atopic dermatitis	90	11
Prurigo strophulus	89	10.8
Impetigo	61	7.4
Tinea capitis	55	6.7
Scabiosa	53	6.4
Sudamina	46	5.6
Pityriasis rosea of Gibert	34	4.1
Acne vulgaris	31	3.7
Urticaria	28	3.4
Vitiligo	25	3
Tinea corporis	25	3
Diaper rash in W	24	2.9
Eczematide	23	2.8
Common wart	17	2
Contact dermatitis	17	2

The aim of our study was to determine the incidence of dermatoses in children (ED) according to the lesion diagnostic approach, in the dermatology department of the CUK.

The frequency of ED in our study was 40.8%, a finding similar to Yemen and Egypt, respectively 45.1% and 40%, contrary to

Malian observations. The female was in the majority (55.7%) with a ratio M / W of 1.25. Our results agree with those observed in the East of the DRC but diverge from those of the Nigerian and Turkish studies where children of school age were more numerous. The predominance of dermatoses in infants could be explained by the precarious living conditions of the people of Kinshasa in general and the confines of the CUK in particular; demographic realities could justify the high frequency of the female. The dry season was the ally of ED in 54% of cases with high peaks in February (12.3%) and in July (11.9%). As in our study on the profile of the etiological groups of ED, the observations are the same and agree. The dry and cold climate of the dry season favors on the one hand cutaneous dryness, great provider of cutaneous irritations and break-ins, consequently of the occurrence of dermatoses, and on the other hand the bodily uncleanness because of the decrease in frequency of body bath.

The entangled (28.01%), vesicular (20.3%) and papular (19.1%) dermatoses were the most frequent in our work. The occurrence of ED was related to (lower p (p<0.05) for the entangled lesional types (tinea capitis: 31.9%; scabiosis: 30.8%), erythematous (EFW: 63.1 %), tumor (hypertrophic scar: 31.3%), erythematous-scaly (PRG: 39.5%) and papular (prurigo strophulus: 67.1%)

Without taking into account the classification of ED according to the lesional approach by other authors, tinea capitis and scabiosis were found to be the most frequent of entangled dermatoses and represented 6.7% and 6 respectively in the total study population 4%. By comparing this diagnostic finding to those of similar works but according to the etiological approach, we are in agreement with but in contradiction with scabiosis represented 30.6% and tinea capitis 3.8% of the total number of infectious dermatoses.

Lesion types were age-related for entangled, erythematous, tumor, pustular, erythematous-scaly, papular and vesicular dermatoses. Tinea capitis and scabiosis are the preserve of the age group of 3 to 12 years (p<0.0001). For tinea capitis, we are going in the same vein. As for scabiosis, our results confirm although their study focused exclusively on infectious dermatoses in children [4].

The occurrence of scabies and ringworm of the scalp during the age group of 3 to 12 years could be explained by the growth phase that children go through at this age, the significant interhuman and environmental contact, in addition to the low socio-economic level.

Vesicular dermatoses were linked (p<0.001), with a high peak in infants (27.6%) and atopic dermatitis was the most common (54.2%). Still taken from the etiological angle, several authors observe vesicular dermatoses as being the most numerous in infants. Our predominance of atopic dermatitis agrees with the finding.

The precarious hygiene of the skin of the infant in our environment, associated with the tracksuit in tropical region, can justify inter alia the preponderance of vesicular dermatoses. Urbanization, the gradual growth of pollution in

Citation: Joelle SNL. Profile of dermatoses in children according to the diagnostic lesional approach at the university clinics of kinshasa: Democratic republic of congo. *Dermatol Res Skin Care* 2021;5(5):1-4.

large cities and cutaneous xerosis due to the cold and dry climate of the dry season could justify the preponderance of atopic dermatitis.

Papular dermatoses came in 3rd position with 19.1% of cases, they were related to age ($p = 0.029$) with high peaks between 3 to 5 years (22.9%) and 13 to 18 years (23.9%), prurigo strophulus being the most frequent diagnosis in this group (57.1%).

Our finding is similar to that of several authors for the age group of 3 to 5 years contrary to the observation where the predominance is between 6 to 8 years [5].

Conclusion

Insect bites, wearing non-covering clothing, poor sanitation and environmental pollution may support the increased occurrence of prurigo strophulus in children. The diagnostic record shows that the ten most frequent EDs were identical according to the etiological and lesional diagnostic approaches and this, at comparable frequencies.

The importance of this work lies in the interest of taking into account the two approaches, both lesional and etiological, for the global management of dermatoses. In fact, the lesional approach, which is also equally important in the study of dermatoses, appears to our knowledge to be poor in references in the literature.

Acknowledgements

Our gratitude is expressed to Doctor Aliocha Nkodila for the statistical analyzes.

Conflict of Interest

The author declared no conflict of interest.

References

1. Kourouma HS, Kouassi Yi, Ecra EJ, et al. Dermatoses de L'Enfant: Panorama des entites cliniques en consultation a Abidjan. *Rev Int Sci Med*. 2017;19(2):144-148.
2. Fofana Y, Dicko A, Faye O, et al. Profil epidemio-clinique des dermatoses chez les enfants vus en consultation dermatologique dans le service de dermatologie du centre national d'appui a la lutte contre la maladie a Bamako (Mali). *Pan Afr Med J*. 2016;25:235-238.
3. Seudjip NLJ, Traore A, Mazebo PS, et al. Profile of the etiological groups of child dermatosis at the university clinics of kinshasa: Democratic republic of the congo. *Curr Dermatol Probl*. 2019;2019(1):1-11.
4. Emodi IJ, Ikefuna AN, Uchendu U. Skin diseases among children attending the outpatient clinic of the University of Nigeria teaching hospital, Enug. *Afr Health Sci*. 2010;10:362-366.
5. Mishri L. Spectrum of skin diseases in Yemen (Hajjah and adjacent region). *Int J Dermatol*. 2004;43:580-581.

*Correspondence to

Dr. Seudjip Nono Lydie Joelle
Department of Dermatology
University Clinics of Kinshasa
University of Kinshasa
Democratic Republic of Congo
E-mail: seupiziemi@gmail.com