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Epidemiological Profile of Dermatological Diseases in a Pediatric Population

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Abstract
Background: *Dermatological diseases have different prevalence according to age groups.*
Objectives: *To determine the epidemiological profile of the most prevalent dermatosis in the pediatric population from birth to 14 years of age in a pediatric dermatology outpatient clinic of a tertiary care hospital in Western Paraná, Brazil.*
Methods: *it was carried out a review medical records of children from 1st day of life to 14 years of age attended at the Pediatric Dermatology Outpatient Clinic of a tertiary care hospital from January 2017 to December 2018. The data collected were used to classify the most prevalent dermatological diseases and their respective frequencies according to gender and age.*
Results: *A total of 119 medical records were analyzed. The mean age of the patients included was 5.8 years old. In the classification by gender, 64 (53.78%) were female, and 55 (46.22%) were male. The most prevalent dermatosis was atopic dermatitis, with 33 cases (22.75%). Ten medical records were excluded for not meeting inclusion criteria.*
Conclusion: *Knowing the profile of dermatological diseases that affect the pediatric population is essential for making decisions about allocating resources for interventions. There are few studies on this subject in the literature. Atopic dermatitis was the most frequent diagnosis, and health policies aiming at improving the quality of life of these children are essential.*
Keywords: *epidemiology, skin diseases, child, teenager, profile*

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I. Introduction

Similar to any other organ, the skin is susceptible to pathological processes, which occur separately or in combination, in such a way as to generate several variations that constitute the clinical-pathological foundations of the dermatosis.

A dermatosis is any pathological process that affects the layers of the skin or the skin's annexes. It can be classified according to the type of basic pathological process which they are undergoing, such as degenerations, metabolic alterations, proliferations, malformations, dysfunctions, and inflammations. In addition, dermatological lesions can represent physiological alterations, benign lesions, neoplastic diseases, infectious diseases, sexually transmitted infection, as well as being manifestations of systemic diseases, hereditary diseases, or genetic syndromes [1].

Most dermatologic diseases affecting the pediatric population are acute and infectious; however, diseases such as psoriasis, vitiligo, and atopic dermatitis may be chronic and affect patients for life [2]. Furthermore, pediatric dermatosis differ from adult dermatosis in epidemiological aspects, clinical presentation, treatment, and prognosis, and it is of clinical and epidemiological relevance to have a separate view of the subject in question [3].

Given this context, this study aimed to classify the epidemiological profile of dermatological diseases in childhood in a pediatric dermatology outpatient clinic of a tertiary care hospital.

II. Methods

It was a descriptive-analytical, cross-sectional study, through the observational and retrospective model, analyzing electronic medical records of children and adolescents attended at the pediatric dermatology outpatient clinic of a tertiary level hospital from January 2017 to December 2018. The study aimed to describe the profile of dermatological diseases.

Electronic medical records of the Tasy® System of patients who met the above inclusion criteria were analyzed. The variables included were age, gender, and dermatological diagnosis.

Inclusion criteria: children from the 1st day of life to 14 years old, of both genders, who consulted at the pediatric dermatology outpatient clinic during the described period.

The data collected were compared to each other and with other statistics and tabulated in an electronic spreadsheet (Microsoft Excel 2020). After that, the quantitative variables were analyzed according to their means, medians, and mode, and the qualitative variables were analyzed in absolute (n) and relative (%) frequencies.

The Ethics Committee in Research with Human Beings of the Western Paraná State University, Campus of Cascavel, approved this research under Protocol number: 3.452.054/2019.

III. Results

During the inclusion period of the study, 119 electronic medical records were reviewed; of these, 10 (8.4%) were excluded for not meeting the inclusion criteria (they did not have a definite diagnosis by the end of the evaluated period due to loss of follow-up of these patients in the outpatient clinic).

Age ranged from one day old to 14 years old (mean: 5.8 years), the median was five years, and the mode was four years. Table 1 show general characterization of subjects. In the classification by gender (Table 2), among the patients studied, 64 (53.78%) were female, and 55 (46.22%) were male.

Table 1: General sample characterization by gender and age.

Variable	n	%
Gender		
Female	64	53,78
Male	55	46,22
Total	**119**	**100**
Age		
Younger 12 months	12	10,09
12 months	9	7,56
2 years old	10	8,41
3 years old	9	7,56
4 years old	13	10,92
5 years old	10	8,41
6 years old	8	6,72
7 years old	7	5,88
8 years old	7	5,88
9 years old	10	8,41
10 years old	5	4,21
11 years old	6	5,04
12 years old	6	5,04

13 years old	3	2,52
14 years old	4	3,36
Total	**119**	**100**

Table 1 (continuation)

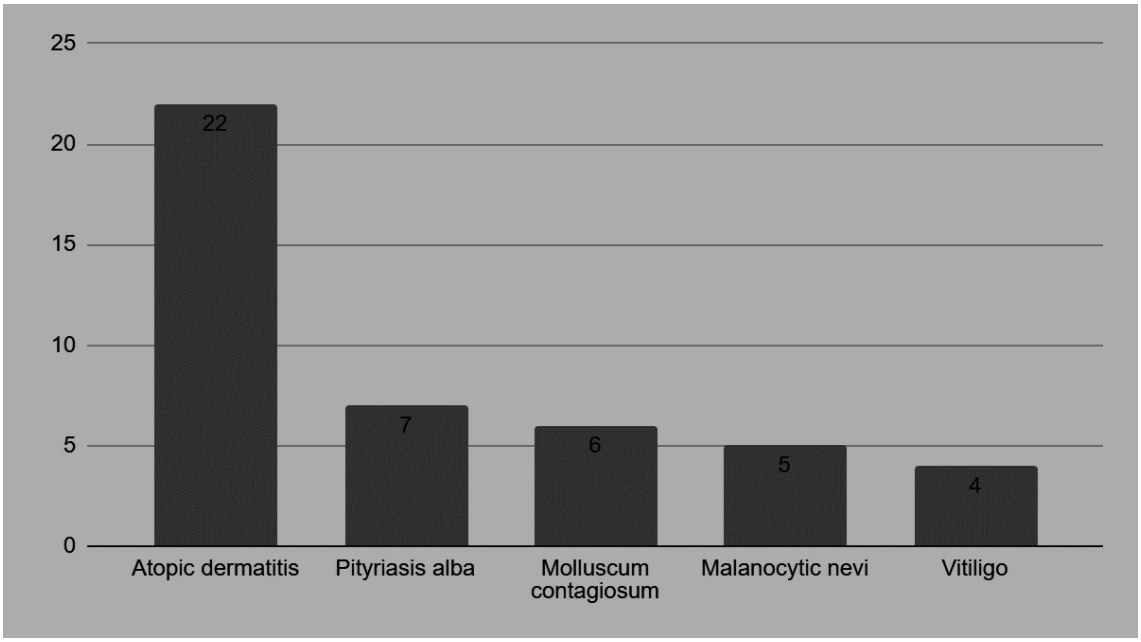
Table 2 - Frequency and percentage of dermatopathies according to gender

Dermatopathy	Female		Male		Total (n)
	(n)	%	(n)	%	
Atopic dermatitis	22	66.7	11	33.4	33
Molluscum Contagiosum	6	46.2	7	53.8	13
Pityriasis alba	7	77.8	2	22.3	9
Seborrheic Dermatitis	3	37.5	5	62.5	8
Melanocytic nevi	5	71.4	2	28.5	7
Vitiligo	4	80	1	20	5
Acne	3	60	2	40	5
Keratosis pilaris	3	60	2	40	5
Stroful pruritus	1	20	4	80	5
Hemangioma	4	80	1	20	5
Ichthyosis	2	40	3	60	5
Urticaria	2	66.7	1	33.4	3
Neurofibromatosis type 1		-	3	100%	3
sharp lichen	2	66.7	1	33.4	3
Tinea corporis	1	50	1	50	2
Psoriasis	2	100		-	2
Folliculitis	1	50	1	50	2
Warts		-	2	100	2
Dermatomyositis	2	100		-	2

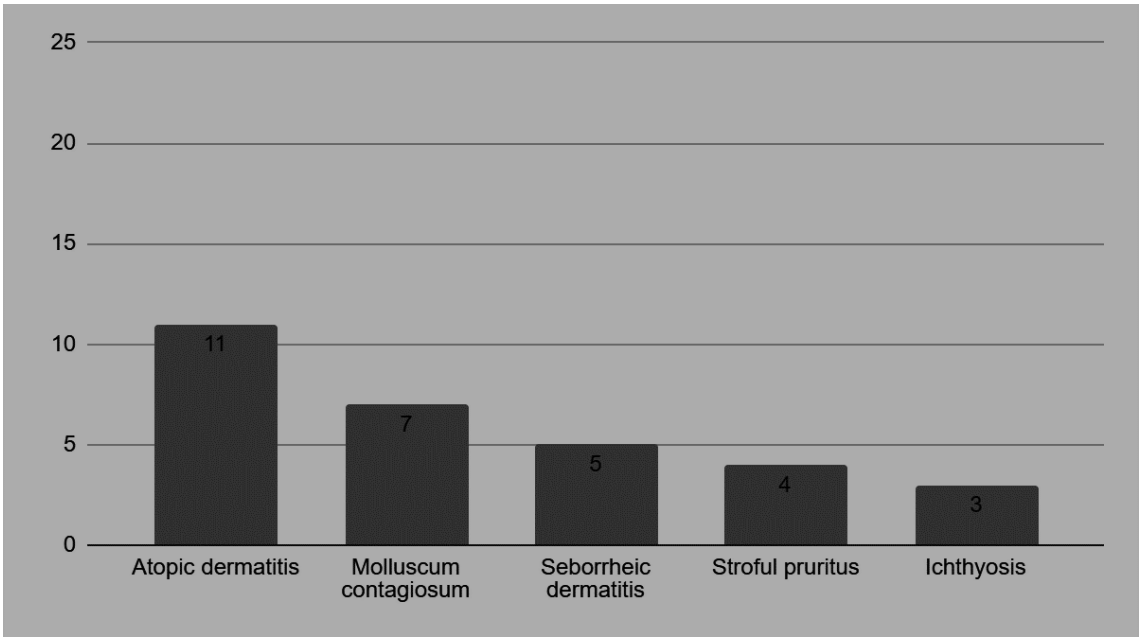
The total number of dermatoses (n=155) was higher than the total number of subjects (N=119) because some patients presented more than one dermatologic condition noted during the consultation. The dermatosis were then counted separately. Forty-five different dermatological conditions were observed.

Among the dermatosis analyzed, that with highest absolute frequency was atopic dermatitis, with 33 cases (21.29%). The second disorder in frequency was molluscum contagiosum, with 13 cases (8.38%). Next was Pityriasis alba, with nine cases (5.81%), followed by seborrheic dermatitis, with eight cases (5.16%), and melanocytic nevi, with seven cases (4.51%). From the twentieth cause (angiokeratoma) on, each diagnosis corresponds to one case each.

Graphics 1 and 2 show the analyses of the five most frequent disorders in both genders.



Graphic 1- Most frequent dermatosis in female.



Graphic 2- Most frequent dermatosis in male.

IV. Discussion

This study retrospectively analyzed the prevalence of dermatological diseases in the pediatric population of the dermatology outpatient clinic of a tertiary care hospital. There are few studies in the literature regarding the prevalence of dermatological diseases in childhood in tertiary care hospitals in Brazil. In this context, knowledge of this profile is relevant because it allows anticipating the characteristics of dermatological diseases that will be found in the pediatric population attending in tertiary care service, in addition to serving as a basis for planning the teaching of pediatrics dermatology in medical schools.

Most of the children seen were female, with a slight percentage difference. The difference in gender distribution in the dermatosis that presented more than one case was also analyzed.

According to the literature, the main dermatosis found in this research were atopic dermatitis and molluscum contagiosum, which are frequent diseases in the pediatric population, according to the literature [4,5,6,7]. It is worth mentioning that atopic dermatitis was also the most frequent disease in both genders. The incidence of dermatosis in childhood differs according to the region of the country and the world, age group, gender, economic condition, among other variables. Studies suggest that the most frequent dermatological

diseases in specialized clinics are atopic diseases, corroborating this study; yet, infectious dermatosis are analyzed in primary care. According to the literature, the most prevalent dermatosis in the general pediatric population are also infectious, such as molluscum contagiosum, scabies, impetigo, and superficial mycoses, which are also infectious conditions most seen in primary care [8,9].

The second most frequent dermatological disease found in this study was molluscum contagiosum, a low-complexity disease. This frequency play attention because, most of the time, it should be solved in basic health units and not in tertiary services, which may be due to several reasons such as lack of medical professionals in these places or lack of ability of these professionals in attending to dermatopathies. In the Brazilian health system (Unified Health System – *Sistema Único de Saúde[SUS]*), primary care physicians are responsible for the correct screening of patients with dermatological lesions, separating those who can be followed up and treated in primary care from those who need specialized referral care. However, many general practitioners do not consider themselves qualified for diagnosing and managing these diseases [10,11]. The consequences generated by inadequate therapeutic conduct, excessive request of complementary exams, and referrals to specialists should be considered in health systems.

In a study carried out in Campinas, Brazil, one in four users of basic health units who sought care in the period evaluated presented dermatological complaints or findings [12]. Another study conducted in Germany, in which 90,880 individuals underwent a simple full-body dermatological examination, showed that 26.8% of them had some dermatological finding that required treatment or further clarification [13].

Given the above, it is noteworthy that the demand for patients with skin complaints both in primary care and worldwide is of great importance [12]. However, there is a tendency not to value such diseases by those responsible for developing public health care policies due to underestimating the morbidity of dermatosis as health problems. Dermatological diseases have a significant impact on the quality of life of children and adults and can be limiting, causing, among other morbidities, absenteeism from school (in the case of the population of this study) or work [4].

This study faced limitations, such as incomplete medical records and lack of information, which excluded such patients. In addition, the number of patients studied was small, and the sample may not be representative of the dermatological complaints of the pediatric population in general.

V. Conclusion

The research allowed to observe the epidemiological profile of pediatric patients of the pediatric dermatology outpatient clinic of a highly complex hospital in Western Paraná, Brazil.

Most of the children were female and the main dermatosis found were atopic dermatitis and molluscum contagiosum.

The study also indirectly reinforced the vital role that knowledge of skin diseases plays in the clinical practice of non-dermatologists practioners in primary care.

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