

# Study of Paediatric Dermatoses in a Tertiary Care Centre in North Central Maharashtra

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**Abstract:** *Introduction:* Paediatric population contribute to 30 % of the patients in outpatient department. The aim of this study was to find out the prevalence and epidemiology of various paediatric dermatosis and also to analyse the various aetiological factors involved. *Materials and methods:* This was a study conducted in 1000 children attending outpatient department of a tertiary care hospital in north central part of Maharashtra. All the children till 18 years of age were included in the study. *Results:* Out of the 1000 patients in this study males were 561 and females were 439. The most common age group to attend the outpatient department was 11 to 18 years of age (47.2%). The most common dermatological condition for which patient approached the outpatient department was infections (51.4%), this was followed by eczema (17.9 %). Among the infections and infestations, bacterial infections were the most commonly seen condition, 27.62% of total infections, which was followed by viral (26.25%), fungal (26.07%) and parasitic (20.03%). Non-infectious dermatoses were noted in 48.6% of the study population. Maximum number of cases belonged to eczema contributing to 17.9% of the total dermatoses. *Conclusion:* Infections in children are a reflection of the health status and hygiene practices in the community. Various studies related to epidemiology of paediatric dermatoses shows diversity in results due to the geographic position and climatic variation of the area. Knowledge about various dermatoses in the area would be helpful to educate the local community well in advance.

**Keywords:** paediatric dermatoses, clinical profile, infections, impetigo, eczema

## 1. Introduction

Paediatric population contribute to 30 % of the patients in outpatient department<sup>1</sup>. Paediatric skin diseases can affect overall well-being of the child. Skin conditions in children can become chronic and difficult to manage turning it psychologically debilitating to the patient as well as the parent. Therefore, accurate diagnosis and treatment is of utmost importance<sup>2</sup>. The prevalence of paediatric dermatoses is highly variable according to the geographic area and climatic factors of the place. The aim of this study was to find out the prevalence and epidemiology of various paediatric dermatosis and also to analyse the various aetiological factors involved.

## 2. Materials and Methods

This was a study conducted in 1000 children attending outpatient department of a tertiary care hospital in north central part of Maharashtra. All the children till 18 years of age were included in the study. They were further categorised on the basis of age group as 0-1 year (infants), 1-3 years (toddlers) 3-5 years (pre-schoolers), 5-11 years (school age), and 11-18 years (young teens and teenagers). They were diagnosed on the basis of history, clinical features, detailed cutaneous and systemic examination along with necessary investigations. All the details were entered in a proforma for analysis of data.

## 3. Results

Out of the 1000 patients in this study males were 561 and females were 439. The most common age group to attend the outpatient department was 11 to 18 years of age (472) this was followed by 5-11 years (271), 3-5 years (112), 1-3 years (83), < 1 year (62) in the decreasing order of frequency. The age wise distribution of patients is tabulated below.

Age group	Male	Female	Total
< 1 year	28	34	62
1-3 years	39	44	83
3-5 years	48	64	112
5-11 years	132	139	271
11-18 years	314	158	472
Total	561	439	1000

The most common dermatological condition for which patient approached the outpatient department was infections (514, 51.4%). This was followed by eczema (179, 17.9%), acne (92, 9.2%), disorders related to sweat gland (51, 5.1%), hypersensitivity disorders (35, 3.5%), Disorders of pigmentation (28, 2.8%), Metabolic and nutritional disorders (24, 2.4%), Photo dermatoses (18, 1.8%), Papulosquamous disorders and disorders of keratinization (15, 1.5%), Hair and nail disorders (16, 1.6%), Nevoid disorders (9, 0.9%), Drug reactions (8, 0.8%), Vesiculobullous disorders (3, 0.3%), and the least common was connective tissue disorders (4, 0.4%).

Disease	Number	Percentage (%)
Infections	514	51.4
Eczema	179	17.9
Disorders of pigmentation	28	2.8
Papulosquamous disorders and disorders of keratinization	15	1.5
Hypersensitivity disorders	35	3.5
Sweat gland related disorders	51	5.1
Acne	92	9.2
Hair and nail disorders	16	1.6
Nevoid disorders	9	0.9
Connective tissue disorders	4	0.4
Vesiculobullous disorders	3	0.3
Metabolic and nutritional disorders	24	2.4
Photodermatoses	18	1.8
Drug reactions	8	0.8
Others	4	0.4
Total	1000	

In infectious dermatosis the most common condition seen was impetigo (89,17.31% of infectious dermatoses) followed by scabies (85,16.53% of infectious dermatoses) and the least common infectious disease seen was cutaneous tuberculosis which was seen in only 3 children. Frequency of the infectious conditions in detail are given in the tabulated form.

angular cheilitis(4),acrodermatitis enteropathica (1)and familial hypercholesterolemia(1).drug reactions were seen in 8 patients which was attributed to the use of anticonvulsants(3),antibiotics (3)and anti inflammatory drugs(2) .

Infection	Number of patients (n=514)	Percentage
<b>Bacterial</b>		
Impetigo	89	17.31
Furuncle	21	4.08
Secondary pyoderma	28	5.44
Hansen's disease	1	0.19
Cutaneous tuberculosis	3	0.58
<i>Total</i>	142/514	27.62
<b>viral</b>		
Molluscum contagiosum	33	6.42
Warts	21	4.08
Pityriasis rosea	18	3.50
Viral exanthem	22	4.28
Varicella infections	32	6.22
Hand foot mouth disease	9	1.75
<i>Total</i>	135/514	26.25
<b>Fungal</b>		
Seborrheic dermatitis	31	6.03
Candida infection	16	3.11
Tinea versicolor	21	4.08
Dermatophytic infection	66	12.84
<i>Total</i>	134/514	26.07
<b>Parasitic infections</b>		
Scabies	85	16.53
Pediculosis capitis	18	3.50
<i>Total</i>	103/514	20.03

Non infectious disease most commonly seen was eczema of which pityriasis alba was more followed by plantar eczema, allergic contact dermatitis, atopic dermatitis ,infectious eczematoid dermatitis and irritant contact dermatitis.Milia rubra(23) was the most common sweat gland disorder observed other conditions seen were miliaria crystallina (22) and volar hyperhidrosis(6). Of the 28 patients with pigmentary disorders vitiligo was seen in 20 patients followed by post inflammatory hypopigmentation (8). Among Papulosquamous disorders and disorders of keratinization psoriasis(5) was the most common condition seen followed by ,keratoderma(3),ichtyosis(2) lichen nitidus (2) lichen striatus (2)and lichen planus(1).

The disorders of hair and nails were seen in 14 patients. Alopecia areata was the most common disorder belonging to this class, seen in 6 patients which was followed by telogen effluvium (4) and trichotillomania(1). Paronychia was the most common nail disorder seen (5). Acne was seen in 9.2 % of the study population mostly in the age group of 11 to 18 years. Polymorphic light eruption was seen in 1.8 % of the study population .In the category of Vesicubullous disorders 3 cases were seen, all of which belonged to epidermolysis bullosa. Of the 4 cases of Connective tissue disorders 2 were of systemic lupus erythematosus 1 of systemic sclerosis and 1 of dermatomyositis.

Metabolic and nutritional disorders mainly consisted of phrynoderma (13)other conditions seen were xerosis(5),



Figure 1a :Scabies in an infant



Figure 1 b: candidiasis in an infant





Figure 1c : erythrodermic psoriasis in a 10 year old female .

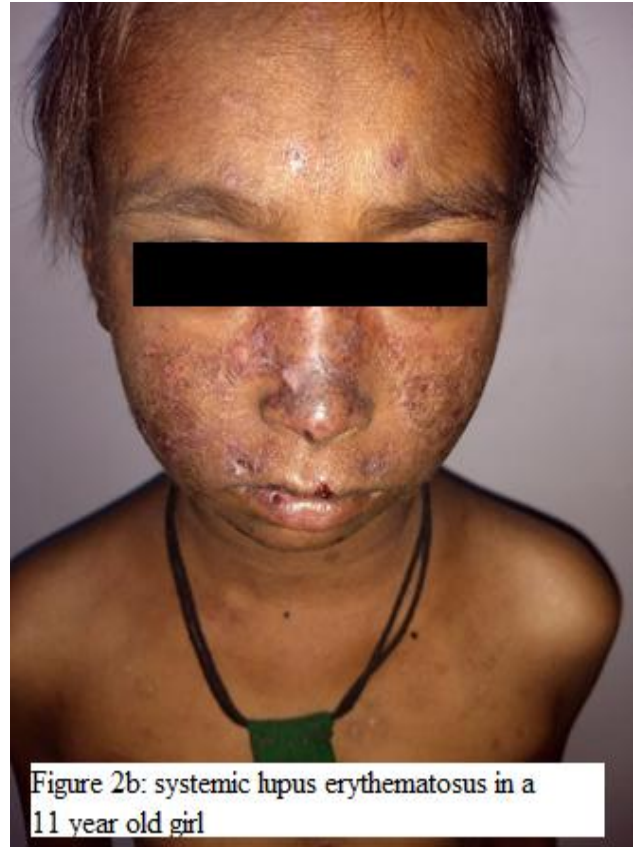


Figure 2b: systemic lupus erythematosus in a 11 year old girl



Figure 2a: lichen striatus in a 7 year old boy



Figure 2c: phrynoderma in a 6 year old boy

#### 4. Discussion

In this study the male to female sex ratio seen was 1.2:1 which was similar to previous study by M Balai et al<sup>3</sup>. Most common age group to attend the outpatient department was 11 to 18 years of age (47.2 %). In a study by Sharma et al<sup>4</sup> similar results were seen. . Infectious diseases contributed to 51.4 % of the total paediatric dermatoses. This value is

comparable to studies by Jawade SA et al<sup>5</sup> (56.4%), Karthikeyan K et al<sup>6</sup> (54.5%) and Jain N et al (54.5%).

Among the infections and infestations, bacterial infections were the most commonly seen condition, 27.62% of total infections, which was followed by viral (26.25%), fungal (26.07%) and parasitic (20.03%). In a study by Wenk and Itin<sup>7</sup> and Gul et al viral infections were more than bacterial and fungal infections. The reason for this difference would be geographic and climatic factors that mediate the spread of infection in the community. Among the bacterial infections largest number of cases were that of impetigo (17.31 %) which was similar to most of the previous studies. 1 case of Hansen's was also seen which was of indeterminate variant. 3 cases of cutaneous tuberculosis was noted of which two were of scrofuloderma and one was of lupus vulgaris. In the category of viral infections the most common condition seen was molluscum contagiosum (6.42%) which was followed by varicella infections (6.22 %). Karthikeyan et al has reported molluscum contagiosum to be the most common viral infection in his study. Scabies (16.53 %) was the most common parasitic infestation seen followed by pediculosis capitis (3.50%). Most common fungal infection was that caused by dermatophytes which included mainly tinea corporis, tinea capitis, and few cases of tinea incognita was also seen.

Non-infectious dermatoses was noted in 48.6% of the study population. Maximum number of cases belonged to eczema contributing to 17.9% of the total dermatoses. In a study by Sachidanand et al incidence of eczema was found to be 20.66 %. The most common disorder of hypersensitivity seen was papular urticaria (22,62.8%) followed by urticaria (13,37.1%) which was similar to study by Sardana et al<sup>8</sup>. In disorders of nutritional deficiency phrynoderma was the most commonly seen condition (13) making 54.16 % of the total cases in this category. In a study by Javed et al higher number of cases of acrodermatitis enteropathica was noted. Papulosquamous disorders were seen in 1.5 % of the total study population, study by V S Reddy et al shows similar findings with the incidence of papulosquamous disorders being 2.05 %. In this category the maximum number of cases seen was that of psoriasis. The incidence of nevoid disorders was found to be 0.9 % of the total population under study, conditions seen were congenital melanocytic nevus (3) nevus depigmentosus (2) was seen in inflammatory linear verrucous epidermal nevus (1), Becker nevus (1), Spitz nevus (1), nevus of ota (1).

## 5. Conclusion

Infections in children are a reflection of the health status and hygiene practices in the community. Various studies related to epidemiology of paediatric dermatoses shows diversity in results due to the geographic position and climatic variation of the area. Dietary habits, socioeconomic status and hygiene practices of the population under study also add to the above factors. This study aims to bring baseline data for future studies and also focuses to find out the regional variation in skin conditions of the paediatric age group so that necessary steps can be taken to prevent perpetuation of infections and adaptive methods may be implemented in other conditions.

Knowledge about various dermatoses in the area would also be helpful to educate the local community well in advance.

## 6. Conflicts of Interest

NIL

## References

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