

# Pediatric Dermatoses Encountered in the Outpatient Clinic Department of Tertiary Care Center

Dr. Neela Patel<sup>1</sup>, Dr. Jigna Barot<sup>2</sup>

**Abstract:** *Background:* Skin diseases in pediatric populations are very common health problems in developing countries. The evaluation for skin disorders forms an important component of primary health care practice for all including children. Pediatric dermatoses require a separate view from adult dermatoses as there are important differences in clinical presentation, treatment and prognosis. Status of health, hygiene and personal cleanliness of a society can be judged from the prevalence of certain skin diseases in the children of the community. *Aim:* Our aim was to evaluate the occurrence and spectrum of skin disorders in Pediatric patients attending the outpatient clinic at tertiary care center and the need for a dermatological opinion. *Material and Methods:* A prospective study was undertaken to determine the pattern of skin diseases during the period of May 2013 to April 2014 at the Dermatology OPD of tertiary care hospital. 1994 children aged up to 14 years were enrolled in the study. A detailed general, cutaneous and systemic examinations followed by investigations were carried out. The findings were recorded in proforma for analysis and interpretation of data. *Results:* Out of 1994 patients skin diseases were found more in males (53.56%) than in females(46.44%).The highest number of patients were in the age group of 1-5 year(31.84%). Etiological analysis revealed that majority of dermatoses belonged to infection and infestation(797;39.96%) followed by eczematous group(357;17.90%).Of the infection and infestation bacterial were most common entity followed by parasitic, fungal and viral. *Conclusion:* In our study preschool children are frequently affected with skin diseases than school going children. More common skin diseases are infections followed by eczema. Our data emphasize the need for improving sanitation, nutrition, personal hygiene of children, strengthening of community dermatology and training of health worker in the diagnosis and management of skin disease.

**Keywords:** Pediatric, Dermatoses, Infections

## 1. Introduction

The incidence of pediatric dermatological problems varies from one part of the world to another.<sup>1</sup> Skin diseases, though very common in many developing countries, are not often regarded as a significant health problem<sup>2-4</sup> even when serious diseases may be heralded by skin changes.<sup>2</sup>

Different investigators from various countries showed that the pattern of dermatological conditions in children differ from the pattern of adult dermatological conditions. Among skin diseases, pyoderma and fungal infections are more common in developing countries, while eczemas are more common in developed countries. Some investigators from India found 47% of skin diseases are due to infections and infestations and about 27% of skin diseases are due to eczema.<sup>5</sup> On the other hand some investigators showed that children in Singapore and Thailand suffer from eczema more than bacterial and fungal infections.<sup>6</sup> This can be attributed to different climatic, cultural and socio-economic condition. The prevalence of pediatric dermatoses in school based surveys in India has ranged from 8.7% to 35%<sup>7</sup>. Pediatric dermatoses requires a separate view from adult dermatoses as there are important differences in clinical presentation, treatment and prognosis<sup>8</sup>

The pattern of skin disease is a consequence of poverty, malnutrition, overcrowding, poor hygiene, illiteracy, and social backwardness in many parts of India.<sup>9</sup> The evaluation for skin disorders is an important component of primary health care practice for all, including children.<sup>10</sup> Status of health, hygiene and personal cleanliness of a society can be judged from the prevalence of certain skin diseases in the children of the community.<sup>11</sup>

Wide range of primary skin disorders are seen during childhood and skin is often a marker of underlying systemic

diseases and hereditary syndromes.<sup>12</sup> Dermatological problems account for about 30% of primary and secondary reasons for pediatric clinic visits and 30% of all visits to dermatologists involve patients of pediatric age group.<sup>13</sup>

This study was carried out to share our experience about various dermatoses prevalent among pediatric patient attending skin OPD at Tertiary Care center.

## 2. Material and Methods

A prospective study was undertaken to determine the pattern of skin diseases during the period of May 2013 to April 2014 at the Dermatology OPD of NHL medical college and Smt. SCL hospital a tertiary care hospital in the Ahmedabad. 1994 children aged up to 14 years were enrolled in the study. A detailed general, cutaneous and systemic examinations followed by investigations were carried out. The findings were recorded in proforma for analysis and interpretation of data.

## 3. Results

Incidence of pediatric dermatoses in our OPD is 7.35%. Total of 1994 patients were examined, Out of which 1068(53.56%) were males and 926(31.84%) were females. 507(25.43%) of <1 year, 635(31.84%) patients of 1-5 year, 414(20.76%) patients of 6-10 year and 438(21.97%) of 11-14 year age group. The pattern age distribution depicted in table no.1

**Table 1:** Pattern of age distribution

Age group	Number of cases(n)	Percentage (%)
<1 year	507	25.43
1-5 Year	635	31.84
6-10 Year	414	20.76
11-14 Year	438	21.97
Total	1994	100

Volume 4 Issue 3, March 2015

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The majority of dermatoses belonged to infections followed by eczematous group. Distribution of various dermatoses is depicted in table no.2

**Table 2:** Distribution of various dermatoses

Disease	Number of cases(n)	Percentage (%)
Infection	797	39.98
Eczema/Dermatitis	357	17.90
Disorder of sebaceous gland(Acne)	304	15.25
Urticaria	59	2.96
Nutritional dermatoses	55	2.75
Miliria	52	2.60
Disorder of pigmentation	52	2.60
Disorder of keratinisation	32	1.60
Disorder of nail	11	0.56
Drug reaction	3	0.15
Other dermatoses	272	13.65
Total	1994	100

According to Table 2 infections being the most common dermatoses in pediatric age group i.e.797(39.98%).Dermatitis and eczema being second most common dermatoses i.e.357(17.90%)

**Table 3:** Distribution of various infection in different age group

Infections	<1 year	1-5 year	6-10 year	11-14 year	Total	Percentage
Bacterial	59	173	58	22	312	39.15
Fungal	78	49	29	17	173	21.70
Viral	23	51	50	5	129	16.19
Parasitic	41	65	60	17	183	22.96
Total	201	338	197	61	797	
Percentage	25.22	42.41	24.72	7.65		

According to table 3, 312(39.15%) patients of bacterial infection,183(22.96%) patients of parasitic infection,173(21.70%) patients of fungal infection and 129(16.19%) patients of viral infections. Maximum number of patients was between 1-5 year age group.

**Table 4:** Distribution of various dermatitis in different age group

Dermatitis	< 1 year	1-5 year	6-10 year	11-14 year	Total	Percentage
Atopic	12	41	14	10	77	21.57
Seborrheic	27	20	16	46	109	30.53
Contact	35	9	13	17	74	20.73
Pompholyx	0	6	14	8	28	7.85
Other	0	19	21	29	69	19.32
Total	74	95	78	110	357	

According to table 4 seborrheic dermatitis was the most common dermatoses being 30.53%.atopic dermatitis being more common in age group between 1 year to 5 year.

**Table 5:** Types of bacterial infection

Type of infection	Number of patients	Percentage
Pyoderma	168	53.85
Impetigo	69	22.12
Folliculitis	61	19.55
Cellulitis	12	3.84
Leprosy	02	0.64
Total	312	

According to table 5 Pyoderma (53.85%) was the most common bacterial infection followed by impetigo (22.12%).

**Table 6:** Type of fungal infection

Type of infection	Number of patients	Percentage
Candidiasis	88	50.87
Tinea	63	36.42
P.versicolor	22	12.71
Total	173	

According to table 6 most common fungal infection was candidiasis(50.87%)

According to table 8, there was peak of bacterial infection during May-July, Fungal infections were also maximum during May-July, While maximum patients with viral infection were noted during Nov-Jan & Parasitic infection were maximum during Aug-Oct.

**Table 7:** Type of Viral infection

Type of infection	Number of patients	Percentage
Molluscum contagiosum	54	41.86
Chicken pox	25	19.38
Pityriasis Rosea	25	19.38
Veruca plana	12	9.3
Herpes zoster	8	6.2
Hand foot mouth disease	5	3.88
Total	129	

According to table 7 molluscum contagiosum (41.86%) was the most common viral infection in children followed by chicken pox(19.38%)

**Table 8:** Distribution of various infections over year

Infection	May-July	Aug-Oct	Nov-Jan	Feb-Apr	Total
Bacterial	111	92	47	62	312
Fungal	58	46	32	37	173
Viral	19	29	47	34	129
Parasitic	49	64	38	32	183

#### 4. Discussion

The most common dermatoses in our study were infections and infestations, observed in 39.98% of the study population. Among infections, bacterial infection were the most common in our study followed by fungal and viral infections .The incidence of bacterial infections in our study was 312 (39.15%) similar to other studies. Saurabh et al.found bacterial infection being 31.9%<sup>14</sup>

Lack of health awareness, poor personal hygiene, poverty and overcrowding were important factors that contributed to the higher prevalence of bacterial infection.

Most of the bacterial infections were found in the children (1-5 year) age group. We found that pyoderma (53.85) was the most common infection followed by Impetigo (22.12%) and folliculitis (19.55%)

In our study fungal infection was most common in < 1 year age group and candidiasis was most common fungal infection (50.87).In viral infection Molluscum contagiosum (41.86%) was most common viral infection followed by chicken pox (19.38%) and pityriasis rosea (19.38%) While Ali et al. in 1998 in Bangladesh showed among the viral infections viral wart and molluscum contagiosum was the

commonest, followed by viral fever with rash, chickenpox, herpes zoster and herpes simplex.<sup>15</sup> We observed that viral warts were more common in 11-14 year age group. Adolescents are vulnerable for viral infections due to enhanced outdoor activity and increased exposure.

The geographic area and season may influence the distribution of dermatoses. In our study the increased incidence of bacterial infection was seen in May to July. While increased incidence of viral infection was seen in November to January. Increased incidence of scabies was seen during August to October.

The second most common type of dermatoses in our study was eczema/Dermatitis. Among them seborrheic dermatitis (30.53%) was at the top of the list followed by atopic dermatitis (21.57%).seborrheic dermatitis was prevalent in 11-14 year age group. Most common dermatitis in 1-5 year age group was atopic dermatitis. Thakare et al. also found atopic dermatitis being most common in 1-5 year age group.<sup>16</sup>

There were 304 patients of acne. Out of which 5 patients belong to <1 year age group(neonatal acne).299 patients were between 11-14 year age group due to direct stimulating effects of androgens on sebaceous gland.

There were 52 (2.60%) patients of pigmentary disorder. Out of which there were 2 patients of Becker's naevus in 11-14 year age group. Other patients were of vitiligo and Melanocytic naevus.

There were 32 patients of keratinisation disorder.Most common keratinisation disorder was follicular Keratoses(15) followed by palmoplantar Keratoderma(5).There were 4 patients of Ichthyosis vulgaris,4 patient of Psoriasis,3 patient of acanthosis nigricans and 1 patient of Ichthosis Hysterix.

There were 3 patients of drug reaction, out of which 2 patients were of Stevens Johnson syndrome and 1 patient was of drug induced urticaria.

Prevalence of pediatric dermatoses shows different pattern in different countries. Researcher from India in different studies showed that bacterial infections are more than that of eczema.<sup>17</sup> In another study, investigators from Egypt reported that parasitic skin infestations was more than that of eczema followed by pityriasis alba and seborrheic dermatitis.<sup>18</sup> Some researchers in Iraq found the following pattern of skin infections, eczema, pigmentary disorder, papulosquamous disease, drug-induced and nutritional deficiency in children under 12 yr age group. <sup>19</sup>While Inflammatory and allergic disorder were most commonly encountered in study carried out in Switzerland<sup>20</sup>

## 5. Conclusion

From this study it can be concluded that more common dermatoses in pediatric age group were infections followed by Dermatitis. Skin diseases are associated with significant morbidity and due to different clinical presentation from adult dermatoses. Pediatric dermatoses require separate view in diagnosis and treatment. The incidence of skin infection

can be brought down by increasing awareness regarding sanitation and personal hygiene in population and also by improving sanitation, nutrition and personal hygiene of children. The WHO has advocated for strengthening of community dermatology for developing countries while others have called for training of health worker in the diagnosis and management of skin disease<sup>21</sup> is quite apt and should be adopted by all nations.

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