

## Original Research Article

# A clinicoepidemiological study of dermatoses among paediatric population

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### ABSTRACT

**Background:** Alike the normal population, even paediatric population encounters various dermatological conditions. Dermatoses among paediatric population can range from acute conditions, to chronic or recurrent and does carry significant burden on quality of life. It has to be dealt separately from adults as it has different symptoms, requires different treatment as has different prognosis for the same disease as compared to adults. Aim was to study the clinico-epidemiological profile of various dermatoses prevalent among the paediatric population less than 18 years.

**Methods:** This was a prospective study done at a tertiary care centre of Jammu region. Paediatric patients less than 18 years of age attending the dermatology outpatient department were taken up for study. A detailed history was taken from the patient or attendants, detailed clinical examination was done. Also, laboratory investigations like KOH, gram stain, AFB stain, woods lamp, histopathological studies among others were done wherever required. The results were statistically evaluated and inferences drawn.

**Results:** A total of 600 children were taken up for study. Males outnumbered the females with 302 females and 298 males. Maximum no. of patients (36.8%) were in the 6-11 years age group followed by 1-5 years age group (27%). Most common dermatoses seen over all the age groups was infections and infestations (39.1%) followed by eczematous group (16%). However, the pattern of dermatoses did vary in each age group and also was determined by the climate. Many patients had more than one dermatoses.

**Conclusions:** This study was done to assess the burden of dermatoses among paediatric population and found that various dermatoses did vary according to various age groups. Infections and infestations formed a major share.

**Keywords:** Burden, Dermatoses, Paediatric population

### INTRODUCTION

A lot of anatomical differences exist between children and adults. As a result, the pattern of skin diseases does vary where some diseases are mostly seen exclusively in children while others in adults only.

The skin undergoes through many transformations from birth till adolescence. Thus, paediatric dermatology is in itself an important branch of dermatology. Various factors may determine the prevalence of skin disorders

below 18 years. Exogenous factors include climate, region, culture and socioeconomic factors.<sup>1,2</sup> Also genetic and hereditary conditions are encountered for the first time at birth or childhood. Moreover, transient and physiological skin findings are seen in neonates whereas with growing age external factors also come into play. Various studies have shown the prevalence of skin disorders among children to be of 9-37%.<sup>3,4</sup> A study reported the prevalence of skin disorders among children below 18 years in India to range from 8.7-35%.<sup>5</sup> This study was conducted at a tertiary centre of Jammu region

to have an overview of skin disorders prevalent among various age groups across various regions.

**METHODS**

This study was conducted at a tertiary centre of Jammu region. A total of 600 children below or of 18 years who presented to skin outpatient department with clinical evidence of dermatological complaints were taken up for study. The patients were divided into 5 groups according to age groups and dermatological complaints were studied in each age group. The various age groups studied were- <28 days, <1 year, >1 to 5 years, 6-11 years, 12-18 years. A detailed history was taken from the patient or attendants, detailed clinical examination was done. Also, laboratory investigations like KOH, gram stain, AFB stain, woods lamp, histopathological studies among

others were done wherever required. The results were statistically evaluated, and inferences drawn.

**RESULTS**

A total of 600 children were taken up for study. Males outnumbered the females with 302 females and 298 males. Maximum no. of patients (36.8%) were in the 6-11 years age group followed by 1-5 years age group (27%). Age distribution of patients show in Table 1.

Most common dermatoses seen over all the age groups was infections and infestations (39.1%) followed by eczematous group (16%). However, the pattern of dermatoses did vary in each age group and also was determined by the climate. Many patients had more than one dermatoses.

**Table 1: Distribution of patients among various age groups.**

	<28days	<1year	>1-5 years	6-11 years	12-17 years	Total
Male	25	30	86	105	52	298
Female	21	25	76	116	64	302
Total	46	55	162	221	116	600

Among the 46 neonates, the most common dermatoses seen was infections and infestations (43.4%). Out of this scabies was most common followed by bacterial infections. Other dermatoses seen are shown in Table 2.

**Table 2: Dermatoses pravelent among neonates.**

Dermatoses	No. of patients
Infections and infestations	20
Scabies	8
SSSS	2
Impetigo	6
Cutaneous candidiasis	4
Eczematous group	7
Diaper dermatitis	5
Atopic dermatitis	2
Mongolian spot	6
Vascular abnormalities	7
Haemangiomas	5
Salmon patch	2
Milliaria	7
Epidermolysis bullosa	6
Infantile acropustulosis	1
Neonatal acne	1

Among 55 infants less than 1-year, maximum patients (23,41.8%) fell under the group of eczematous disorders followed by the infection and infestation group (19,34.5%). Pattern of dermatoses seen is shown in Table

3. Few rare observations were made like herpes zoster in a 3-month-old child, cases of epidermolysis bullosa and langerhan cell histiocytosis.

**Table 3: Pattern of dermatoses among <= 1-year age group.**

Dermatoses	No. of patients
Eczematous disorders	23
Diaperdermatitis	6
Atopic dermatitis	6
Seborrheic dermatitis	8
Contact dermatitis	3
Infections and infestations	19
Scabies	7
Impetigo	6
Herpes zoster	1
Tinea capitis and faciei	5
Congenital dermatoses and naevoid disorders	13
Verrucous epidermal naevus	2
Haemangioams	4
Lichen striatus	1
Mongolian spot	4
Icthyosis	1
Colloidion baby	1
Langerhan cell histiocytosis	1
Acrodermatitis enteropathica	1

Among 162 children between 1-5 years, maximum patients (76,46.9%) were suffering from infections and infestations. Pattern of dermatoses is shown in Table 4.

**Table 4: Dermatoses among children 1-5 years.**

Dermatoses	No. of patients
Infections and infestations	76
Scabies	22
Tinea	18
Pyoderma	12
Varicella	8
Warts	8
Molluscum contagiosum	6
Leishmaniasis	2
Eczematous disorders	57
Seborrheic dermatitis	24
Atopic dermatitis	15
Eczemas	18
Naevoid dermatoses/genodermatoses	9
Lichen striatus	3
Ven	1
Icthyosis vulgaris	4
Blooms syndrome	1
Phrynodermas	1
Papular urticaria	10
Acute urticaria	7

**Table 5: Distribution of dermatoses among 6-11 years age group.**

Dermatoses	No. of patients
Infections and infestations	149
Scabies	51
Tinea	30
Impetigo	10
Pediculosis	12
Warts	14
Molluscum	12
Varicella	17
Leishmaniasis	3
Scrofuloderma	1
Eczematous disorders	61
Seborrheic dermatitis	32
Atopic dermatitis	21
Contact eczema	8
Keratinization disorders	16
Psoriasis	11
Lichen planus	5
Miscellaneous	22
Granuloma annulare	1
Urticaria	10
V itiligo	6
Alopecia areata	4
20 nail dystrophy	1

Among 221 patients between 6-11 years of age group, maximum patients (149,67.4%) belonged to infections and infestations. Many children had more than one dermatoses. Table 5 shows dermatoses among 6-11 years age group.

Among 116 patients of the age group of 12-17 years, maximum patients (41,35.351%) had acne or acneiform eruptions. This was followed by infections and infestations with tinea infections being more common. Distribution of dermatoses among patients is shown in Table 6.

**Table 6: Distribution of dermatoses among 12-17 years age group.**

Dermatoses	No. of patients
Acne/acneiform eruptions	43
Infections and infestations	40
Tin ea	20
Lupus vulgaris	2
Pyoderma	6
Warts	4
Varicella	2
Scabies	5
leishmaniasis	1
Papulosquamous disorders	14
Psoriasis	6
Lichenplanus	2
Irritant contact dermatitis	4
Seborrheic dermatitis	2
Miscellaneous	
Alopecia areata	6
Premature greying	4
Onychocryptosis	3
Vitiligo	5
Urticaria	1

We observed that dermatoses spectrum did vary according to age groups like SSSS, cutaneous candidiasis, Mongolian spot, epidemolysis bullosa, vascular malformations and genetic disorders. were more common in neonates and infants whereas tinea, scabies, warts, molluscum infections were common infections and infestations seen in preschool, school going and adolescent age groups. Few cases of leishmaniasis, cutaneous tuberculosis were also seen. Among dermatitis, seborrheic, atopic and contact dermatitis were common observations. Certain conditions like acne and acneiform eruptions were more common in adolescent age group. Tinea infections were quite common in our study in most age groups.

## DISCUSSION

Even the paediatric population suffers from various cutaneous dermatoses and these are influenced by age, climate, socioeconomic status. In our study maximum

patients (36.8%) were in the 6-11 years age group followed by (27%) in 1-5 years age group. One study also found maximum patients (33.21%) in the 6-11 years age group.<sup>2</sup> On the contrary, another study reported maximum dermatoses in adolescent age group.<sup>6</sup> Females slightly outnumbered the males in our study which was similar to two other studies.<sup>3,7</sup> This can be explained in view of more concern of the parents for the female gender.

Most common dermatoses group seen was infections and infestations involving 304 (50.6%) patients followed by eczematous group seen in 150 (25%) patients. A study from a large paediatric hospital in north India also showed infections and infestations as the most common dermatoses in 47.15% followed by eczematous dermatoses in 26.95%.<sup>8</sup> Various other studies did report a higher percentage of infections and infestations among paediatric population with ranging from 35.6% to 85%.<sup>9-11</sup> However a study from Kuwait found atopic dermatoses as the most common in 31.3% of patients.

Among infections and infestations, most common was scabies followed by fungal infections. Among fungal infections tinea infections were the major share. These findings were similar to that reported by various other studies.<sup>12</sup> Viral infections were third most common followed by bacterial. In our study, we also found leishmaniasis in some patients in view of endemic zone of leishmaniasis in the region.

However, still the pattern of some dermatoses did vary among the various age groups. Among neonates, scabies was still common among infections and infestations accounting for 17.3% of neonates but staphylococcal scalded skin syndrome and cutaneous candidiasis was also seen. Moreover, findings like Mongolian spot (13%), vascular abnormalities like salmon patch and haemangiomas, epidermolysis bullosa (13%) among muslim population and miliaria (15.2%) were reported. A study found transient physiological changes like erythema toxicum neonatorum to be more common in neonates.<sup>12</sup> Various other studies have reported miliaria to be in the range of 2.6 to 9.6% which was slightly less than our study. But mongolian spot prevalence was similar to our study in these studies.<sup>13-15</sup>

Among children less than 1 year, eczematous disorders were more common with seborrheic dermatitis being in majority followed by infections and infestations unlike other studies.<sup>12</sup> Naevoid disorders and congenital disorders were also seen. Whereas in the age groups of 1-5, and 6-11 years, infections and infestations were common followed by eczemas. Scabies was the most common infestation in our study similar to other studies.<sup>16-18</sup> However tinea was more common in our study whereas other studies reported a lower incidence.<sup>12,19</sup> This can be attributed to the rising incidence and resistance of tinea infections in the country and worldwide. Among 12-17 years age group, most common dermatoses were acne and acneiform eruptions

followed by tinea infections. Another study reported acne and acneiform eruptions to be more common in 12-17 years age group but the numbers were less than tinea infected children which constituted the most prevalent dermatoses in the same age group.<sup>20</sup>

## CONCLUSION

This study was done to assess the burden of dermatoses among paediatric population and found that various dermatoses did vary according to various age groups. Infections and infestations formed a major share which can be prevented through proper hygiene awareness. For others accurate diagnosis and treatment forms the mainstay. Due to rising burden, the need of the hour is more dermatologist being trained in the field of paediatric dermatology.

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