



The Spectrum Of Pediatric Dermatoses In A Tertiary Care Center Of Pondicherry: A Prevalence Study

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Abstract:

Introduction: Skin disorders are one among the commonest pediatric health problems that produce significant morbidity. They can be temporary or recurrent, the later producing psychological impact in the children. This study was undertaken to know the spectrum of various pediatric dermatoses and to estimate their prevalence in a tertiary care center of Pondicherry.

Methods: This was a descriptive, observational study conducted in the dermatology outpatient department between January 2021 to June 2021, among the children aged 0 - 19 years who presented with skin diseases, newly diagnosed and untreated previously. After noting down the proper history and findings, the clinical diagnosis was made. The patients were divided as per their age into infants (up to 1 year), pre-school (2-5 years), school children (6-12 years) and adolescent age group (13- 19 years). The results were entered and tabulated in MS - excel sheet. This study excluded those not willing to consent for the study.

Results: This study included 325 cases (22.33%), out of all the 1455 outpatients within the study duration. A male preponderance was noted with 181 (55.7%) cases, and females 144 (44.3%) cases. Majority of them belonged to the adolescent age group (185; 56.9%) and infants constituted the least (3; 0.92%). Fungal infections were the leading cause of pediatric dermatoses observed (94; 29%), followed by acne (40; 12.3%), and infestations (36; 11.07%). The three most common diagnosis were tinea corporis (61; 18.76%), acne vulgaris (40; 12.3%), and scabies (34; 10.46%).

Conclusion: This study showed the current pattern of skin diseases in the pediatric population in a tertiary care center of Pondicherry. Pediatric dermatoses was affected more in the adolescent age group, and acne was predominantly seen among them. Strengthening community dermatology, training health workers in pediatric dermatology, providing good and hygienic education to the children and their family members can narrow down the prevalence of pediatric dermatoses.

Keywords: Pediatric dermatoses, fungal infections, scabies.

Introduction:

The prevalence of pediatric dermatoses in India is ranged from 8.7 - 35%.^[1] Pediatric dermatoses includes the skin diseases from birth to adolescence of an individual, where many changes happen in their

physiological, psychological and maturity aspects.^[2] Skin disorders accounts for 30% of all the outpatient visits to a pediatrician and 30% of the cases to a dermatologist comprises pediatric population.^{[3],[4]}

Pediatric skin disorders can be short-term, or chronic and recurrent. Financial status, dietary habits, climatic exposures, and external environment determine the incidence of dermatoses among children. [5]

This study was aimed to understand the spectrum of different pediatric dermatoses and to estimate the prevalence of the same in a tertiary care center of Pondicherry.

Materials and Methods:

This was a descriptive, cross sectional study carried out in the outpatient department of dermatology from January to June 2021, among the pediatric population who presented with skin diseases. The age groups of the patients were divided as per the following;

- 1). Infants (up to 1 year)
- 2). Pre - school children (2 - 5 years)
- 3). School children (6 - 12 years)
- 4). Adolescent age group (13 - 19 years)

The Clinical diagnosis was made after taking the history and findings. It was not corroborated with a laboratory diagnosis. This study included only those patients/ guardians who provided the consent for their participation in this study. Those cases where a difficulty arose to finalise the diagnosis without the lab findings were excluded from the study. The data obtained were tabulated and analysed.

Results:

Out of the 325 participants, males constituted 181 (55.7%) cases and females 144 (44.3%) cases as given in graph 1. From a total of 1455 outpatient cases during the study period, the prevalence of pediatric dermatoses in our opd was 22.33%.

The various dermatoses came across, are given in table 1. Fungal infections(94;29%) were the commonest seen, followed by acne (40;12.3%), infestations (36;11.07%), eczema (33;10.15%), bacterial infections (30;9.23%), viral infections (23;7.07%), hypersensitivity disorders (22;6.76%), pigmentary disorders (13;4%), papulosquamous disorders (9;2.76%), keratinisation disorders (8;2.46%), sweat gland disorders (5;1.53%), hair and scalp disorders (4;1.23%), nevi and others (3;0.92%), nail disorders and drug eruptions (1;0.3%).

Graph 2 shows the age distribution, with the maximum number from adolescent age group 13-19 years (185; 56.92%), followed by school children (114; 35.07%), preschool children (23;7.07%) and the least among infants (3;0.92%).

Table 2 shows the various infections and infestations encountered in the study. Fungal infections seen were tinea corporis (61; 64.89%), tinea versicolor (26; 27.65%) and candidiasis (7; 7.44%) as in graph 3. Infestations (36; 11.07%) seen were scabies (34; 94.4%) and pediculosis (2;5.6%) as in graph 4. Males were chiefly affected by scabies and the two cases of pediculosis were females. Bacterial infections (30; 9.23%) seen were impetigo (17; 56.7%), folliculitis (9; 30%), ecthyma (3;10%), and pitted keratolysis (1;3.3%) as given in graph 5. Graph 6 explains the various viral infections (23; 7.07%) observed - warts (18; 78.26%), chickenpox (2;8.7%),pityriasis rosea (2;8.7%), and HFMD (1;4.34%).

Acne (40; 12.3%) followed fungal infections with 39(97.5%) cases from adolescent age group and 1(2.5%) case of 11 years. Females were predominantly affected (23; 57.5%) and males (17;42.5%).

The various eczematous conditions (33; 10.15%) were chronic eczema (17;51.51%), atopic dermatitis (6;18.18%), pityriasis alba (6;18.18%), seborrheic dermatitis (3;9.09%), and allergic contact dermatitis (1;3.03%).

Hypersensitive diseases (22; 6.76%) seen were urticaria (11; 50%), polymorphic light eruptions (6;27.27%), and insect bite reactions (5;22.72%).

The two pigmentary disorders (13; 4%) were postinflammatory hyperpigmentation (10;76.92%) and vitiligo (3,23.07%).

The papulosquamous disorders (9; 2.76%) were psoriasis (6; 66.7%) and lichen planus with 3 cases (33.3%).

Disorders of keratinisation(8;2.46%) were lichen spinulosus (4;50%), acquired ichthyosis (2;25%), and 1 (12.5%) case each from lichen nitidus and phrynoderma.

Sweat gland disorders (5; 1.53%) were hidradenitis suppurativa, miliaria with 2 (40%) cases each and 1 (20%) case from hyperhidrosis.

Alopecia areata and diffuse hair loss constituted hair and scalp disorders (4; 1.23%) with 2 (50%) cases each.

Nevi (3; 0.92%) seen were melanocytic nevi (2; 66.7%) and epidermal nevus (1; 33.3%).

Paronychia was the nail disorder seen in one case (0.30%), and drug eruption seen was fixed drug eruption (1; 0.30%).

Other dermatoses (3; 0.92%) observed were single case (33.33%) each from corn foot, pyogenic granuloma and tuberous sclerosis.

Discussion:

A prevalence of 22.33% of pediatric dermatoses was obtained from our study, while the different studies showed a range of 8.7% - 35%.^[11] A similar study done in Puducherry showed a prevalence of 25.21%.^[6]

This study showed a major population from adolescent age group, followed by school children, preschool children and infants. Singh R et al in his similar type of study showed majority among the teen age.^[7] Sacchidanand S et al (33.21%) and Sayal et al (41.3%) noted 5-11 years (middle childhood) is the most common age group.^{[8],[9]} This variation may be due to the difference in the socioeconomic status, cultural practices and the climatic variations.

Fungal infections of skin constituted 63.94% out of the total infections and 29% out of the total dermatoses. Among them, tinea corporis were 64.89%, tinea versicolor 27.65% and candidiasis 7.44%.

Acne 12.3% followed fungal infections and was mostly seen in the adolescent age group 97.5%, with a female predominance. A prevalence rate of 8.06% of acne was seen in Medasani et al study which also showed a predominance in the adolescent age.^[6]

The prevalence of parasitic infestations in our study was 11.07% with scabies 94.4% and pediculosis 5.6%. Previous researchers have found a prevalence of 5.1% - 22.4% for infestations.^{[10],[11],[12]} Females were only affected for pediculosis in our study. Scabies was seen high among the male population. Singh R et al showed a similar prevalence of 11.6% for scabies in their study in 2019 while ours was 10.46%.^[7]

The prevalence of bacterial infections were 9.23% among all the dermatoses observed and 20.4% among the infections. Impetigo was the leading cause for bacterial infections with 56.7% of all bacterial dermatoses, while it was 77.08% in Medasani et al study.^[6] Bhatia and Ghosh et al studied pyodermas were the single most dermatoses.^{[13],[14]}

Viral infections in our study constituted 7.07% while it was 8.98% in a similar study conducted at Pondicherry.^[6] The mostly seen viral infections were warts (78.26%) followed by chickenpox, pityriasis rosea each with 8.7% and HFMD 4.34%. Warts contributed 51.28% among the viral infections in Medasani study.^[6] The prevalence of varicella in our study was 0.6% while it was 0.4% in Medasani^[6] and Karthikeyan study.^[10]

Eczematous conditions were 10.15% where chronic eczema was the leading cause and allergic contact dermatitis the least. Atopic dermatitis was the commonest cause of eczema in that ranged between 3 - 28%.^[15]

Pigmentary disorders observed in Medasani study was 1.84%, with post inflammatory hyperpigmentation the most observed among them. The prevalence of pigmentary changes in our study was 4% with the maximum cases of post inflammatory pigmentation from them, similar to the above study.^[6]

Papulosquamous disorders showed 2.76% while it was 0.92% in Medasani study and 6.08% from Sacchidanand study.^[8] Lichen planus constituted 0.69% and psoriasis 0.23% in Medasani study.^[6]

Among keratinisation disorders (2.46%), lichen spinulosus was the leading cause followed by acquired ichthyosis, lichen nitidus and phrynoderma. Ichthyosis with 0.46% was observed as the highest cause for this group by Medasani et al.^[6]

The prevalence of sweat gland disorders were 1.53%, hair and scalp disorders constituted 1.23% and nevi 0.92% in our study. Nevoid disorders comprised 2.07% in Medasani study^[6], Thappa et al 0.5%^[3], and Dogra and Kumar 1.1%.^[16]

Miscellaneous causes (0.92%) for pediatric dermatoses in this study included corn foot, pyogenic granuloma and tuberous sclerosis.

Conclusion:

This study throws light on the recent pattern of skin changes in Puducherry among the pediatric age group. Adolescent age group was affected more with acne predominating in them. The hormonal variations in this age group can be the reason for this.

Strengthening community dermatology, training health workers in pediatric dermatology, providing good and hygienic education to the children and their family members can narrow down the prevalence of pediatric dermatoses.

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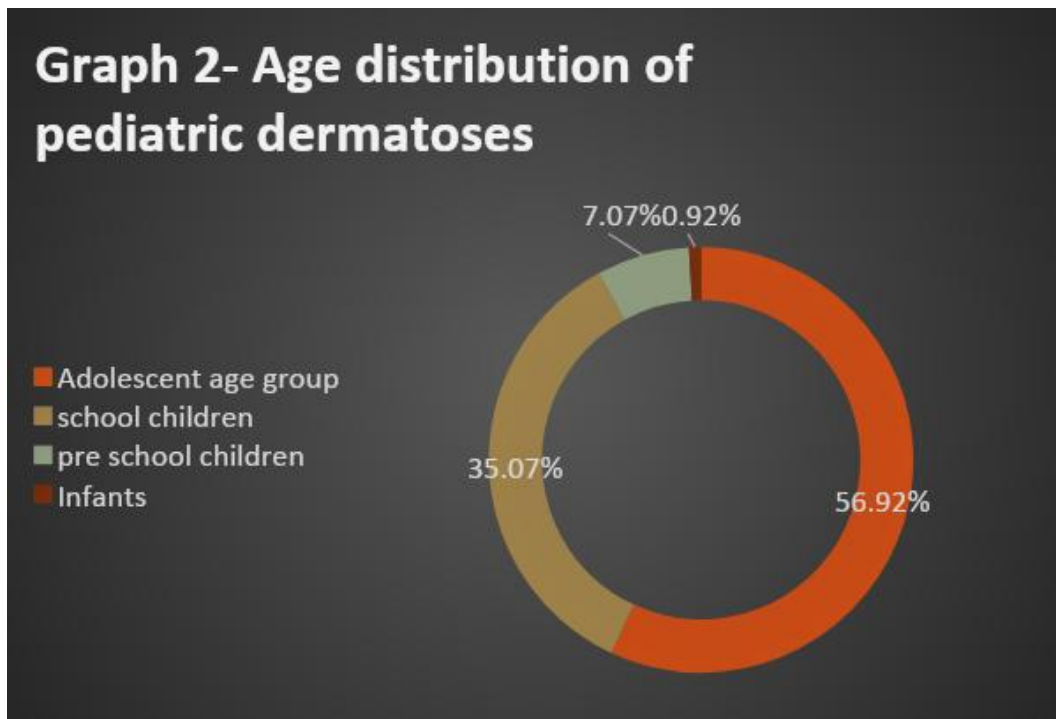
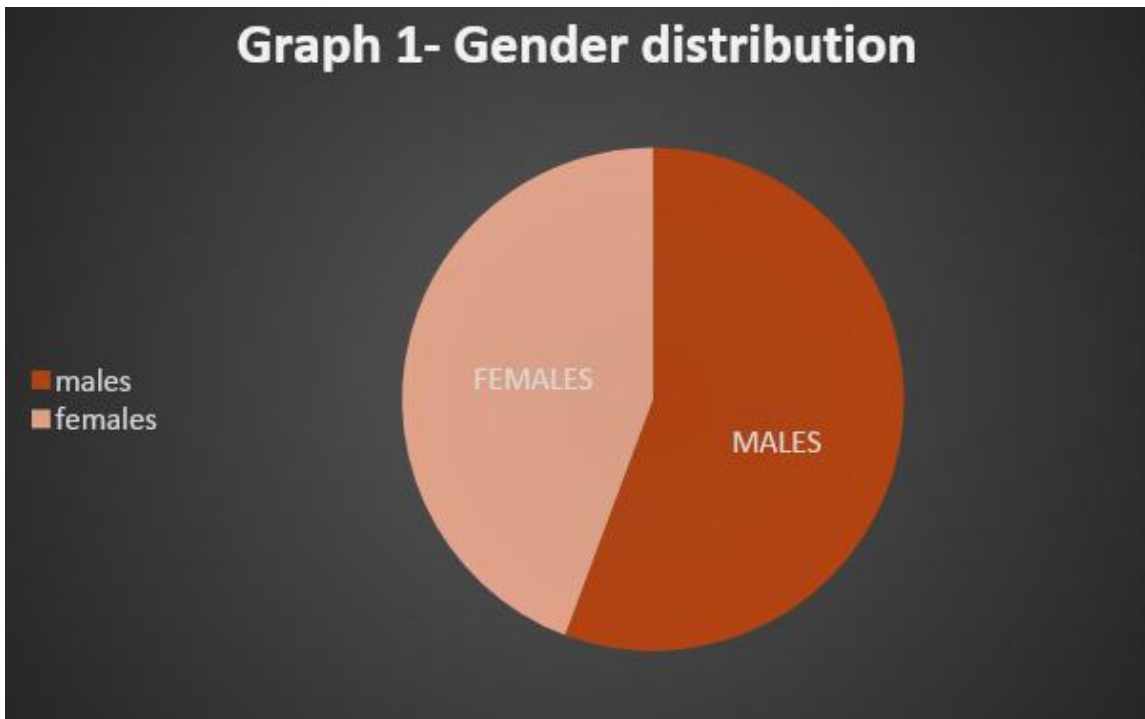


Table 1: - Distribution of various Pediatric dermatoses

SI No.	Type of Dermatoses	No. of Patients	Prevalence (%)
1.	Fungal Infections	94	29
2.	Acne	40	12.30
3.	Infestations	36	11.07
4.	Eczema	33	10.15
5.	Bacterial infections	30	9.23
6.	Viral infections	23	7.07
7.	Hypersensitivity disorders	22	6.76
8.	Pigmentary disorders	13	4
9.	Papulosquamous disorders	9	2.76
10.	Keratinisation disorders	8	2.46
11.	Sweat gland disorders	5	1.53
12.	Hair and scalp disorders	4	1.23
13.	Corn foot	3	0.92
14.	Nevi	3	0.92
15.	Drug reactions	1	0.30
16.	Nail disorders	1	0.30

Table 2:- Infections and Infestations

SI. No.	Infection	Diagnosis	Total	Prevalence (%)
		Tinea corporis	61	64.89
1.	Fungal Infection	Tinea versicolor	26	27.65
		Candida Infection	7	7.44
		Total	94	29
		Scabies	34	94.4
2.	Infestations	Pediculosis	2	5.6
		Total	36	11.07
3.	Bacterial Infection	Impetigo	17	56.7
		Folliculitis	9	30
		Ecthyma	3	10
		Pitted keratolysis	1	3.3
		Total	30	9.23
	Viral Infections	Warts	18	78.26
4.		Chicken pox	2	8.7
		Pityriasis rosea	2	8.7
		HFMD	1	4.34
		Total	23	7.07

