Original Research Article

Spectrum of Pediatric Dermatoses in The Pediatric Outpatient Clinic of a Rural Teaching Hospital

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Abstract

Introduction: Skin diseases in the pediatric population are common all over the world including rural and urban areas. There is variation in the pattern and presentation of Dermatoses, with eczemas being the most common skin disorder in developountries and infections and infestations in the developing countries. **Aims and Objectives:** i) To study the spectrum of various dermatoses in infants and children attending pediatric outpatient clinic. ii) To study the pattern of common Dermatological conditions affecting the pediatric population of different age groups. **Material & Methods:** It was an observational retrospective database study of the spectrum of various dermatoses in infants and children attending pediatric outpatient clinic over past 6 months from July 2016 to December 2016. We included all patients coming with skin disorders to the pediatrics outpatient department. **Results:** The entire data was entered and cleaned in MS Excel before its statistical analysis. Among 2078 pediatric skin patients attending the Dermatology OPD, 597 cases were Infectious and 1481 cases were Non infectious. Males outnumbered the females. The distribution of diagnosis of dermatoses differs significantly between male and female cases studied (P-value<0.001). Three most common spectrums of dermatoses were pityriasisinfections (17.5%), Atopic dermatitis (11.4%) and Tinea infections (10.5%). Tinea infections were found to be highest (36.7%) and next common was scabies (24.5%) in Infectious variety followed by Chicken–pox / Varicella (7.7%). **Conclusion:** Over all fungal infections, Atopic Dermatitis and Pytiriasis were commonest which commonly occurred in adolescents and teen age groups which could be attributed to hormonal changes, excessive sweating, and bad hygiene.

Key words: Dermatoses, Adolescents, Infectious, Noninfectious

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Introduction

Dermatological conditions constitute at least 30% of all outpatient visits to pediatrician and 30% of all visits to dermatologists involve children. The incidence of skin diseases among children in various part of India has ranged from 8.7% to 38.8% in different studies usually school based surveys Because of more delicate nature of the skin of infant and children as well as contact exposure to trauma, most skin diseases of childhood are attributable to physical cause, infection and allergy. Also the disease pattern differs in a given population by different ecological factor [1].

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Skin diseases are a major health problem in pediatric age group and are associated with significant mortality. Skin diseases in the pediatric population are common all over the world including rural and urban areas [2]. Various epidemiological studies have been undertaken across the world including India to study the pattern of pediatric dermatomes.

The epidemiological data in Indian studies is based on pattern of pediatric dermatitis in school going children in both urban and rural area and in tertiary care hospitals [3]. Pediatric dermatomes require a separate view from adult dermatomes as there are important difference in clinical presentation, treatment and prognosis [4]. Studies of pediatric

population suffering from skin diseases can play an important role in public health policy making. The aim of this study is to give an overview of the statistical study of different dermatologic diseases in infant and children in rural hospital in Mavalregion.

Cutaneous infection sare common in school going children and can spread due to intermingling with each other if not treated properly. Adele scent population inhale different spectrum of disease pattern altogether. We want to under take this project to study the spectrum man pattern of different Dermatoses in pediatric patients of different age groups.

Material & Methods

Type of Study: Observational retrospective database study of the spectrum of various dermatoses in infants and children.

Place of Study: Pediatric Dermatology outpatient clinic.

Duration of Study: Over past 6 months from July 2016 to December 2016.

Sample size: 2078 cases.

Sample Collection: This Data was collected from the pediatric out patient registers and of patients coming with skin disorders was studied and their diagnosis confirmed after they were referred to the skin out patient clinic.

Inclusion criteria: All Pediatric patients coming with skin disorders to the pediatrics outpatient department.

Exclusion Criteria: Nil.

Statistical Methods: The entire data was entered and cleaned in MS Excel before its statistical analysis. The entire data was statistically analyzed using Statistical Package for Social Sciences (SPSS ver 21.0, IBM Corporation, USA) for MS Window

Results

Table-1: The age distribution of the cases.

Age Group (years)	No. of cases	% of cases
Less than 1 year	66	3.2
1.0 – 5.0 years	283	13.6
6.0 – 10.0 years	285	13.7
11.0 – 15.0 years	531	25.6
16.0 – 18.0 years	913	43.9
Total	**2078**	**100.0**

The age group distribution was 3.2% in infancy group (< 1 year), 13.6% in 1- 5 years age group, 13.7% in 6-10years age group, 25.6% in teens 11-15 years age group and 43.9% in Adolescent age group.

Table-2: The sex distribution of the cases.

Sex	No. of cases	% of cases
Male	1131	54.4
Female	947	45.6
Total	**2078**	**100.0**

A total of 2078 cases were studied; males were 1131 (54.4%) and females were 947 (45.5 %).

Among 2078 pediatric skin patients attending the Pediatric Dermatology OPD, 598 cases (28.7%) were Infectious and 1480 cases (71.2%) were Noninfectious. The three most common spectra of Dermatoses were pytirias is infections (17.5%), Atopic dermatitis (11.4%) and Tinea infections (10.5%) followed by Acne (9.1%).

Table-3: The distribution of dermatoses among the Infectious cases.

Srno	Overall Diagnosis	Diagnosis of dermatoses	No. of cases	% of cases
1	**Infectious**	Tinea infections	219	36.7
2		Scabies	146	24.5
3		Chicken pox	46	7.7
4		Fungal infection	31	5.2
5		Viral wart	28	4.7
7		Molluscum	18	3.0
8		Variecella / herpes zoster	17	2.8
9		Furunculosis	13	2.2
10		Folliculitis	12	2.0
11		Hansen	7	1.2
12		Candidiasis /balanitis/vaginitis	7	1.2
13		Measles	6	1.0
14		Others	24	4.0
		Total	**598**	**100.0**

Tinea infections were found to be highest (36.7%) and next common was scabies (24.5%) in Infectious variety followed by Chicken –pox / Varicella (7.7%). Fungal Infections was (5.2%), viral warts (4.7%) andVaricella Zoster 2.8%.

Table-4: The distribution of dermatoses among the Noninfectious cases.

1	**Non-Infectious**	Pityriasis infections	364	24.6
2		Atopic dermatitis	236	15.9
3		Acne	189	12.8
4		Vitiligo	78	5.3
5		Insect bite	61	4.1
6		Xerosis	54	3.6
7		Impetigo	50	3.4
8		Dandruff	36	2.4
9		Eczema	35	2.4
10		M.contogiosum	33	2.2
11		Seborrheic dermatitis	32	2.2
12		Hair fall	27	1.8
13		Urticaria	26	1.8
14		Steroid induced acne	24	1.6
15		Alopecia areata	22	1.5
16		Keratolysis	14	0.9
17		Contact dermatitis	10	0.7
18		Psoriasis	10	0.7
19		Keloid	8	0.5
20		Erythroderma	7	0.5
21		Corn	6	0.4
22		Melasma	5	0.3
23		Others	154	10.4
		Total	**1480**	**100.0**

Among the Non- Infectious spectrum, Pytiriasis was maximum (24.6%) and next in the order was Atopic Dermatitis (15.9%) followed by Acne (12.8%).

Table-5: The distribution of overall diagnosis of dermatoses according to age.

	Infectious		Non-Infectious		Total		P-value
Age Group (years)	**n**	**%**	**n**	**%**	**n**	**%**	
Less than 1 year	12	18.2	54	81.8	66	100.0	0.001***
1.0 – 5.0 years	75	26.5	208	73.5	283	100.0	
6.0 – 10.0 years	71	24.9	214	75.1	285	100.0	
11.0 – 15.0 years	131	24.7	400	75.3	531	100.0	
16.0 – 18.0 years	308	33.7	605	66.3	913	100.0	
Total	**597**	**28.7**	**1481**	**71.3**	**2078**	100.0	

Values are n (% of cases). P-value by Chi-Square test. P-value<0.05 is considered to be statistically significant. ***P-value<0.001 (Highly Significant).

The distribution of diagnosis of dermatoses differs significantly across various age groups of the cases studied (P-value<0.001). Non- Infectious cases were more over all in all age groups. (81.8%) in infancy than Infectious (18.2%), 73.5% in 1-5 years age group, 75.1% in 6-10 years age group, 75.5% in 11-15 years age group and 66.3% in 16-18 years age group.

Table-6: The distribution of overall diagnosis of dermatoses according to sex.

	Infectious		Non-Infectious		Total		P-value
Sex	**n**	**%**	**n**	**%**	**N**	**%**	
Male	367	32.4	764	67.6	1131	100.0	0.001***
Female	230	24.3	717	75.7	947	100.0	
Total	**597**	**28.7**	**1481**	**71.3**	**2078**	100.0	

Values are n (% of cases). P-value by Chi-Square test. P-value<0.05 is considered to be statistically significant. ***P-value<0.001 (Highly Significant).

The distribution of diagnosis of dermatoses differs significantly between male and female cases studied (P-value<0.001). Noninfectious skin disorders were more prevalent than Infectious in in both sexes. 67.6% noninfectious in males as to only 32.4% cases were Infectious. Similarly, 75.7% were noninfectious in females as compared to only 28.7% infectious.

Discussion

The present study brings into focus the spectrum of pediatric Dermatoses encountered in Maval area in Pune District as our Hospital being a referral Centre. There is paucity of epidemiological data on Pediatric Dermatoses, hence this study taken up.

Among 2078 pediatric skin patients attending the Pediatric Dermatology OPD, Males (54.4%) outnumbered the females in our study (45.6%) similar to study in Western Nepal [6]. The distribution of diagnosis of dermatoses differs significantly between male and female cases studied (P-value<0.001).

About 597(28.7%) cases were Infectious and 1481(71.2%) cases were Noninfectious. This shows that Noninfectious skin diseases outstripped in our study which was similar to studies conducted by Vishal et al [7] where it was 52.65% and in many other studies where it varied between 40.9% to 58.7% [8-10]. The reason behind this may be increased awareness for non- infectious or allergic diseases due to Patient education and counseling.

Our study revealed the incidence of Infectious skin diseases to be only 28.7% for which we need to study the reasons behind the non-referral which is in

contrast to some other studies have reported higher incidence of Infectious skin diseases like in the Libya study by Safa et al which was (42%). Inother studies, by Grover et al, Sayal et al and Dayal et al [11-13] the incidence of Infectiousskin diseaseswas varying from 59.1% to 89.7%. The distribution of diagnosis of dermatoses differs significantly across various age groups of the cases studied (P-value<0.001). The incidence of Non- Infectious cases were more over all in all age groups than Infectious variety, (81.8%) in infancy, 73.5% in 1-5 years age group, 75.1% in 6-10 years age group, 75.5% in 11-15 years age group and 66.3% in 16-18 years age group. Similar observations were found in Mexican study by Blanca Rosa et al [14]. Our hospital being a major referral center from the peripheral Maval area, the awareness on common Dermatological conditions like Atopy and Allergies (Non- Infectious) in children and Acne (Non-Infectious) in Teenagers may be more which could be the reason for same.

The three most common spectrums of Dermatoses were pityriasis infections (17.5%), Atopic dermatitis (11.4%) and Tinea infections (10.5%). This observation was similar to many studies like Mexico study [12] and Libya study [13].

Among the Infectious skin diseases spectrum, Tinea infections were found to be highest (36.7%) in our study as in the Libya study [15] which was 20% incidence. Next common was scabies (24.5%) which was very similar to the Pondicherry study by Kumar et al and a Himachal study [16-17]. Reason is self-explanatory as both are highly contagious. Chicken–pox / Varicellawas observed in 7.7% in our study. However, Varicella infection was not reported in many studies. The reason behind both observations could be direct indoor admission for Varicella.

Among the Non- Infectious spectrum, Pityriasis was common (24.6%) and next in the order was Atopic Dermatitis (15.9%) followed by Acne (12.8%) in our study. Higher incidence of Pityriasis could be explained due to dietary factors deficiency like zinc and trace elements. This was similar to the Turkey study [18] where Pityriasis was 18.3%, and Acne was 9.6%. However, they [18] had lesser prevalence of Atopic Dermatitis (1.6%) as this study was conducted only in primary school children and we covered all age groups from infancy to Adolescents which explains the reason behind Atopy and Acne.

Conclusion

In conclusion, our study shows that the prevalence and diversity of skin disorders varies from one area / country from another. The most common skin disorders found in our study were simple and could be cured easily like Taenia, Pityriasis, Atopic Dermatitis and Acne. Awareness of parents should be raised in terms of early referral to experts for these commonly treatable diseases. This study will help in education of the rural population regarding prevention of skin disorders related to hygiene, sanitation and dietary factors.

Implications: This study will help in education of the rural population regarding prevention of common skin disorders related to hygiene, sanitation and dietary factors like Taenia, Pityriasis, Atopic Dermatitis and Acne. Preventive and curative health services should be provided especially for adolescent skin diseases which is more prevalent in our study.

Declaration

Contribution of Authors: Conception and Design: DA and VB, **Planning and Conduction of Study:** VB & DA, **Data Collection and Supervision:** AD,VB and SH, **Analysis and Interpretation:** VB, AD and DA.

Abbreviations: OPD (Outpatient Department).

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