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Original Research Article

Pattern of pediatric dermatoses in a tertiary hospital in South India

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ABSTRACT

Background: Several cross-sectional studies in the form of school surveys and studies on paediatric patients visiting dermatology OPD in tertiary care hospital has been conducted in the last three decades. This study was conducted to note the pattern of paediatric dermatoses and also to compare the difference in disease pattern with other studies conducted in southern India in last decade.
Methods: A retrospective cross-sectional study was conducted at the Dermatology department of MVJ teaching hospital to determine the pattern of pediatric dermatoses from May 2021 to October 2021 after obtaining institutional ethics committee clearance. Cases under the age of 18 years were included in the study. Cases with age above 18 years, incomplete data, dermatoses where diagnosis was uncertain were excluded from the study. A total of 150 children were included in the study. The results were entered and tabulated in MS-excel sheet and descriptive analysis was done.
Results: 150 children were included in the study.36 types of dermatoses were noted overall. Eczematous diseases (32.7%) contributed to the maximum followed by infections and infestations (25.3%). The most frequent dermatoses found were Atopic dermatoses (10%), pityriasis alba (8.6%), scabies (8.6%), Acne vulgaris (8.6%). Eczematous diseases and hypersensitivity disorders were noted to have increased frequency when compared to other studies in last one decade
Conclusions: Rising trend in atopic dermatitis has been noted which might be due to changing environmental factors and also due to better recognition of condition by physicians in last one decade. With respect to spectrum of skin infections and infestations not much of difference is appreciated when compared to previous studies

Keywords: Eczematous disorders, Atopic dermatitis, Scabies, Pityriasis alba

INTRODUCTION

The epidemiology and the presentation of different skin diseases in paediatric population varies from that in adult population, this variation being attributed to rapidly changing physiological process in a child's body. In addition to age, various other factors like race, geographical region, climatic condition, nutrition, hygiene, socio-economic, cultural factors and genetics also contribute to difference in presentation of dermatoses in paediatric population.[1-4] Age group of up to 18 years is defined as paediatric population which consists of-birth-1 month age: Newborn, 1 month-1 year age: Infant,1 year -3 years: toddler,3 year-10 years: Early school going age group, 10 years-14 years: Early. Adolescence, 14 year-18 years: mid-adolescence, 18 years- 21 years: late adolescence.[5] Skin disorders account for one third of ailments in Indian children and pediatricians encounter dermatological problems in approximately 30% of all children who visit outpatient

clinics.[6-8] The present study was undertaken to determine the prevalence and the pattern of the various dermatoses among the paediatric population in rural Bangalore district.

METHODS

The present study is a cross sectional retrospective study conducted in the department of dermatology, MVJ medical college and research centre, Bangalore rural district. Data collection was carried out for 6 months from May 2021 to October 2021. All cases under the age of 18 years were included in the study. Cases with age above 18 years, incomplete data, dermatoses where diagnosis was uncertain were excluded from the study. A total of 150 children were included. Information obtained include demographic data, history, detailed cutaneous examination, results of relevant laboratory investigations like KOH, gram stain, AFB stain, woods lamp, Tzanck test, haematological, biochemical tests and skin biopsy. The collected data was entered and tabulated in MS-excel sheet and descriptive analysis using variables like mean, percentage, and proportion was done.

Institutional ethics committee clearance was obtained before undertaking this study.

RESULTS

A total of 150 children were included in this study out of which 82(54.7%) were males and 68 (45.3%) were females (Table 1). Early adolescents (10-14 years) contributed to maximum number of the study population (27.3%). This was followed by infants (24%), toddlers (20.7%) and early school going age group (20.7%) (Table 2).

Overall, thirty-seven types of dermatoses were observed in this study. These dermatoses were classified under following categories-(1) infections and infestations, (2) eczematous disorders, (3) hypersensitivity disorders, (3) pigmentary disorders, (4) papulosquamous and keratinisation disorder, (5) sweat gland and sebaceous gland disorder, (6) nutritional dermatoses and (7) others (Table 3).

Out of 37 types of dermatoses, Eczema was observed in maximum number of patients (32.7%). Total of 8 types of eczematous disorders were documented. Among them atopic dermatitis was observed as most common type of eczema (30.6%) and it was followed by pityriasis alba (26.5%) (Table 4).

Scabies infestation (34.2%) and fungal infection (34.2%) were predominantly noted infections as well as the infestations.

Tinea corporis outnumbered the list of fungal infections (15.8%).

Among the viral infections (23.7%) verucca vulgaris was seen to be most common (50%) followed by molluscum contagiosum (37.5%) (Table 5).

On further studying the distribution of infectious diseases among different age groups it was noted that all four subcategories (parasitic, fungal, bacterial and viral) were seem among infants (0-1 year). The occurrence of scabies infestation was predominant in age group 1-4 years, whereas occurrence of the dermatophytic infections were predominant in age group of the 10-14 years (Table 10).

Table 1: Sex distribution of children.

Gender	N	Percentage (%)
Male	82	54.7
Female	68	45.3

Table 2: Age distribution of children.

Age (in years)	N	Percentage (%)
0-1	36	24
1-3	31	20.7
3-10	31	20.7
10-14	41	27.3
14-18	11	7.3

Table 3: Distribution of etiology of various dermatoses in children.

Diagnosis	N	Percentage (%)
Eczema	49	32.7
Infection and infestation	38	25.3
Hypersensitivity disorder	19	12.7
Pigmentary disorder	15	10
Sweat gland and Sebaceous gland disorder	15	10
Papulosquamous and keratinization disorder	10	6.7
Nutritional disorders	2	1.3
Miscellaneous	2	1.3

Table 4: Pattern of eczemas in children.

Eczema	N	Percentage (%)
Atopic dermatitis	15	30.6
P Alba	13	26.5
Seborrhoeic dermatitis	6	12.2
ICD	5	10.2
Discoid eczema	5	10.2
Palmo plantar eczema	3	6.2
ACD	2	4.1

Table 5: Pattern of infections and infestations in children.

Infection and infestation		N	Percentage (%)
Fungal	T corporis	6	15.8
	T cruris	5	13.2
	T capitis	1	2.6
	P versicolor	1	2.6
Parasitic	Scabies	13	34.2
Viral	Verucca vulgaris	4	10.5
	Molluscum contagiosum	3	7.9
	Herpes simplex	1	2.6
	HFMD	1	2.6
Bacterial	Secondary pyoderma	1	2.6
	Folliculitis	1	2.6
	Impetigo	1	2.6

Table 6: Pattern of hypersensitivity disorders in children.

Hypersensitivity disorder	N	Percentage (%)
Insect bite reaction	9	47.4
Urticaria	8	42.1
Drug induced pruritus	2	10.5

Table 7: Pattern of pigmentary disorders in the children.

Pigmentary disorder	N	Percentage (%)
Vitiligo	7	46.7
Post inflammatory hyper pigmentation	4	26.7
Nevus depigmentosus	2	13.3
Post-inflammatory hypo-pigmentation	1	6.7
Lentigines	1	6.7

Table 8: Pattern of papulosquamous and keratinization disorders in the children.

Papulosquamous and keratinization disorder	N	Percentage (%)
Psoriasis	4	40
Lichen striatus	2	20
Lichen nitidus	2	20
Lichen spinulosus	1	10
Keratoderma	1	10

Table 9: Age wise distribution of eczematous disorders.

Diagnosis	0-1 year	1-3 year	3-10 year	10-14 year	14-18 year	Total
Atopic dermatitis	3	5	4	3	-	15
P Alba	2	4	3	4	-	13
Seborrhoeic dermatitis	2	2	-	2	-	6
ICD	5	-	-	-	-	5
Discoid eczema	2	2	-	1	-	5
Palmo plantar eczema	-	-	1	2	-	3
ACD	1	-	-	1	-	2

Table 10: Age wise distribution of infections and infestations.

Diagnosis	0-1 year	1-3 year	3-10 year	10-14 year	14-18 year
Scabies	2	7	-	3	1
Fungal	2	-	1	7	3
Viral	2	1	2	4	-
Bacterial	2	-	1	-	-
Total	8	8	4	14	4

DISCUSSION

The study population (150) had Male: Female ratio of 1.2:1 which is comparable to ratios noted in studies conducted by Nagarajan et al (M:F-1:0.9) and Saini et al (M:F-1.3:1).[9,10] In this study skin diseases were encountered maximum among age group of 10-14yrs (early adolescents). This is well explained by the fact that the increasing environmental exposure could affect this population to the most. Reddy et al also showed similar age group predisposition (11- 18 years) in their study.[11]

Most frequently noted dermatoses in our study was under eczematous disorders category (32.7). This was in contrast to several other studies by Reddy et al, by Saini et al, Iffat et al, Karthikeyan et al, Nagarajan et al conducted in the last 2 decades.[9-13] In all of above studies infections and infestations was noted to be predominant type of dermatoses. The proportion of eczematous diseases in our study was comparable with that noted by Reddy et al (32.64% of dermatoses were eczematous disorders).[11]

The 30.8% of eczematous disorders were due to atopic dermatitis, which contributed to the maximum. Saini et al (study done in 2018) also stated similar findings where atopic dermatitis being maximum among eczematous disorders (30.5%). Whereas Karthikeyan et al and Nagarajan et al reported only 1.6% and 3.4% cases of atopic dermatitis-respectively.[9,10,13]

There is rise in atopic dermatitis in last one decade when comparison to studies done in the past. It could be due to changing environmental factors and dietary habits. Though our study comprised rural population the incidence of atopic dermatitis was noted to be high. This was in contrast to what was reported by Karthikeyan et al.[13]

With regard to hypersensitivity disorders which included insect bite reaction as maximum type this study identified overall 12% hypersensitivity disorders this percentage was comparable with that identified by Reddy et al (12 % hypersensitivity disorder).[11]

Infants and preschool age group contributed to 57.1% of those diagnosed with eczematous disorders. Similarly high incidence was noted in infants and preschool children by Iffat (68.2%) and Nagarajan et al (70.6%).[9,12]

Parasitic and fungal infections (34.2%) were maximum reported in this study. In the other studies to which comparison was done, viral and bacterial were predominant among infectious causes for dermatoses.

All of the parasitic infestation reported in this Study was due to scabies. Scabies was also most predominant type of parasitic infestation in other studies. Verruca Vulgaris (44.4%) and molluscum contagiosum (33.3%) were most commonly noted in this study. Molluscum contagiosum was noted to be predominant viral infection by Karthikeyan et al, Iffat et al and Reddy et al.[11-13]

Looking into the pigmentary disorders, vitiligo was most common type (46.6%), similar picture has been noted by Reddy et al and Saini et al.[10,11] The 40% of papulosquamous disorders was psoriasis in our study. Psoriasis is the most common papulosquamous disorder in other studies to which comparison was done.

As our study is a retrospective study the information taken is confined to a single point of time and it lacks the knowledge of progress of disease and this can be over come by doing a prospective study which will allow better understanding of the disease.

CONCLUSION

This study was undertaken to identify the pattern of pediatric dermatoses among children attending our dermatology OPD. Most of children belonged to early adolescent age group. Eczematous disorders were most common dermatoses overall. This is a new finding when compared to previous studies where skin infections and infestations were predominant among children. This could be due to more awareness among physicians about clinically identifying conditions like atopic dermatitis. The rise in atopic dermatitis over last decade could also be due to changes in environment, dietary habits and rising industrialization. Parasitic infestation as scabies is still having high prevalence as indicated by our study. Poor personal hygiene and overcrowding still prevail in the villages surrounding our hospital. Changing trends in prevailing dermatoses in the area of concern must be studied periodically, further studies at community level involving school children belonging to the villages surrounding our hospital may give more accurate description about the pattern of pediatric dermatoses.

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