

CLINICO-EPIDEMIOLOGICAL PATTERN OF NON-INFECTIVE PEDIATRIC DERMATOSES IN A TERTIARY CARE HOSPITAL : A DESCRIPTIVE STUDY

Bhagya Rekha Manchiryala¹, Usha Rani Tirupathi², Sruthi Kamatham³

¹Associate Professor, Government Medical College, Mancherial, Telangana, India

²Associate Professor, Government Medical College, Mahabubabad, Telangana, India

³Post Graduate, Kakatiya Medical College, Warangal, Telangana, India

Received : 20/06/2023
Received in revised form : 31/07/2023
Accepted : 12/08/2023

Keywords:

Non-infective dermatoses, Eczemas, Pediatric dermatoses.

Corresponding Author:

Dr. Usha Rani Tirupathi,
Email: dr.sbrekha@gmail.com

DOI: 10.47009/jamp.2023.5.4.344

Source of Support: Nil,
Conflict of Interest: None declared

Int J Acad Med Pharm
2023; 5 (4); 1726-1729



Abstract

Background: Pediatric population constitute a significant number in a dermatology OPD. Infective pediatric dermatoses form the major component of it. This study focuses on the prevalence and pattern of non-infective pediatric dermatoses in this particular part of the country. **Materials and Methods:** A total of 200 children from newborn upto 18 yrs age with non-infective dermatoses attending DVL OPD at MGM Hospital, Warangal during January 2021- June 2021 were included in the study. **Result:** Our study observed female preponderance (59%) with m:f as 1:1.4. Majority of children presented were between 5-10 yrs age (39%). Most common non-infective pediatric dermatoses was Eczemas (47%) followed by Pigmentary disorders (15%). Atopic dermatitis (37%) was found to be the commonest eczema. **Conclusion:** Dermatitis & Eczemas was found to be the most common non-infective pediatric dermatoses.

INTRODUCTION

Dermatology being a visual speciality, majority of the cases are diagnosed on proper clinical examination not requiring diagnostic interventions. About 30% of the dermatologists OPD constitutes children.^[1] Pediatric dermatoses differ from adult dermatoses in clinical presentation, their prognosis and management. Skin problems in children has a great psychological impact on parents and also a significant impact on the quality of life of that child. The pattern of cutaneous manifestations in children vary from place to place as it is influenced by geographic & climatic conditions, culture, socio-economic status, hygiene, dietary habits, maternal education. Prevalence of pediatric dermatoses in India is around 9% to 35%.^[2]

Pediatric dermatoses are classified into Infective and Non-infective conditions. The present study is planned to study non-infective dermatoses among children. It involves determining the incidence, prevalence, distribution and pattern of various non-infective dermatoses in children in our region according to different age groups. Non-infective dermatoses in children comprises of neonatal & childhood conditions like neonatal dermatoses, genodermatoses, nevi, eczemas, papulosquamous & keratinization disorders, pigmentary disorders, vesiculobullous disorders, connective tissue disorders, nutritional deficiency disorders, diseases of hair, nail, sweat & sebaceous glands, drug

reactions etc. Numerous studies on pediatric dermatoses were carried out throughout the world including India but there are hardly few studies on non-infective pediatric dermatoses. From this study, we can focus and improve health care services on the commonly encountered non-infective conditions.

MATERIALS AND METHODS

Study design: Descriptive study

Study duration: 6 months (January 2021- June 2021)

Source of data: The present study included a total 200 children presenting with skin problems attending the DVL OPD at MGM Hospital, Warangal during the period of January 2021- June 2021 after obtaining Ethical Committee approval.

Inclusion criteria

All children From newborn up to 18 years of age were included in the study.

Exclusion criteria

1. Children with more than one dermatological problem, acutely ill patients.
2. Parent/guardian not willing for informed written consent are excluded from the study.

Detailed history, complete physical & cutaneous examination was carried out after taking consent from the parent and recorded in the pre-designed proforma. Relevant laboratory investigations done wherever required to confirm diagnosis and rule out infections.

Data was entered in Excel spreadsheet and analysed with SPSS. Chi-square test was used.

RESULTS

A total of 200 children attending DVL opd MGM Hospital, Warangal during the period of Jan 2021 to June 2021 were included in the study.

Of which total number of boys were 82 (41%) and girls 118 (59%) with male to female ratio 1:1.4. [Table 1]

The children included in the study range from newborn to 18 years of age [Table 2]. Majority of the children presenting with non-infective dermatoses were in the age group of 5-10 yrs (39%) of which

females (59%) outnumbered males (41%) [Table 3] followed by 1-5 yrs (25%) and 10-15 yrs (25%).

Most of these children came from rural background (72%). [Table 4]

As our place is a city surrounded by many villages.

Dermatitis and Eczemas (47%) was the commonest non-infective dermatoses found in children of both gender in our study followed by Pigmentary disorders (15%). [Table 5]

Dermatitis & Eczemas was more common in the age group of 5-10 yrs (44%) followed by 1-5 yrs (29%) and 10-15 yrs (17%) [Table 6]. Among dermatitis, Atopic dermatitis (37%) was most frequently encountered followed by Juvenile Plantar dermatosis (20%), Seborrheic dermatitis (14%). [Table 7]

Table 1: Gender-wise distribution of data

Gender	No. of patients	Percentage
Males	82	41%
Females	118	59%
Total	200	100%

Table 2: Age-wise distribution of data

Age	No. of patients	Percentage
< 1 month	10	5%
> 1 month -1 year	10	5%
> 1yr- 5 yrs	50	25%
> 5 -10 yrs	78	39%
> 10-15 yrs	50	25%
> 15-18 yrs	2	1%
Total	200	100%

Table 3: Gender and age-wise distribution

Age/Gender	Males n (%)	Females n (%)	Total
< 1 month	8(80%)	2(20%)	10
> 1 month -1year	6(60%)	4(40%)	10
> 1 yr-5 yrs	16(32%)	34(68%)	50
> 5-10 yrs	32(41%)	46(59%)	78
> 10- 15 yrs	20(40%)	30(60%)	50
>15-18 yrs	0	2(100%)	2
Total	82	118	200

Table 4: Demographic distribution

Locality	Males	Females	Total n (%)	P-value
Rural	58	86	144(72%)	0.739128
Urban	24	32	56(28%)	
Total	82	118	200(100%)	

Table 5: Distribution pattern of non-infective dermatoses in children in our study

S. No.	Diagnosis	Males	Females	Total	%	P-value
1	Dermatitis & Eczemas	44	50	94	47%	0.194842
2	Pigmentary disorder	8	22	30	15%	
3	Skin appendageal disorder	6	12	18	9%	
4	Papulosquamous disorder	4	12	16	8%	
5	Hypersensitivity disorder	4	8	12	6%	
6	Keratinisation disorder	6	6	12	6%	
7	Vascular malformation	6	-	6	3%	
8	Nutritional deficiency disorder	2	2	4	2%	
9	Miscellaneous	2	6	8	4%	
	Total	82	118	200	100%	

Table 6: Distribution of non-infective dermatoses according to age groups in our study

Disease	<1month	1mon-1yr	1-5yrs	5-10 yrs	10-15yrs	15-18yrs	Total	P- value
Dermatitis & Eczemas	6(6%)	2(2%)	28(29%)	42(44%)	16(17%)	-	94	0.044798
Pigmentary disorders	2(6%)	-	6(20%)	12(40%)	8(26%)	2(6%)	30	
Skin appendageal diseases	2(11%)	-	2(11%)	4(22%)	10(55%)	-	18	
Papulo squamous disorders	-	-	2(12%)	8(50%)	6(37%)	-	16	

Hypersensitivity diseases	-	4(33%)	2(16%)	6(50%)	-	-	12
Keratinisation disorders	-	2(16%)	6(50%)	2(16%)	2(16%)	-	12
Vascular malformation	-	2(33%)	2(33%)	2(33%)	-	-	6
Nutritional diseases	-	-	-	-	4(100%)	-	4
Miscellaneous	-	-	2(25%)	2(25%)	4(50%)	-	8
Total	10	10	50	78	50	2	200

Table 7: Distribution pattern of various Eczemas in our study

Dermatitis & Eczemas	No. of cases (n)	Percentage
Atopic dermatitis	35	37%
Juvenile Plantar dermatosis	19	20%
Seborrheic dermatitis	14	14%
Pityriasis alba	12	12%
Diaper dermatitis	4	4%
Perianal dermatitis	3	3%
Allergic contact dermatitis	3	3%
Asteatotic eczema	2	2%
Pompholyx	2	2%
Total	94	100%

Table 8: Comparison of our study with other studies

	Total No. of cases	Age groups	Common age of presentation	m:f	Duration of study	Most common dermatoses	Second most common dermatoses	Least most common
Our Study	200	0-18yrs	5-10yrs	1:1.4	6months	Dermatitis & Eczema -AD -JPD -SD	Pigmentary disorders -Vitiligo -PIH	Nutritional def. disorders -Phrynoderma -Angular cheilitis
Singh B et al	232	0-13yrs	5-13yrs	1:1.2	1yr	Eczemas -AD -SD -P.alba	Hypersensitivity ds -Papular urticaria -Chronic urticaria	-FDE -HSD -Childhood bullous dermatoses
Mahalingam A et al	550	0-12yrs	5-12yrs	1.16:1	3yrs	Eczemas -AD -SD -Diaper dermatitis	Papulo squamous disorders -LP -Psoriasis	-CTD -Photodermatoses
Sachidanand S et al	1090	0-18yrs	5-11yrs	1.17:1	6months	Eczemas -AD	Papulo squamous disorders -Psoriasis	
Saini S et al	1000	0-18yrs	13-18yrs	1.2:1	10 mths	Eczemas -AD -Keratoderma -SD	Sweat & Sebaceous glands ds -AV -Milia	-Vesiculobullous disorders -CTD -Nevi
Bonthu I et al	2581	1m-12yrs	7-12yrs	1.5:1	1yr	Eczemas -AD -P.alba -Contact dermatitis	Pigmentary disorders -Vitiligo -Cong. nevi	Bullous disorders
Jawade SA et al	1021	0-14yrs	1-6yrs	1.4:1	1yr	Eczemas -AD -P.alba -SD	Papulosquamous ds -P.rosea -LP	-Lichen striatus -N.depigmentosus -Albinism -Diaper dermatitis
Mavoori A et al	1360	0-18yrs	12-18yrs	1.28:1	1yr	Eczemas -AD -SD	Hypersensitivity ds -Papular urticaria -Urticaria	Genodermatoses
Reddy BR et al	1000	0-14yrs	10-14yrs		6months	Eczemas -JPD -P.alba -AD	Hypersensitivity ds -Papular urticaria -Urticaria	-Bullous disorders
Singh R et al	6274	0-17yrs	11-17yrs	1.2:1	1 yr	Skin appendageal ds -AV	Pigmentary ds -Vitiligo -PIH	-Vesiculobullous ds -CTD -Genodermatoses
Reddy VS et al	500	0-18yrs	11-18yrs	1:1.05		Eczemas -JPD -ACD -ICD	Sweat & Sebaceous glands ds -AV -Miliaria	ACDR

Pigmentary disorders were more common in 5-10 yrs group (40%) followed by 10-15 yrs (26%), 1-5 yrs (20%). Among these, Vitiligo (53%) was more common followed by PIH (post inflammatory hyperpigmentation) (31%).

Skin appendageal diseases was more common in 10-15 yrs age group (55%). Among these Alopecia (43%) was frequently encountered followed by Acne (27%).

Papulosquamous and Hypersensitivity disorders were found common in 5-10 yrs ages (50%) each. Lichen nitidus (25%), P.rosea (14%), generalised LP (11%) were common among Papulosquamous conditions. Papular urticaria (66%) was common entity followed by Acute urticaria (31%) among Hypersensitivity disorders.

Keratinisation disorders common in 1-5 yrs age group (50%). This included Ichthyosis (62%),

Palmoplantar keratosis (18%) and Collodion baby (12%).

Vascular malformations were noted equally in 1 month-1 year (33%), 1-5 yrs (33%), 5-10 yrs (33%) ages. Amongst these, Hemangiomas, Portwine stain, Pyogenic granuloma were noted.

Nutritional deficiency disorders were seen only in 10-15 yrs age group. Phrynoderma, Angular cheilitis were common.

Miscellaneous group included dermatosis of low frequency in our study like PMLE (69%), Ectodermal dysplasia.

DISCUSSION

In our study, children from both gender presented almost equally with slight female preponderance, with male to female ratio as 1:1.4 which is synchronous with that of Singh B et al,^[3] study (1:1.2) whereas studies by Mahalingam A et al,^[4] (1.16:1), Sacchidanand S et al,^[5] (1.17:1), Saini S et al,^[6] (1.2:1), Bonthu I et al,^[7] (1.5:1), Jawade SA et al,^[8] (1.4:1) showed male preponderance. [Table 8] Majority of the children presented were in the age group of 5-10 yrs in our study which is in accordance with the studies of Singh B et al (5-13 yrs), Mahalingam A et al (5-12 yrs), Sacchidanand S et al (5-11 yrs). Saini S et al, Mavoori A et al,^[9] Reddy VS et al,^[10] observed 13-18 yrs, 12-18 yrs, 11-18 yrs respectively as common age of presentation. This variation may be attributed to the difference in the climatic condition and time period of individual study.

In the present study, most common non-infective dermatoses were Eczemas (47%). Similar observations were made by Singh B et al (37%), Mahalingam A et al (26%), Sacchidanand S et al (21%), Saini S et al (13.4%), Bonthu I et al (40%), Jawade SA et al (16%), Mavoori A et al (22%), Reddy BR et al,^[11] (12%), Reddy VS et al (33%). But, Singh R et al,^[12] noted skin appendageal disorders (17%) being most common in their study. The incidence of eczemas primarily depends upon genetic constitution, individual predisposition and environmental allergens.

Pigmentary disorders (15%) was the second common group of dermatoses in our study as also by Bonthu I et al (8%), Singh R et al on contrary Hypersensitivity disorders by Singh B et al (21%), Mavoori A et al (7%), Reddy BR et al (10%) and Papulosquamous disorders by Mahalingam A et al (13%), Sacchidanand S et al, Jawade SA et al (9%) and skin appendageal disorders by Saini S et al (13.2%), Reddy VS et al (7%).

Among the Eczemas group, Atopic dermatitis (37%) was the commonest followed by Juvenile Plantar dermatosis (20%), Seborrheic dermatitis (14%),

Pityriasis alba (12%) in our study. Singh B et al also noted AD (26%) as the commonest followed by SD (19%), P.alba (14%), Pompholyx. Mahalingam A et al also noted AD (6.9%) as the most common followed by P.alba, JPD, Perioral dermatitis. Many studies have shown AD as the commonest pediatric non-infective dermatosis. However, Reddy VS et al noticed JPD (21%), ACD (10%), ICD (3%) as the commonest eczemas in their study.

Less commonly encountered dermatoses in our study are Nutritional deficiency disorders namely Phrynoderma, Angular cheilitis.

CONCLUSION

Many studies have been conducted on pediatric dermatoses both within India and also abroad. There are hardly very few studies like our study focusing only on non-infective pediatric dermatoses. Most of the non-infective pediatric dermatoses result from intrinsic genetic abnormalities. Our study is one of the preliminary study, encouraging to conduct more studies on non-infective pediatric dermatoses.

REFERENCES

1. Thappa DM. Common skin problems in children. *Ind J Pediatr.* 2002; 69: 701-06.
2. Jain N, Khandpur S. Pediatric Dermatoses in India. *Ind J Dermatol Venereol Leprol.* 2010; 76: 451-54.
3. Singh B, Subhadarshini Paul I. Prevalence of non-infectious dermatoses in patients attending a tertiary care centre in Rajasthan. *Int J Res Dermatol.* 2019 Feb; 5(1): 192-96.
4. Mahalingam A, Ramasami S, Valavan S. Study of noninfectious dermatoses in pediatric age. *J Evid Based Med Health C.* 2017 Sep; 4(76): 4465-71.
5. Sacchidanand S, Sahana MS, Asha GS, Shilpa K. Pattern of pediatric dermatoses at a referral centre. *Ind J Pediatr.* 2012 Nov; online.
6. Saini S, Yadav D, Kumar R. Clinicoepidemiological study of prevalence and pattern of dermatoses among patients of pediatric age group in southeast region of Rajasthan. *Ind J Pediatr Dermatol.* 2020; 21(2): 119-125.
7. Bonthu I, Purushothaman S, Vukkadala ND. Clinico-etiological study of pediatric dermatoses in tertiary health care hospital in East-coast Andhra Pradesh, India. *Int J Res Dermatol.* 2020 Jul; 6(4): 456-62.
8. Jawade SA, Chugh VS, Gohil SK, Mistry AS, Umrigar DD. A Clinico-etiological study of dermatoses in pediatric age group in tertiary health care centre in south Gujarat region. *Ind J Dermatol.* 2015 Nov-Dec; 60(6): 635.
9. Mavoori A, Sriram D, Pamar S, Bala S. An epidemiological study of pattern of dermatoses in pediatric age group at a tertiary care teaching hospital in South India. *Int J Res Dermatol.* 2020 May; 6(3): 392-97.
10. Reddy VS, Anoop T, Ajaykumar S, Bindurani S, Rajiv S, Bifi J. Study of clinical spectrum of pediatric dermatoses in patients attending a tertiary care centre in North Kerala. *Ind J Pediatr Dermatol.* 2016; 17(4): 267-72.
11. Reddy BR, NarasimhaRao TV. Pattern of dermatoses among pediatric population attending tertiary care centre. *Int J Contemp Med Res.* 2019 Mar; 6(3): C16-19.
12. Singh R, Tiwari VK. The prevalence and pattern of pediatric dermatoses in a tertiary care centre at Garhwal, Uttarakhand, India. *Int J Contemp Pediatr.* 2019 Jan; 6(1): 56-62.