

Assessment of Paediatric Dermatoses in Patient Attending Tertiary Care Hospital

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Abstract: The prevalence of pediatric skin diseases varies worldwide. Pediatric dermatoses require a separate view from adult dermatoses as there are important differences in clinical presentation, treatment, and prognosis. To study dermatographic parameters in paediatric patients. To study the pattern of various dermatoses in children in tertiary health care center. Current study is a prospective study in which 500 consecutive patients of paediatric age group (1 to 14 years) attending the Dermatology OPD of C.U. Shah medical college, Surendranagar were included. The study was conducted over a period of 6 months from April 2017 to September 2017. Patients were well enrolled after consent. Complete History and cutaneous examination was noted according to proforma. Photographic evaluation and data analysis was done at the end. This study group included 500 paediatric patients attending skin opd, out of this there were 272 male and 228 female. Among these cases infectious disease were 53.56%, non infectious diseases were 46.44%. Most common entity in infectious disease was Impetigo contagiosa (17.5%) followed by Scabies (11.8%). Most common entity in Non-infectious diseases was urticarial (6.8%) followed by pityriasis alba (5.16%). Overall Impetigo contagiosa was most common entity among pediatric dermatoses in Surendranagar district. There is a need to emphasize on training the management of common pediatric dermatoses to dermatologists, general practitioners and pediatricians for early treatment.

Key words: Children, Scabies, Impetigo contagiosa, Urticaria, Pityriasis Alba.

INTRODUCTION

Children cannot be simply considered as “small adult”. Due to anatomical differences, certain diseases occur in the childhood while many occur rarely at this time. Because of more delicate nature of the skin of infant and children as well as constant exposure to trauma, most skin diseases of childhood are attributable to physical causes, infections and allergy. Also, the disease pattern differs in a given population by different ecological factors [1]. Status of health, hygiene and personal cleanliness of a society can be judged from the prevalence of certain skin diseases in the children of the community [2].

Dermatologic conditions constitute at least 30% of all outpatient visits to pediatricians and 30% of all visits to dermatologists involve children [3, 4]. The

pattern of skin diseases varies from country to country with pyoderma and malnutrition being more prevalent in developing countries while eczemas (atopic dermatitis) are more common in developed countries. This can be attributed to differing climatic, cultural and socio-economic factors [5].

The incidence of skin diseases among children in various parts of India has ranged from 8.7% to 38.8% in different studies usually school-based surveys [2]. Studies of pediatric population which constitutes the cornerstone of the community can play an important role in determining the policies of protective medicine and public health. Pediatric dermatoses require a separate view from adult dermatoses as there are important differences in clinical presentation, treatment and prognosis.

AIMS AND OBJECTIVES

- To study demographic parameters in paediatric patients.
- To study the clinical pattern of various dermatoses in paediatric age group in tertiary health care center.
- To know incidence and prevalence of various non infectious and infectious and various genetic diseases.
- To study rare congenital diseases.

MATERIALS AND METHODS

This is a prospective observational study of pediatric patients attending the Dermatology OPD of tertiary care centre at Surendranagar, Gujarat over a period of 6 months from April 2017 to September 2017. Consecutive 500 pediatric patients of 1 to 14 years of age attending skin OPD were included into the study. Written consent was taken from the guardian of each patient enrolled into the study.

All patients were divided into two different groups: 1 to 10 years and 11 to 14 years. Patient’s age, sex, address, religion and caste, nationality and socio-

economic status were recorded according to perform. The diagnosis of dermatological condition was based on detail review of history, clinical features, general and cutaneous examination. Clinical diagnosis was confirmed by laboratory investigations such as KOH mount, gram’s strain, Wood’s lamp examination, diascopy, Tzanck test, hematological and biochemistry analysis, purified protein derivative and skin biopsy whenever required. Photographic evaluation and data analysis was done at the end. The following parameters were studied: sex and age distribution of dermatoses and distribution of dermatoses according to their percentage of frequency. Patients with more than one dermatological condition and <1 Year of age were excluded from the study.

RESULTS

A total of 500 paediatric populations were enrolled in the study. Total males were 272 (54.4%) while females were 228 (45.6%) with a boy to girl ratio 1.19:1. There were 163 (32.6%) boys and 152 (30.4%) girls in age group of 1 to 10 years. There were 109 (21.8%) boys and 76 (15.2%) girls in age group of 11 to 14 years [Table 1].

Table-1: Table showing Age and Sex Distribution

Age Group	Male	Female	Total
1-10 Year	163	152	315
11-14 Year	109	76	185
	N=272(54.4%)	N=228(45.6%)	N=500

In 1 year to 14 years age group the most common type of dermatoses found was infectious disorder constituting a total of 53.56% of the study population and non infectious diseases were 46.44%.

Among infectious diseases children were found to be affected most by Impetigo contagiosa (17.5%) followed by Scabies (11.8%) [Table 2].

Table-2: Table showing frequency of different types of infectious diseases

Infectious Diseases	1-10 years	11-14 Years	Total
Impetigo contagiosa	60(12.1%)	26(5.4%)	86(17.5%)
Scabies	22(4.6%)	35(7.2%)	57(11.8%)
Dermatophytosis	11(2.1%)	45(9.1%)	56(11.2%)
Tinea capitis	20(4.0%)	10(2.04%)	30(6.04%)
Molluscum Contagiosum	8(1.29%)	5(1.10%)	13(2.39%)
Viral warts	7(1.23%)	6(1.12%)	13(2.35%)
Chicken pox	8(1.20%)	5(1.08%)	13(2.28%)
	136 (26.52%)	132 (27.04%)	TOTAL=268 (53.56%)

Most common entity in Non-infectious diseases was urticaria (6.8%) followed by pityriasis alba (5.16%). Overall Impetigo contagiosa was most

common entity among pediatric dermatoses in Surendranagar district. [Table 3]

Table-3: Table showing frequency of diff. types of non-infectious diseases

Non-infectious diseases	1-10 YEARS	11-14 YEARS	TOTAL
Urticaria(Papular)	17(3.4%)	20(4.4%)	37(6.8%)
P.Alba	15(3.06%)	10(2.1%)	25(5.16%)
Atopic dermatitis	16(3.17%)	5(1.60%)	21(4.77%)
P.Versicolor	11(2.0%)	10(2.27%)	21(4.27%)
Miliria	8(1.5%)	5(1.4%)	13(3.9%)
Alopecia	6(1.3%)	10(1.9%)	16(3.2%)
Phrynoderma	6(1.0%)	10(1.7%)	16(2.70%)
Seborrheic dermatitis	6(1.10%)	9(1.5%)	15(2.60%)
Lichen Planus	5(0.88%)	10(1.7%)	15(2.58%)
Acne	5(0.80%)	5(1.0%)	10(1.8%)
Contact dermatitis	5(1.0%)	3(0.57%)	8(1.57%)
Vitiligo	5(0.70%)	3(0.65%)	8(1.3%)
P.Rosea	6(1.05%)	1(0.1%)	7(1.15%)
Photodermatitis	1(0.35%)	2(0.6%)	3(0.95%)
Others/Rare	9(1.98%)	8(1.5%)	17(3.48%)
	121 (23.45%)	111 (22.99%)	TOTAL=232 (46.44%)

DISCUSSION

Skin diseases are a major health problem in the pediatric age group and are associated with significant morbidity. Skin diseases in the pediatric age group can be transitory or chronic and recurrent. Cutaneous infections are common in children during school going years. Most of the cutaneous diseases that result from intrinsic genetic abnormalities also have onset in the pediatric age-group.

In 1 year to 14 years age group, the most common dermatoses found in our study were infectious diseases that were 53.56% of the study population. Dogra and Kumar [6] found only 11.4% of disorders of infectious etiology; however, various other

authors in India have reported that disorders of infectious and infestations etiology contributed to 35.6% to 85.2% [7-10].

Pattern of pediatric dermatoses has varied in different studies. In this study, majority (143; 29.3%) of dermatoses belonged to infections and infestations. A similar pattern of dermatoses has also been reported in several other studies. [5, 8, 9, 10-14]

Bacterial infections like Impetigo contagiosa were the most common in frequency among infectious disorders comprising 13.94% compared to other study like Thakare S *et al.*[15], Balai M *et al.*[7], Karthikeyan K *et al.*[12], Reddy *et al.* [16] [Table 4]

Table-4: Comparison with other studies

Type of diseases	Present study	Manisha Balai <i>et al.</i>	Reddy <i>et al.</i>
Most common (Pyoderma)	17.5%	13.72%	14.18%
Rare	Faun tail nevus (0.2%)	Acrodermatitis enteropathica(0.2%)	Toxic Epidermal Necrolysis (0.2%)

Infectious diseases	Present study	Manisha Balai <i>et al.</i>	Reddy <i>et al.</i>
Pyoderma	17.5%	13.72%	14.18%
Candidiasis	NA	0.29%	12.1%
Dermatophytosis	11.2%	5.93%	4.85%
Pityriasis versicolor	4.27%	NA	3.94%
Non-Infectious diseases	Present study	Manisha Balai <i>et al.</i>	Reddy <i>et al.</i>
Eczematous diseases	NA	34.86%	32.6%
Pigmentary diseases	1.3%	2.04%	1.0%
Atopic dermatitis	4.77%	19.27%	23.7%
Contact dermatitis	1.57%	0.77%	9.8%

Diverse overseas studies have different infestation rates such as 19% in Israel, 33.7% in Australia, 50% in Brazil and 81.5% in Argentina [17-

20]. High rate of scabies in our study could be due to poor hygiene, most cases from low socio-economic strata and overcrowding.

The incidence of dermatophytoses was 9.1% in our study, which was mainly observed in the older age group. These findings supported by other studies like Patel *et al.* (7.81%)[21] Thappa (8.49%)[22].

The incidence of pityriasis alba was 5.16% in our study and same incidence was found in other studies [9, 23]. Pityriasis alba was observed more in the 1 to 10 years old age group.

Among papulo-squamous diseases, lichen planus was observed in 2.58% of study population which is similar to the finding in Samman (2%)[24] and Handa and Sahoo (2%),[25] while Kumar and colleagues[26] and Luis-Montoya and colleagues[27] found higher incidences of about 11.2% and 10.2%, respectively.

Psoriasis had frequency of 0.67% in this study. Nearly similar observations were reported in Rao and assoc [28]. and Sardana K[14] studies.

Incidence of pigmentary disorders in our study was found to be 1.3 % similar to study of Reddy *et al.* (1%) [16] While higher incidence were found in study of Patel *et al.* (11.48%), [21] Thappa (3.16%),[22] and Ben Saif and Al Shehab (8.9%)[29] studies.

CONCLUSION

The study shows that infections and infestation disorders were more common in the pediatric age group that can be controlled easily by public awareness, proper sanitation and providing health care facilities by training the dermatologists, pediatricians and general practitioners about the management of common skin disorders. But many non-infectious disorders that need dermatologist's opinion should be referred to them. Due to wide variety, burden and public health problem of skin diseases in children, more dermatologists should be trained in pediatric dermatology subspecialty. Data can be useful in planning of health care programs for children.

REFERENCES

1. Chen GY, Cheng YW, Wang CY, Hsu TJ, Hsu MM, Yang PT, Chen WC. Prevalence of skin diseases among schoolchildren in Magong, Penghu, Taiwan: a community-based clinical survey. *Journal of the Formosan Medical Association.* 2008 Jan 1;107(1):21-9.
2. Sharma NK, Garg BK, Goel M. Pattern of skin diseases in urban school children. *Indian J Dermatol Venereol Leprol* 1986;52:330-1.
3. Wisuthsarewong W, Viravan S. Analysis of skin diseases in a referral pediatric dermatology clinic in Thailand. *J Med Assoc Thai* 2000;83:999- 1004.

4. Serarslan G, Savas N. Prevalence of skin diseases among children and adolescents living in an orphanage in Antakya, Turkey. *Pediatr Dermatol* 2005;22:490- 2.
5. Sayal SK, Bal AS, Gupta CM. Pattern of skin diseases in pediatric age group and adolescents. *Indian J Dermatol Venereol Leprol* 1998;64:117-9.
6. Dogra S, Kumar B. Epidemiology of skin diseases in school children: A study from northern India. *Pediatr Dermatol* 2003;20:470- 3.
7. Balai M, Khare AK, Gupta LK, Mittal A, Kuldeep CM. Pattern of pediatric dermatoses in a tertiary care centre of South West Rajasthan. *Indian J Dermatol* 2012;57:275- 8.
8. Bhatia V. Extent and pattern of paediatric dermatoses in rural areas in central India. *Indian J Dermatol Venereol Leprol* 1997;63:22- 5.
9. Negi KS, Kandpal SD, Prasad D. Pattern of skin diseases in children in Garhwal region of uttar pradesh. *Indian Pediatr* 2001;38:77- 80.
10. Ghosh SK, Saha DK, Roy AK. A clinico-aetiological study of dermatosis in pediatric age group. *Indian J Dermatol* 1995;40:29- 31.
11. Porter MJ, Mack RW, Chaudhary MA. Pediatric skin disease in Pakistan: A study of three Punjab villages. *Int J Dermatol* 1984;23:613-7.
12. Karthikeyan K, Thappa DM, Jeevankumar B. Pattern of pediatric dermatoses in a referral centre in South India. *Indian Pediatr* 2004;41:373-7.
13. Koley SK, Sen MK, Sengupta SN. Incidence of skin diseases in children in the district of Bankura. *Indian J Pediatr* 1975; 42:106-9.
14. Sardana K, Mahajan S, Sarkar R, Mendiratta V, Bhushan P, Koranne RV, Garg VK. The spectrum of skin disease among Indian children. *Pediatric dermatology.* 2009 Jan 1;26(1):6-13.
15. Thakare S, Singh A, Madhani A, Lakhar B. Scenario of pediatric dermatoses in rural population of central India. *Global J Dermatol Venereol* 2013;1:7-10.
16. VS Reddy, Thyvalappil A, Sreenivasan A Study of clinical spectrum of pediatric dermatoses in patients attending a Tertiary Care Center in North Kerala . *Indian Journal of Paediatric Dermatol* 2016; 17 :267-272.
17. Roger M, Barnetson RS. Diseases of skin. In: Campbell AGM, McIntosh N, editors. *Fortar and Arneil's Textbook of pediatrics.* 5th ed. New York, NY: Churchill Livingstone; 1998. p. 1633- 5.
18. Speare R, Buettner PG. Head lice in pupils of a primary school in Australia and implications for control. *Int J Dermatol* 1999;38:285- 90.
19. Chouela E, Abeldaño A, Cirigliano M, Ducard M, Neglia V, Forgia ML, Colombo A. Head louse infestations: epidemiologic survey and treatment evaluation in Argentinian schoolchildren.

- International journal of dermatology. 1997 Nov 1;36(11):819-25.
20. Mumcuoglu KY, Klaus S, Kafka D, Teiler M, Miller J. Clinical observations related to head lice infestation. *J Am Acad Dermatol* 1991;25:248- 51.
 21. Patel JK, Vyas AP, Berman B, Vierra M. Incidence of childhood dermatoses in India. *Skinmed* 2010;8:136- 42.
 22. Thappa DM. Common skin problems. *Indian J Pediatr* 2002;69:701- 6.
 23. Wasserman Edward and Slobody Lawrence. 6th ed. *Survey of clinical paediatrics*. London: Mcgraw Hill Kogakusha Ltd; 1974.
 24. Samman PD. Lichen planus: An analysis of 200 cases. *Trans St Johns Hosp Dermatol Soc* 1961;46:36- 8.
 25. Handa S, Sahoo B. Childhood lichen planus: A study of 87 cases. *Int J Dermatol* 2002;41:423- 7.
 26. Kumar V, Garg BR, Baruah MC, Vasireddi SS. Childhood lichen planus (LP). *J Dermatol* 1993;20:175- 7.
 27. Luis- Montoya P, Dominguez- Soto L, Vega- Memije E. Lichen planus in 24 children with review of the literature. *Pediatr Dermatol* 2005;22:295- 8.
 28. Rao GS, Kumar SS, Sandhya. Pattern of skin diseases in an Indian village. *Indian J Med Sci* 2003;57:108- 10.
 29. Ben Saif GA, Al Shehab SA. Pattern of Childhood Dermatoses at a Teaching Hospital of Saudi Arabia. *Int J Health Sci (Qassim)* 2008;2:63- 74.