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Original Article

Spectrum of paediatric dermatosis among patients: A cross-sectional study from Telangana

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ABSTRACT

Background: Although skin disease is rarely lethal, in delayed diagnosis or inadequate treatment some infections, for example bacterial infections, have the potential for serious sequelae such as nephritis, carditis, arthritis, and septicemia. On the other hand, skin diseases particularly in children may result in considerable discomfort, parental anxiety, and embarrassment to the child and unnecessary absence from school. This in turn leads to loss of confidence and disruption of social relations, feeling of stigmatization and major changes in lifestyle. **Objectives**: To know the spectrum of paediatric dermatosis among patients and its age wise distribution presenting to OPD in tertiary care hospital. **Methodology**: Present cross-sectional observational study was carried out involving 2000 children younger than 18 years presenting with new skin conditions. **Results**: Bacterial infections were the most common, with 258 cases (12.9%), indicating that bacterial etiology contributed the highest proportion among all categories. There is statistically significant association found between age and bacterial infection ($p<0.001$). There is statistically significant association found between age and bacterial infection ($p<0.001$). There is statistically significant association found between age and fungal infection ($p<0.001$). There is no statistically significant association found between age and fungal infection ($p<0.001$). **Conclusion**: The overall prevalence of dermatoses in the children in our study is 70.7% which is because of rural area and low socioeconomic status of the population in our area. Infectious dermatoses were seen in 35.25% of subjects. Non-infectious dermatoses were seen in 35.45% of subjects.

Keywords: *Paediatric dermatosis, age wise distribution.*

INTRODUCTION

Skin is the mirror of the body[1]. Skin of infants, children, adults and the elderly, with its anatomic and physiologic characteristics, acts as a barrier for different environmental insults, and undergoes certain changes in each period during human life[2]. Apart from that it is the largest organ in the human body, with a surface area of about 2m2 and a total weight in adults of about 3 kg. It consists of 3 layers: outermost epidermis, dermis and the hypodermis. It plays an essential role in protecting the body against external threats [3].It is thin and more delicate in children therefore; they are more prone to develop skin disorders[4].Particularly School going children are more frequently exposed to various risk factors since they are ignorant of the risk factors and maintain close contact with other children[5].

Although skin disease is rarely lethal[6], in delayed diagnosis or inadequate treatment some infections, for example bacterial infections, have the potential for serious sequelae such as nephritis, carditis, arthritis, and septicemia[7].On the other hand, skin diseases particularly in children may result in considerable discomfort, parental anxiety, and embarrassment to the

child and unnecessary absence from school. This in turn leads to loss of confidence and disruption of social relations, feeling of stigmatization and major changes in lifestyle[5].

The pattern of skin diseases in any community is influenced by genetic constitution, climate condition, socioeconomic status, occupation, educational background, personal hygiene, customs, quality of medical care, family size, family history and overcrowding in school or household[8,9]. Such factors give each community its unique pattern and account for the wide variation reported from different regions of the world and even in the same country[8]. For instance, eczema being the most common skin disorder in developed countries, while infections and infestations in the developing countries[10]. Children present a higher prevalence rate than adults for pyoderma (especially under 5 years of age), certain mycoses (tinea capitis) and, to a lesser extent, scabies[11] which contribute for 77.7% of the total burden of skin diseases[13].

Objectives: To know the spectrum of paediatric dermatosis among patients and its age wise distribution presenting to OPD in tertiary care hospital

MATERIALS AND METHODS

Source of data: Children younger than 18 years presenting with new skin conditions in Department of Paediatric Kamineni Institute of medical sciences and Research Centre, Telangana was included in this study.

Type of study: Cross-sectional observational study
Sample size: 2000 was taken for the study
Incidence rate is 9%, P=0.09, q=1-p=0.9, L=allowable error is 15%
Sample size formula is n=4p(1-p) /L2
n=4(0.009)(0.91)/(0.09 x 0.15)2 = 1797.5
n=1798
Therefore, sample size of 2000 is considered for the study.12

Study subjects: Children younger than 18 years presenting with new skin conditions was considered. Diagnosis was mainly done clinically, but if the diagnosis are clinically unclear, further investigations was undertaken accordingly.
Study setting: Department of Pediatrics, Kamineni Institute Of Medical Sciences**,**Telangana.
Inclusion criteria:
All children between 0-18 completed years and ready to participate in study after consent from parents

Exclusion criteria:
Skin manifestations secondary to trauma, burns, scalds, abuse & assaults. The diagnosis was based on detailed history, clinical features and appropriate investigations such as KOH examination, Tzanck test, Grams-stained smear, hematological and biochemical investigations, skia grams, VDRL test, skin biopsy etc. if required investigations:
If the diagnosis is not clear after thorough examination one or more diagnostic procedures may be indicated ex Biopsy of skin, Wood lamp, Tzanck smear, immunoflourance studies etc.

Statistically analysis: Data was entered into MS excel sheet and applied to SPSS software 19.0 IBM USA version for statistical analysis. Results were expressed in terms of qualitative data by percentage, frequencies and associations was done by Pearson's chi square test. A 'P' value of<0.05 was considered significant.

RESULTS

Table 1: Distribution according to age

		Frequency	Percent
Age in years	≤ 1	66	3.3
	1 to 5	306	15.3
	6 to 10	360	18.0
	10 to 18	1268	63.4
	Total	2000	100.0

In our study we included 2000 paediatric subjects. Out of all, majority were from 10-18 years age group i.e. 1268 (63.4%) followed by 360(18%) from 6-10 years age group, 306 from 1-5 years age group (15.3%).

Table 2: Distribution according to sex

		Frequency	Percent
Sex	Female	895	44.8
	Male	1105	55.2
	Total	2000	100.0

Out of 2000 subjects, 1105 i.e. 55.2% were males and 895 (44.8%) were females.

Table 3: Distribution according to prevalence of dermatological manifestations

	Number	Percent
Bacterial	258	12.9
Viral	72	3.6
Fungal	201	10.05
Parasitic	138	6.9

Bacterial infections were the most common, with 258 cases (12.9%), indicating that bacterial etiology contributed the highest proportion among all categories. Fungal infections were the second most frequent, accounting for 201 cases (10.05%), showing a considerable burden of fungal infections in the study population. Parasitic infections constituted 138 cases (6.9%), reflecting a moderate prevalence compared to bacterial and fungal causes. Viral infections were the least common, with only 72 cases (3.6%), suggesting a relatively lower occurrence of viral etiology in the presented dataset.

Table 4: Age wise distribution of bacterial infection amongst study population

Bacterial		Absent		Present		Total
		No	%	No	%	
Age in years	≤ 1	48	2.8	18	7.0	66
	1 to 5	240	13.8	66	25.6	306
	6 to 10	282	16.2	78	30.2	360
	10 to 18	1172	67.2	96	37.2	1268
Total		1742	100.0	258	100.0	2000

Chi square-89.28, p-0.0001, Highly significant

Proportions of bacterial infections were more in 10-18 years age (37.2%) compared to 6-10 (30.2%) and 1-5 i.e. 25.6%. There is statistically significant association found between age and bacterial infection ($p<0.001$).

Table 5: Age wise distribution of viral infection amongst study population

Viral		Absent		Present		Total
		No	%	No	%	
Age in years	≤ 1	66	3.4	0	0	66
	1 to 5	306	15.9	0	0	306
	6 to 10	324	16.8	36	50	360
	10 to 18	1232	63.9	36	50	1268
Total		1928	100.0	72	100	2000

Chi square-58.49, p-0.0001, Highly significant

Proportions of viral infections were more in 6-10- and 10-18-years age (36.0%) each as compared to other age groups. There is statistically significant association found between age and bacterial infection ($p<0.001$).

Table 6: Age wise distribution of fungal infection amongst study population

Fungal		Absent		Present		Total
		No	%	No	%	
Age in years	≤ 1	65	3.6	1	0.3	66
	1 to 5	252	14.0	54	17.3	306
	6 to 10	326	18.1	34	10.9	360
	10 to 18	1156	64.3	112	35.9	1268
Total		1799	100.0	201	64.4	2000

Chi square- 48.74, p-0.0001, Highly significant

Proportions of fungal infections were more in 10-18 years age 112(35.9%) as compared to 54(17.3%) from 1-5 years age group. There is statistically significant association found between age and fungal infection ($p<0.001$).

Table 7: Age wise distribution of parasitic infection amongst study population

Parasitic		Absent		Present		Total
		No	%	No	%	
Age in years	≤ 1	66	3.5	0	0.0	66

	1 to 5	282	15.1	24	17.4	306
	6 to 10	336	18.0	24	17.4	360
	10 to 18	1178	63.3	90	65.2	1268
Total		1862	100.0	138	100.0	2000

Chi square-5.42, p-0.14, Not significant

Proportions of parasitic infections were more in 10-18 years age 90(65.2%) as compared to 24(17.4%) each from 1-5- and 6-10-years age group. There is no statistically significant association found between age and fungal infection (p<0.001).

DISCUSSION

In our study we included 2000 paediatric subjects. Out of all, majority were from 10-18 years age group i.e. 1268 (63.4%) followed by 360(18%) from 6-10 years age group, 306 from 1-5 years age group (15.3%). Mean age of study population was found to be 12.3± 5.59 years. Out of 2000 subjects, 1105 i.e. 55.2% were males and 895 (44.8%) were females.

Out of 1105 males studied, majority i.e.685 (62%) were from 10-18 years age group followed by 222(20.1%) from 6-10 years age group and 162 from 1-5 years age group. Out of 895 females studied, majority i.e.583(65.1%) were from 10-18 years age group followed by 144(16.1%) from 1-5 years age group and 138(15.4%) were from 1-5 years age group.

Reddy VS[14] in his study from Kerala found that out of 500 pediatric patients of age 18 and below, 243 (48.6%) were males and 257 (51.4%) females. Adolescent group constituted highest percentage (48%) followed by school age group, which constitutes 27.6% of total pediatric patients**. A. O. Ogunbiyi et al**[15] Studied questionnaire for assessing factors associated with the prevalence of diseases was completed, and a complete physical examination was carried out on 1066 students. The study included 529 (49.6%) boys and 537 (50.4%) girls with a mean age of 8.8 ± 2.5 years. **Sacchidanand et al**[16] observed 5–11 years is the common age group followed by adolescents with 33.21% and 29.81%, respectively. **Sharma et al**[17] reported that pediatric dermatoses are more common in adolescent age group.

Spectrum of dermatitis with its prevalence:

Out of 2000 subjects examined, 1414 i.e. 70.7% had infective dermatosis and remaining had noninfective dermatoses. So, our findings are comparable with **Jose G. et al** [18] **(**68.2%), **Rao et al**[19] (76.65%) and **Valia et al**[20] (53.6%). However, in **Dogra and Kumar et al**[21] and **Sharma et al.**[17] study, the prevalence of dermatoses was 38.80% and 14.30% which is less when compared to our study. This might be because of rural area and low socioeconomic status of the population.

Prevalence of Bacterial infections:

Out of 2000 subjects studied, 258 i.e. 12.9% had bacterial infection. **So, prevalence of bacterial infection was found to be 12.9%.** Mean age of study population was found to be 9.51 ± 5.3 years. Out of all 258 subjects with bacterial infections, 102 subjects had impetigo i.e. 39.5% followed by 84 (32.6%) with pyoderma, 48(18.6%) with Folliculitis and 2.3% each having acne and furuncle. Proportions of bacterial infections were more in 10-18 years age (37.2%) compared to 6-10 (30.2%) and 1-5 i.e. 25.6%. There is statistically significant association found between age and bacterial infection (p<0.001). **Balai M. et al**[22] observed that the prevalence of bacterial infection was found to be 13.7%. Out of bacterial infections, impetigo (84; 59.57%) was the commonest entity followed by secondary pyoderma (38; 26.95%). Commonly observed infection was pyoderma i.e. 59.5% followed by secondary pyoderma in 26.9%, Folliculitis in 9.22% and furuncles in 2.13%. **Ajit Singh et al**[23] observed that highest number of cases was seen in patients up to 10 years of age (109; 21.8%).

Prevalence of fungal infections:

Out of 2000 subjects studied, 201 i.e. 10.05% had fungal infection. So prevalence of bacterial infection was found to be 10.05%.

Out of 201 subjects with fungal infections, 72 had T. cruris (35.8%) followed by 66 (32.8%) each T. corporus and versicolor. 48 subjects (23.9%) had T. capitis. T. facia was seen in 18(9%) subjects.

Reddy VS et al[14] observed in his study that fungal infections of the skin constituted 44.59% of the total infections and 13.2% of total dermatoses. Dermatophytic infections were the most common among these infections making up to 48.5%. Tinea corporis was found in a significant number of children forming 53.12% of dermatophytic infections and 3.4% of all dermatoses followed by tinea cruris. Tinea versicolor was seen in 39.4% of total fungal infections and 5.2% of the total dermatoses.

Prevalence of viral infections:

Out of 2000 subjects studied, 72 i.e. 3.6% had viral infection. So prevalence of bacterial infection was found to be 3.6%. Viral warts were observed in 48 subjects (66.7%) followed by 12 (16.7%) had enanthemas. Herper labialis, Herpes simplex, Herpes zoster and P. Rosea were seen in 6 subjects with prevalence of 8.3%. **Balai M. et al**[22]observed that molluscum contagiosum (21; 60%) was the commonest viral infection followed by warts (7; 20%).

In our study, we observed that proportions of viral infections were more in 6-10- and 10-18-years age (36.0%) each as compared to other age groups. There was statistically significant association found between age and bacterial infection ($p<0.001$). Proportions of males having viral infections were 58.3% as compared to 41.7% females. There is no statistically significant association found between gender and viral infection ($p>0.05$).

Jose G. et al [18] stated that prevalence of skin disease in their study has been found to be little bit common in boys (34.7%) than girls (33.5%) but its not statistically significant as *P* value is more than 0.05.

CONCLUSION

- The overall prevalence of dermatoses in the children in our study is 70.7% which is because of rural area and low socioeconomic status of the population in our area. Infectious dermatoses were seen in 35.25% of subjects. Noninfectious dermatoses were seen in 35.45% of subjects.
- Impetigo (39.5%) and pyoderma (32.6%) were most common bacterial dermatosis. Viral warts (66.7%) were commonly observed viral dermatosis. T. cruris (35.8%) and T. corporus and versicolor 66 (32.8%) each were commonest fungal infections.
- There is statistically significant association found between age and bacterial and fungal infection ($p<0.05$).

REFERENCES

1. Fathy H, Mogy S Baker N, Abdel-Azi, Zand A. et al. Prevalece of skin disease among student with disabilities in mansoura, La Revue de Santé de la Méditerranée orientale, 2004, 10(3)25-36.
2. Allma K, Dardan K and Merita B. Skin diseases among preschool children. Journal of Bacteriology Research. 2009,1(2)5-7.
3. Willy C, Nele R and Rik B. Occupational skin diseases and dermal exposure in the European Union (EU-25):policy and practice overview. European Agency for Safety and Health at Work. 2008.
4. Rita V, Nishit B and Shivang P.PrevalenceOf Various Dermatoses In School Children Of Anand District. National Journal of Community Medicine.2012,3(1)69-70.
5. Libu G, Thomas B, Dr. Lucy R, Dr. Shyam E. et al. Prevalence and socio-demographic determinants of skin disease among lower primary school children in Calicut, Kerala.www.imakmj.com.
6. Amin TT, Ali A and Kaliyadan F**.** Skin disorders among male primary school children in Al Hassa, Saudi Arabia: prevalence and socio-demographic correlates – a comparison of urban and rural populations.Rural and Remote Health. 2011
7. *James H.*Acute Bacterial Skin Infections in Pediatric Medicine. 2003;5 (1)
8. Toraub K and JeewonR.Sociodemographic Factors And Their Association To Prevalence Of Skin Diseases Among Adolescents. Our dermatology on line.2013; 4(3)56-58
9. Farhana M. Pattern of skin diseases at The Children's Hospital, Lahore: comparison between 1996-1998 and 2011. *Journal of Pakistan Association of Dermatologists.* 2012;22 (3)34-36
10. Saurabh S, Roopam B and Manmeet K. Epidemiology of dermatoses in children and adolescents in Punjab, India. *Journal of Pakistan Association of Dermatologists.* 2012;22 (3)26-29
11. *Al-MendalawiM and Ibrahim J.* Pattern of dermatoses in Iraqi children. Eastern Mediterranean Health Journal.2012,18(4) 4-7
12. Saurabh. S, Sahu SK, Sadish kumar A, kakkanttu J G, Ralte I L, et al. screening for skin diseases among primary school children in rural area of puducherry. Indian J Dermatol venereal leprol.2013;79(6)35-40
13. Survey of clinical paediatrics. 6th ed. London: Mcgraw Hill Kogakusha Ltd; 1974. Wasserman Edward And Slobody Lawrence.
14. Reddy VS, Anoop T, Ajayakumar S, Bindurani S, Rajiv S, Bifi J. Study of clinical spectrum of pediatric dermatoses in patients attending a Tertiary Care Center in North Kerala. Indian J Paediatr Dermatol 2016;17:267-72.
15. A. O. Ogunbiyi Eme Owoaje A. Ndahi Pediatric Dermatology 2005; Volume 22, Issue 1: 1-7
16. Sacchidanand S, Sahana MS,. Pattern of pediatric dermatoses. Indian J Pediatr 2015;12:31-39
17. Sharma S, Bassi R, Sodhi MK. Epidemiology of dermatoses in children and adolescents in Punjab, India. J Pak Assoc Dermatol 2012;22:224-30.
18. Jose G, Vellaisamy SG, Govindarajan N, Gopalan K. Prevalence of common dermatoses in school children of rural areas of Salem; a region of South India. Indian J Paediatr Dermatol online; 2017;18(3):202-8.
19. Rao GS, Kumar P, Kuruvilla M. Prevalence of various dermatoses in school children. Indian J Dermatol Venereol Leprol 1999;65:126-7.
20. Valia RA, Pandey SS, Kaur P, Singh G. Prevalence of skin diseases in Varanasi school children. Indian J Dermatol Venereol Leprol 1991;57:141-3
21. Sunil Dogra, Bhushan Kumar. Epidemiology of Skin Diseases in School Children: A Study from Northern India. Paediatric dermatology. 2003; 20(6): 470-73
22. 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.
23. Ajit Singh, Lalit Kumar Gupta, Ashok Kumar Khare, Asit Mittal, CM Kuldeep, and Manisha Balai. A Clinico-Bacteriological Study of Pyodermas at a Tertiary Health Center in Southwest Rajasthan Indian J Dermatol. 2015 Sep-Oct; 60(5): 479–484.