

Original Article

PREVALENCE OF SKIN DISORDER AMONG PAEDIATRICS AGE GROUP AT CENTRAL KARNATAKA

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ABSTRACT:

Background: Skin conditions contribute significantly to the global burden of diseases and are among the leading causes of non-fatal disease burden. The burden of these conditions among the children visiting dermatology OPD is very limited. This study was carried out to determine the pattern of dermatological conditions and contributing factors among the children visiting hospital at Central Karnataka.

Material and methods: The study was carried out in the department of Dermatology, S. S. Institute of Medical Sciences and Research Centre, Davanagere, Karnataka from June 2018 to May 2021. 1129 children between the age group 1-15 years visited Dermatology OPD with the various complaint of skin diseases. Detailed Demographic details, clinical history, physical examination was done as per study protocol. If bacterial and fungal infection were suspected, appropriate clinical specimen was sent for microbiology laboratory for microscopy and culture and sensitivity. **Results:** Among 1129 children who visited hospital, 652 (57.7%) were boys and 477 (42.3%) were girls and their age ranged from 1-15 years. The prevalence of Infectious dermatoses among the study population was 68%, Non- Infectious dermatoses of 28% and Nutritional dermatoses of 4.0%. The most common Infectious dermatoses encountered in our study population were Pediculosis and Impetigo. Non Infectious dermatoses Pityriasis Alba was predominant followed by Papular urticaria and Insect bite reaction **Conclusion:** skin disorders are high among 11-15 years age group and we reinforce that skin hygiene is very important to bring do the burden of pyoderma among pediatric age group

Keywords; Skin disorder, Paediatric age, Infectious, Non-Infectious, nutritional pyoderma

INTRODUCTION

Skin diseases represent an important part of the morbidity among children and are possibly influenced by geographic, racial, social, cultural, and economic factors.¹

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In developing countries, skin diseases constitute a significant public health problem because of certain climatic conditions such as high temperatures, humidity, poor hygiene, scarce access to water, and family households that may contribute to the development of these diseases^{2,3}. The frequency of skin diseases varied between 21 and 87%; despite being so frequent around the world, skin diseases have not been considered when developing strategies in public health⁴⁻⁷. Bacterial diseases had the highest prevalence, oscillating between 0.2 and

35%, followed by tinea capitis with an occurrence of 1–17%, scabies prevalence varied between 0.2% and 24%; viral infections appeared at a rate of 0.4–9% (mostly molluscum contagiosum); pediculosis capitis prevalence between 0 and 54% and reactions caused by insect bites had an occurrence rate of 0–7.2%⁷⁻⁹. The study was conducted to analyse the incidence of skin diseases among the children and to correlate the demographic feature at Central Karnataka.

MATERIAL AND METHODS

The study was carried out in the department of Dermatology, S. S. Institute of Medical Sciences and Research Centre, Davanagere, Karnataka from June 2018 to May 2021. Institutional Ethics Review Board of the institution reviewed and approved the research protocol.

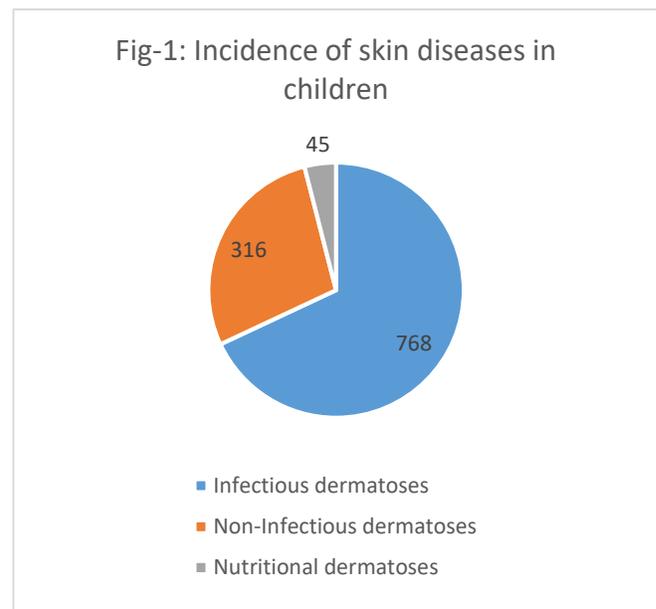
1129 children between the age group 1-15 years visited Dermatology OPD with the various complaint of skin diseases. Detailed Demographic details, clinical history, physical examination was done as per study protocol. If bacterial and fungal infection were suspected, appropriate clinical specimen was sent for microbiology laboratory for microscopy and culture and sensitivity. In order to reduce bias with the physical examination by general physicians on patients with skin lesions, the lesions were photographed and the images were reviewed by dermatologist, along with the clinical history⁴⁻⁷. For the statistical analysis, we used SPSS 15.0 and calculated the prevalence of dermatological skin diseases with their respective 95% confidence intervals.

RESULTS

Among 1129 children who visited hospital, 652 (57.7%) were boys and 477 (42.3%) were girls and their age ranged from 1-15 years. The children were grouped into three categories based on their age; 1-5, 6-10 years and 11-15 years. 135 (11.9%) children were among 1-5 years of age and 365

(32.3%) children were among 6-10 years of age and 629 (55.7) children were among 11-15 year of age. Based on socio-economic group, Lower middle (n=692) and middle middle class (n=272) of children were infected when compared to upper middle class (n=135) or upper class of children (n=30)

The Skin disorders was classified into three categories namely Infectious dermatoses, Non-Infectious dermatoses and nutritional dermatoses (Fig-1). The incidence of different type of skin disorders are depicted in the fig-1. Infectious dermatoses have highest in the present study followed by non-infectious dermatoses



Prevalence of infectious dermatoses was 68% (768) out of which 57.9% (445) children were boys, 42.1% (323) were girls. The association of infectious dermatoses was more prevalent among boys when compared to girls and was statistically significant.

The various Infectious dermatoses encountered in the present study were Pediculosis 186 (24.2%), Impetigo 183 (23.8%), Acne Vulgaris 136 (17.7%), Scabies 88 (11.5%), Tinea Versicolor 88

(11.5%), Seborrheic dermatitis 79(10.3%), Molluscum Contagiosum 3(0.4%) and Chicken Pox 5 (0.7%) respectively as shown in Table 1. Infectious dermatoses are noted to be more prevalent among boys (57.9%) than girls (42.1%) with a statistical significance (p-value<0.05). Pediculosis is more prevalent among girls (47.7%) than Boys (7.2%). Similarly Scabies and Impetigo is more prevalent among boys (16.2% and 39.3%) than Girls (5.0% and 2.5%) respectively.

Table 1: Prevalence of Infectious dermatoses

Infectious dermatoses	Boys	Girls	total
Pediculosis	32	154	186
Scabies	72	16	88
Impetigo	175	8	183
Acne Vulgaris	68	68	136
Tinea Versicolor	70	18	88
Molluscum Contagiosum	3	0	3
Chicken Pox	1	4	5
Seborrheic dermatitis	24	55	79
Total	445	323	768

The various Non-Infectious dermatoses encountered in our study population were Pityriasis alba 38.2 % (n=108, boys=68, girls=40), Papular urticaria was seen in 25% of the non infectious population (n=79, Boys=48, Girls=31), Insect bite reaction was seen in 20 % (n=63, Boys=40 and Girls=23), post inflammatory pigmentation was seen in 12.7% (n=40, boys=23, Girls=17), Scars was seen in 7%, Atopic Eczema 1%, and Lichen striate 0.3%.

Among Nutritional dermatoses encountered were Xerosis (62.2%), Phrynoderma (31.1%), and Angular Chelitis (6.7%) as shown in fig 2. Nutritional dermatoses was noted to be more prevalent among Girls (73%) than Boys (27%), and

the association was statistically significant (p<0.05).

Fig-2: Prevalence of Nutritional pyoderma among paediatric age group

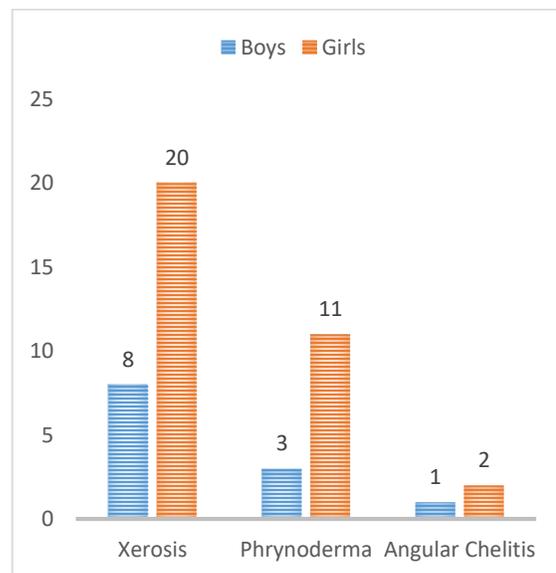


Table-2: Incidence of Non-Infectious Dermatoses among paediatric age group

Non Infectious Dermatoses	Boys	Girls	Total
Pityriasis alba	68	40	108
Papular urticarial	48	31	79
Insect bite reaction	40	23	63
post inflammatory pigmentation	23	17	40
Scars	14	8	22
Atopic Eczema	2	1	3
Lichen striate	0	1	1
Total	195	121	316

DISCUSSION

In the present study boys showed higher incidence of pyoderma compared to girls and children from lower income group had higher incidence of infectious and non-infectious dermatoses and children from higher income group showed higher cases of nutritional dermatoses. The Modified Kuppusamy’s socio- economic classification was

used and parent's education, occupation and income was considered while categorising children into different socio-economic strata¹¹. Incidence of pyoderma was common in the age group of 11-15 years. A study from Jodhpur showed pyodermas to be commonest in the first decade of life, and study by Satyamanasa Gayatri from Pondicherry also showed incidence of skin disorder in the age group less than 10 years⁹. In contrast, the Singapore study showed pyodermas to be common between 10–30 years of age, possibly due to different population demographics and better economic conditions leading to a better standard of hygiene at home.¹² The studies among school children showed the prevalence of skin disorder was high among 5-15 years of age (720, out of 1000, 72%) which is comparable to Rao et al. (76.65%)⁷. Bharatesh Devendra Basti¹² et al. in his study found the prevalence of skin diseases to be around 65%. Our study corroborates with other studies depicting 55.7% of children of age group 11-15 years had skin disorders.

Among 1129 children who visited hospital for various skin disorders, 652 (57.7%) were boys and 477 (42.3%) were girls. Kohli et al. found that prevalence of skin disorders was more among females than males in a study done among school children of Jaipur⁵. The male to female incidence ratio in this study was 1.36:1 comparable to few other studies^{5,6,12}.

The prevalence of Infectious dermatoses among the study population was 68%, Non- Infectious dermatoses of 28% and Nutritional dermatoses of 4.0%. The finding corroborates with the prevalence of infectious dermatoses which is around 30%-85% according to various studies carried out on general population and school going children¹³⁻¹⁵. Boys had a higher prevalence of Infectious dermatoses (57.8%) than Girls (42.1%) showing statistically significant association (p - value<0.05). The most common Infectious dermatoses encountered in our study population were Pediculosis and Impetigo,

followed by Acne Vulgaris, Scabies. Pediculosis is more prevalent among girls (11.3%) than Boys (2.1%). This could be attributed to long hair and less hygienic among girls. Similar results were found in other studies done by Khokhar A. et al and Wu YH et al^{12,14,15}. Similarly, Scabies and Impetigo is more prevalent among Boys than Girls respectively in study.

The most common Non Infectious dermatoses encountered in our study was Pityriasis Alba followed by Papular urticaria and Insect bite reaction. Valia et al. study also revealed Pityriasis alba to be the most common non-infectious dermatoses¹⁷. Even among non-Infectious dermatoses, boys preponderance over girls were documented which is unusual when compared to other studies in which they did not document much difference among girls and boys¹⁶ Nutritional dermatoses encountered were Xerosis, Phrynoderma and Angular Chelitis and noted to be more prevalent among Girls than Boys, and the difference seen were statistically significant. Prognosis was very good after treatment and counselling children regarding the importance of good hygiene.

To conclude the incidence of pyoderma is very high among the children of age group 1-15. It is essential to follow the right hygienic and healthy diet to prevent skin disorders. Inculcating hygienic habits in children is very important for helping them live a healthy life. Hygienic habits can help children to keep many skin disorders at bay. Therefore, it is important to inculcate hygienic habits in the schools in children right from early childhood

REFERENCES

1. Lawrence DN, Facklam RR, Sottnek FO, Hancock GA, Neel JV, Salzano FM. Epidemiologic studies among Amerindian populations of Amazonia. I. Pyoderma:

- prevalence and associated pathogens. *Am J Trop Med Hyg.* 1979; 28(3):548–58.
- Hay RJ, Johns NE, Williams HC, Bolliger IW, Dellavalle RP, Margolis DJ, et al. The global burden of skin disease in 2010: an analysis of the prevalence and impact of skin conditions. *J Invest Dermatol.* 2014; 134(6):1527–34.
 - Behl PNMKCBS. Ecological study of skin diseases in Delhi area. *Indian Journal of Dermatology, Venereology and Leprology.* 1979; 50:21
 - Vellaisamy S, Jose G, Govindarajan N, Gopalan K. Prevalence of common dermatoses in school children of rural areas of Salem; a region of South India. *Indian Journal of Paediatric Dermatology.* 2017;18(3):202
 - Kohli M, Tomar BS, Bilwal R. Prevalence and demographic profile of skin disorders in school going children of urban and rural Jaipur. *International J Contemporary Med Res.* 2019;6(7):6- 10.
 - Rana S, Mehta A, Singh R, Aggarwal B, Bisht J, Kumari N. Pattern of dermatoses in preschool children in a teaching hospital in Uttarakhand, India. *Indian Journal of Paediatric Dermatology.* 2015;(16):198-202.
 - Rao GS, Kumar P, Kuruvilla M. Prevalence of various dermatoses in school children. *Indian J Dermatol Venereol Leprol.* 1999;65:126-7.
 - Rajeshwari KA, Geetha M, Kiran B. Prevalence and spectrum of pediatric dermatoses in school children: comparing hospital and school in rural Bangalore. *Int J Res Dermatol* 2020;6:733-8
 - Satyamanasa Gayatri Vinay S, Abhijeet Shrivastava, Karuppiyah Pandi, Sudhagar Mookkappan. Prevalence of Skin Disorders (SD) among school going children of semi-urban areas in Puducherry. *Curr Pediatr Res* 2021; 25 (4): 509-513
 - Dai YX, Chen TJ, Chang YT. Skin care services and disease prevalence in Taiwan: A nationwide study. *Dermatologica Sinica.* 2018;36(3):124-30.
 - Saleem SM. Modified Kuppuswamy Scale Updated For Year 2018. *Paripex-Indian J Res.* 2018;7(3):435-6.
 - Bharatesh Devendra basti, shankar Radhakrishnan. Prevalence of dermatological manifestations among the tribal school children of South India. *Int J Community Med Public Health.* 2016;3(7):1957-62.
 - Karthikeyan K, Thappa DM, Jeevankumar B. Pattern of pediatric dermatoses in a referral center in South India. *Indian Pediatr.* 2004;41(4):3737.
 - Reddy VS, Anoop T, Ajayakumar S, et al. Study of clinical spectrum of pediatric dermatoses in patients attending a Tertiary Care Center in North Kerala. *Indian J Paediatr Dermatol.* 2016;17(4):267-72.
 - Bhatia V. Extent and pattern of paediatric dermatoses in rural areas of central India. *Ind J Dermatol Venereol Leprol.* 1997;63(1):225.
 - Rotti SB, Prabhu GD, Rao V. Prevalence of scabies among school children in a rural block of coastal karnataka. *Indian J Dermatol Venereol Leprol.* 1985;51(1):35-7.
 - Valia RA, Pandey SS, Kaur P, et al. Prevalence of skin diseases in Varanasi school children. *Indian J Dermatol Venereol Leprol.* 1991;57(3):141-3.

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