

Epidemiological Study of Childhood Dermatoses in Eastern Uttar Pradesh

Anil K Gupta¹, Ali Mohammad², Lalit Mohan³, S K Singh¹, Snehlata², Amit Kumar Soni², Sushantika², Naveen Kumar²

¹Associate Professor, Department of Dermatology, BRD Medical College, Gorakhpur, Uttar Pradesh, India, ²Resident, Department of Dermatology, BRD Medical College, Gorakhpur, Uttar Pradesh, India, ³Professor, Department of Dermatology, BRD Medical College, Gorakhpur, Uttar Pradesh, India

Abstract

Background: Prevalence studies of skin disorders in children and adolescents are meager, in India few epidemiological data are available. Proper epidemiological data should be available to be familiar with a geographical area, compare data from other areas and to take steps for prevention of disease.

Aims: The purpose of this study was to evaluate the epidemiologic and clinical features of childhood dermatoses in Baba Raghav Das Medical College, Gorakhpur.

Materials and Methods: A retrospective investigation of a total of 3000 patients in the age group of 5-14 years visiting the Outpatient Department of Dermatology and Venereology of Baba Raghav Das Medical College, Gorakhpur was done. The parameters included were age at onset of disease, sex, type of disease, and distribution of lesions. Data and statistical analysis were done.

Results: Mean age was 7 years. M:F ratio was 1.5:1. Infectious disease(49%) were the most common followed by Eczematous disorders (18%). Among the infections dermatophytosis infections were the commonest followed by bacterial infections. Verruca vulgaris was commonest among viral diseases, and pityriasis alba was the commonest Eczema.

Conclusion: Superficial Dermatophytic infection was the commonest disease, followed by superficial pyodermas, viral warts followed by molluscum contagiosum were common viral infections, Vitiligo, keratosis pilaris, Nevi, Miliaria and Fordyce spots were other common diseases.

Key words: Childhood atopic infection, Childhood dermatoses, Clinical, Dermatologic, Fungal disease, Viral disease

INTRODUCTION

Disorders of the skin and its appendages, including the hair and nails, are frequently encountered in children, but prevalence studies of skin disorders in children and adolescents are meager. Low socioeconomic status, malnutrition, overcrowding, and poor standards of hygiene are important factors accounting for the difference of distribution of skin diseases in the developing and

developed countries, and reports from different parts of the world have revealed a wide variation in the prevalence of various skin disorders. Many epidemiological studies in India and parts of the world have been done to study the pattern of pediatric dermatoses.^[1-9] The epidemiological data in Indian studies are based on the pattern of pediatric dermatoses in school-going children in both urban and rural areas and in tertiary care hospitals (medical colleges).^[8,9] Moreover, the pattern of skin diseases in India is different across the states, rural and urban areas, and hilly areas.

Skin diseases in the pediatric age group can be transitory or chronic, and recurrent pediatric dermatoses require a separate view from adult dermatoses as there are important differences in clinical presentation, treatment, and prognosis. The chronic dermatoses are associated with

Access this article online



www.ijss-sn.com

Month of Submission : 06-2018
Month of Peer Review : 07-2018
Month of Acceptance : 08-2018
Month of Publishing : 08-2018

Corresponding Author: Dr. Ali Mohammad, Room no 146 Gautam Hostel, BRD Medical College, Gorakhpur, Uttar Pradesh, India.
Phone: +91-8933097079. E-mail: alimohammadabdiderma@gmail.com

significant morbidity and psychological impact. Cutaneous infections are common in children during school-going years. Most of the cutaneous diseases which result from intrinsic genetic abnormalities also have onset in the pediatric age group. A recent study done by Grills *et al.* in mountainous region of India (Uttarakhand) revealed that dermatological conditions were prevalent (45.3%) with 33% being of infectious etiology.^[1,10-12] In this study, atopic dermatitis (9.2%), scabies (4.4%), tinea corporis (4.1%), and pityriasis alba (3.6%) were common. We, hereby, try to find the epidemiological status in the northern part of India.

MATERIALS AND METHODS

The study was a retrospective study conducted on 3000 school-going children and adolescents in the age group of 5–14 years patients attending the Dermatology outpatient department of Baba Raghav Das Medical College, Gorakhpur, which is a 700-bedded multispecialty hospital in the urban area of Uttar Pradesh, India, and patients of eight districts visited our hospital (namely Gorakhpur, Maharajganj, Deoria, Kushinagar, Azamgarh, Mau, Basti, and Gopalganj). Most patients (40.2%) visited from Gorakhpur where the medical college is located. Their

Table 1: Age distribution of pediatric dermatoses (n=3000)

Age (in years)	Percentage
5–6	22
7–8	19
9–10	16
11–12	18
13–14	25

Table 2: Distribution of various dermatosis

Disease	Total number (%)
Infectious disease	1504 (49)
Eczema	533 (18)
Keratinization disorders	78 (2.6)
Photodisorders	48 (1.6)
Hair and nail disorders	135 (4.5)
Vesiculobullous disorders	19 (0.63)
Pigmentary disorders	507 (16.9)
Nutritional disorders	78 (2.6)
Sebaceous gland disorders	90 (3)
Miscellaneous disorders	34 (2)

Table 3: Prevalence of infections and infestations

Infections and infestations	Percentage
Dermatophytic	719
Bacterial	160
Viral	138
Scabies and pediculosis	652

records were reviewed retrospectively. Patients visiting from June 1, 2017, to June 1, 2018, were included in the study. Sociodemographic data and subtype of disease were studied. The descriptive statistics such as percentage, proportion, mean, and standard deviation were calculated.

RESULTS

A total of 3000 students in the age group of 5–14 years were selected and studied clinically to assess the prevalence of skin disorders in this age group. In our study, there were 1800 male and 1200 female students [Table 1].

Infections and infestations combined constituted highest proportion 49% (1504), followed by eczematous dermatoses which constitute 18% (533) [Table 2].

Among the infectious and infestation disorders, most common was tinea corporis followed by pyoderma [Table 3].

Table 4: Prevalence of bacterial infections

Bacterial infection	Percentage
Impetigo and perioritis	50
Furunculosis	38
Ecthyma	1
Pitted keratolysis	2
Infectious eczematous dermatitis	9

Table 5: Prevalence of fungal infections

Fungal infection	Percentage
Tinea corporis	56
Tinea cruris	28
Tinea pedis	3
Tinea capitis	9
Tinea faciei	4

Table 6: Prevalence of viral infectious

Viral disease	Percentage
Warts	48
Molluscum contagiosum	23
Chicken pox	10
Herpes labialis	6
Hand, foot, and mouth disease	1
Pityriasis rosea	12

Table 7: prevalence of endogenous eczema

Disease	Number (%)
Juvenile plantar dermatosis	112 (30)
Pityriasis alba	146 (42)
Atopic dermatitis	60 (17)
Contact dermatitis	36 (10)

Among the bacterial infections, impetigo was the most common, amounting to 50% (8) of cases followed by furunculosis 38% [Table 4].

Dermatophytic infections constituted the maximum of the fungal infections involving the skin (48.5). Among dermatophytic infections, tinea corporis constituted the highest proportion, i.e., 56.12%, followed by tinea cruris 28% and tinea capitis 9% [Table 5].

Viral warts were the most common skin lesion caused by a viral infection in this study and constituted 48% (70) followed by molluscum contagiosum 23% (32) [Table 6].

Endogenous eczemas were more common than exogenous eczemas during the study period. Pityriasis alba was the most common endogenous eczemas, which constituted 42% (146) of cases of all eczemas followed by juvenile plantar dermatosis. Among the exogenous eczemas, allergic contact dermatitis (ACD) was the most common which constituted 9.8% (16) of cases. Irritant contact dermatitis was seen in 3% (5), photo ACD in 2.45% (4), and infectious eczematoid dermatitis in 1.2% (2) of the total eczema cases [Table 7].

2.6% of total pediatric dermatoses in this study were nutritional dermatoses, in which there were most cases of phrynoderma in 70%, zinc deficient acral erythema in 5%, angular cheilitis in 4%, and kwashiorkor in 3% of cases.

Congenital melanocytic nevus was the most common among all the nevoid and developmental disorders seen in this study, others which constituted were becker's nevus, nevus sebaceous, linear verrucous epidermal nevus, and achromic nevus seen in one patient each respectively.

The keratinization disorder constituted most of keratosis pilaris 32% (25). Plaque and guttate psoriasis constituted 30% (23.4) of papulosquamous disorders. Ichthyosis, palmoplantar keratoderma, and lichen spinulosus were seen in 12% (10).

Lichen planus was seen in 20% (16) and lichen nitidus in 2%, of all papulosquamous disorders. Pityriasis rubra pilaris was seen in four patients.

Among the disorders of sweat glands and sebaceous glands, acne was the most common to be seen. These cases constituted 68% (61). Miliaria cases constituted 26.2% (29) of sweat and sebaceous disorders, Fordyce spots were seen in 2.7% (1.8), and sebaceous cysts in 2.4% (2) of sweat and sebaceous disorders.

Among the vesiculobullous disorders, there were four cases of epidermolysis bullosa simplex and four cases of chronic

bullous disease of childhood. Only two cases were seen in the category of connective tissue disorders which included of systemic lupus erythematosus. Eight cases of morphea were present.

507 total cases of vitiligo were seen: Vitiligo vulgaris 53%, acrofacial vitiligo in 18%, segmental vitiligo in 12%, and mucosal vitiligo in 17% of cases.

Abnormal responses to light were seen in 48 cases during the period of the study. Polymorphic light eruption was the most common abnormality as seen in 85.7%. Hydroa vacciniforme was seen in one and juvenile spring eruptions in three cases.

The disorders of hair and nails were seen in 135 cases during the study period and most cases were of alopecia areata in 70% (94), uncombable hair disease in three, monilethrix and wooly hair nevus in on each, and short anagen syndrome in one case.

Paronychia was the most common nail disease seen, which constituted 20% (4). The other disorders belonging to this category included premature canities in 10% (14) and trichotillomania 5% (8).

34 cases were included in the miscellaneous disorder category. It comprised cases of insect bite reaction, urticaria, tuberous sclerosis, erythema multiforme, aphthous stomatitis, corns, pyogenic granuloma, Henoch–Schonlein purpura, acanthosis nigricans, granuloma annulare, parapsoriasis, angioedema, juvenile xanthogranuloma, and neurofibroma.

DISCUSSION

In the study from the Northern India by Dogra and Kumar,^[2] the age group was 6–14 years only, whereas in our study, the age group was 5–14 years. In the age group of 14–19 years, there is the excess of skin disorders in the form of acne.

A study conducted by Zamanian and Mahjub^[3] in Hamedan, Iran, showed eczematous disorders to be the most common of all disorders.

Among the eczematous disorders, pityriasis alba was the most common. Students in the age range of 9–14 years (64.7%) were most frequently affected. It was found more in males (62.6%) than in females (17.4%).

The prevalence of atopic dermatitis was 3% in our study. In England, the point prevalence in one study was 11.5–14% in 3–11-year-old children. This, therefore,

suggests that atopic dermatitis is more prevalent in western countries than in the developing countries like India, implicating thereby a strong environmental factor in causation of these disorders. We observed the prevalence of 3% for acne disorders, which include acne vulgaris, truncal acne, and post-acne scarring. Acne vulgaris, by far, was the most common (17.2%). Acne vulgaris was found more commonly in males (69.6%) than in females (30.4%).

CONCLUSION

This study was done to determine the characteristic clinical pattern and prevalence of pediatric dermatoses. The majority of the study population (48%) belonged to adolescent age group. Of them, males outnumbered females. Fungal infections were the most common infection noted in the study, followed by bacterial and viral infections. ACD was the most common exogenous eczema and Pityriasis alba was the most common endogenous eczema. Plaque psoriasis was the most common papulosquamous disorder, followed by lichen planus. Acne was the most common sweat and sebaceous gland disorder with female preponderance. Alopecia areata was the most common hair disorder. Paronychia was the most common nail disorder.

A detailed knowledge about the pattern of pediatric dermatoses in each geographic area will help us in implementing essential changes in health education, disease

control, preventive strategies in the area concerned and to compare data with other geographical areas in India and world.

REFERENCES

1. Grills N, Grills C, Spelman T, Stoope M, Hellard M, El-Hayek C, *et al.* Prevalence survey of dermatological conditions in mountainous North India. *Int J Dermatol* 2012;51:579-87.
2. Dogra S, Kumar B. Epidemiology of skin diseases in school children: A study from Northern India. *Pediatr Dermatol* 2003;20:470-3.
3. Zamanian A, Mahjub H. Prevalence of skin diseases in Hamedan, Iran in 2002. *Indian J Dermatol* 2005;50:208-11.
4. McNally N, Phillips D. Geographical studies of atopic dermatitis. In: Williams HC, editor. *Atopic Dermatitis: The Epidemiology, Causes and Prevention of Atopic Dermatitis*. Cambridge: Cambridge University Press; 2000. p. 71-84.
5. Stern RS. The prevalence of acne on the basis of physical examination. *J Am Acad Dermatol* 1992;26:931-5.
6. Grover S, Ranyal RK, Bedi MK. A cross section of skin diseases in rural Allahabad. *Indian J Dermatol* 2008;53:179-81.
7. Nevitt GJ, Hutchinson PE. Psoriasis in the community: Prevalence, severity and patients' beliefs and attitudes towards the disease. *Br J Dermatol* 1996;135:533-7.
8. Convit J. Investigation of the incidence of psoriasis among Latin American Indians. In: *Proceedings of the 12th Congress on Dermatology*. Amsterdam: Excerpta Medica; 1962. p. 196.
9. Sardana K, Mahajan S, Sarkar R, Mendiratta V, Bhushan P, Koranne RV, *et al.* The spectrum of skin disease among Indian children. *Pediatr Dermatol* 2009;26:6-13.
10. Last JM. *A Dictionary of Epidemiology, A Handbook Sponsored by IEA, Park's Textbook of Preventive and Social Medicine*. New York: Oxford University Press; 1983.
11. Shakkoury WA, Abu-Wandy E. Prevalence of skin disorders among male schoolchildren in Amman, Jordan. *East Mediterr Health J* 1999;5:955-9.

How to cite this article: Gupta AK, Mohammad A, Mohan L, Singh SK, Snehlata, Soni AK, Sushantika, Kumar N. Epidemiological Study of Childhood Dermatoses in Eastern Uttar Pradesh. *Int J Sci Stud* 2018;6(5):35-38

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