

A clinico-epidemiological study of pediatric dermatoses in tertiary care centre, Ujjain

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Abstract

Introduction: Skin diseases in pediatric age are common health problem with wide variation in the presentation in various regions. Pediatric dermatoses differs from adult dermatoses in clinical presentation, treatment and prognosis. This variation among dermatoses is due to region of study, environmental factors, type of population studied, hygiene, nutritional status.

Objectives: To determine the clinical pattern of dermatological disorders and their prevalence in pediatric population.

Material and Methods: The present study was hospital based cross-sectional observational study, conducted in department of dermatology, venereology and leprosy, R. D. Gardi Medical College Ujjain over a period of one year. A total of 160 cases with age 0-15 yrs, who presented in our OPD/IPD were included in this study. A detailed general, cutaneous and systemic examination followed by investigations were carried out and recorded in proforma for analysis and interpretation of data.

Results: Out of all the subjects recruited, 53.1% were males and 46.9% were females with M:F ratio 1.13:1. The maximum no. of patients were in the age group of 7-9 years (26.9%). Etiological analysis revealed that infections and infestations were the most common dermatoses (48.8%) followed by dermatitis and eczemas (15.5%), papulosquamous disorder (8.8%), pigmentary disorders (6.9%), keratinization disorders (4.4%), urticaria (3.1%), nevoid disorders (3.1%), miliaria (1.9%), vascular malformations (1.9%) and others (3.8%).

Conclusion: Dermatoses in children is wide spread problem responsible for significant morbidity in them. Infections and infestations were most prevalent dermatoses possibly due to poverty, overcrowding, under nutrition, poor hygiene and lack of health education.

Keywords: Pediatric Dermatoses, Infections in childhood.

Introduction

Pediatric dermatoses has acquired its own autonomous standing within the field of dermatology because specific diseases are found exclusively in pediatric age group such as staphylococcal scalded skin syndrome and neonatal dermatoses. Some of the diseases are typical of pediatric age group, if not exclusive like atopic dermatitis, impetigo etc. Few diseases present with different characteristics in the adults and children such as dermatomyositis and psoriasis. And finally, there are diseases which starts in childhood & continue into adulthood (genodermatoses). Therefore, the approach to this fascinating branch requires sound dermatological knowledge combined with pediatric sensitivity. The prevalence of pediatric dermatoses found in school-based surveys was 8.7% to 35% in India.⁽¹⁾ The most common skin disorders encountered in pediatric age group are infections and infestations, eczema, papulosquamous disorders and pigmentary disorders. The present study was under taken to know the pattern and incidence of various dermatoses in children.

Materials & Methods

A cross-sectional observational study carried out in department of dermatology, venereology and leprosy, R.D. Gardi Medical College Ujjain (M.P.). This study was carried out on all pediatric dermatoses patients attending to OPD/IPD in a time period of 1 year with sample size of approx.160. Data was collected from the

study participants and managed with the help of a separate proforma for each patient. All basic investigations including: CBC, RBS, LFT, KFT, serum electrolyte, urine examination, skin scraping for fungus were done.

Results

In the study, there were a total of 160 patients in the age group of 0-15 years, out of which 85 (53.1%) were males and 75 (46.9%) were females with M:F ratio 1.13:1. Maximum number of patients were in the age group of 7-9 years (26.9%) as shown in Table 1. The most common dermatoses in our study was infection and infestation, constituting a total of 48.8% followed by dermatitis and eczemas 15.6%, papulosquamous disorder 8.8%, pigmentary disorders 6.9%, keratinization disorders 4.4%, urticaria 3.1%, nevoid disorders 3.1%, miliaria 1.9%, vascular malformations 1.9% and hair and nail disorders 1.9% as shown in Table 2. Among infective dermatoses, bacterial infections (26;16.25%) were most prevalent followed by fungal infections (18;11.25%) and viral infections (15; 9.37%). Out of bacterial infections, impetigo (12;46.15%) was most prevalent followed by secondary pyoderma (8;30.77%). The distribution pattern of bacterial infections is shown in Table 3. Of infestations group scabies was the most common entity recorded in 17(89.47%) patients. Molluscum contagiosum (8;53.33%) was the commonest viral infections followed

by warts (3;20%). Out of fungal infections, tinea capitis was found in majority (9;50%) of cases followed by tinea corporis (6;33.33%) and tinea faciei (1;5.5%). Of eczema and dermatitis group (Table 4) revealed atopic dermatitis to be the most common (8;32%) followed by seborrheic dermatitis (4;16%) and pityriasis alba (3;12%). Among the papulosquamous disorder, psoriasis was most common (9;64.28%) followed by pityriasis rosea (3;21.42%) and lichen planus (2;14.28%) as shown in Table 5.

Table 1: Distribution of cases according to age & sex

Age in years	Male	Female	Total
0-3	17	14	31
4-6	21	18	39
7-9	25	18	43
10-12	11	16	27
13-15	11	09	20
Total	85	75	160

Table 2: Distribution of cases according to pattern of dermatoses in both sex

Types of Diagnosis	Male	Female	Total Cases	Percentage
Infection and Infestation	46	32	78	48.8
Dermatitis and Eczema	16	9	25	15.6
Papulosquamous Disorder	3	11	14	8.8
Pigmentary Disorder	4	7	11	6.9
Keratinization Disorder	2	5	7	4.4
Nevoid Disorder	2	3	5	3.1
Urticaria	4	1	5	3.1
Hair and Nail Disorder	2	1	3	1.9
Vascular Malformation	1	2	3	1.9
Miliaria	1	2	3	1.9
Others	4	2	6	3.8
Total	85	75	160	100.0

Table 3: Pattern of bacterial infections

Bacterial infections	Male	Female	Total	Percentage
Pyoderma	4	4	8	30.77
Impetigo	7	5	12	46.15
Periporitis	3	1	4	15.38
Furunculosis	1	1	2	7.69
Total	15	11	26	100.0

Table 4: Pattern of eczematous disorders

Eczema & dermatitis	Male	Female	Total	Percentage
Atopic Dermatitis	6	2	8	32
Pityriasis Alba	1	2	3	12
Seborrheic Dermatitis	3	1	4	16
Irritant Contact Dermatitis	2	0	2	8
Pompholyx	1	1	2	8
Other	3	3	6	24
Total	16	9	25	100.0

Table 5: Pattern of papulosquamous disorders

Papulosquamous disorders	Male	Female	Total	Percentage
Psoriasis	2	7	9	64.28
Juvenile Pityriasis Rubra Pilaris	0	3	3	21.42
Pityriasis Rosea	0	2	2	14.28
Lichen planus	0	1	1	7.14
Total	2	12	14	100.0



Fig.1: Impetigo



Fig. 3: Atopic Dermatitis



Fig. 2: Molluscum Contagiosum



Fig. 4: Congenital Melanocytic Naevus



Fig. 5: Congenital Hemangioma

Discussion

Skin diseases are major health problem in the pediatric age. Skin infections are common in children as they are exposed to various subclinical infectious cases by intermingling with each other.⁽²⁾ Immature immune system renders children more susceptible to cutaneous infections and infestations.⁽³⁾ Overcrowding, malnutrition and poor hygiene are inherent, inevitable in a developing country like India.⁽²⁾ Measurement of impact of pediatric dermatoses is an important component and is required to aid for clinical research and for allocation of more resources for care of the children.

The present study included 160 children upto 15 years of age in rural and urban areas with various dermatoses in both sex attending outpatient department of skin at tertiary care centre. In our study the analysis of age distribution showed that maximum number of cases were in the age group of 7-9 years. Male patients outnumbered female patients with male: female ratio of 1.13:1. Male preponderance was observed in some other studies.⁽⁴⁻⁷⁾ Few studies in literature have shown female preponderance.^(8,9) This may be due to gender bias in our society whereby parents are more concerned about male children. Rural to urban ratio was 1.8:1. Thus cases coming from rural area were more than urban area due to poor health, hygiene, overcrowding and social backwardness.

In our study most prevalent dermatoses belonged to infections and infestations group (78;48.8%) followed by eczema (25;15.6%), papulosquamous disorders (14;8.8%) and pigmentary disorders (11;6.9%). Several other studies has also been reported similar results.^(8,9) However, in a study by Nanda et al and Patel et al showed that eczematous dermatoses was the predominant variety.^(10,11)

Of infective dermatoses, bacterial infections (16.25%) were the most common, followed by parasitic (11.87%), fungal (11.25%) and viral infections (9.37%). Similar results has been observed by Karthikeyan et al⁽¹³⁾ and Sharma et al.⁽¹⁴⁾ Fungal infections to be more common in study of Sayal et al.⁽¹⁵⁾ Viral infections were most common in a study by Wenk and Itin et al⁽¹⁶⁾ and Gul et al.⁽¹⁷⁾ The distribution of infective dermatoses depends on type of population studied, environmental factors, hygiene and nutritional status.

Impetigo was the commonest (46.15%) entity among bacterial infections, followed by secondary pyoderma (30.77%) in our study. Balai M et al,⁽¹⁸⁾ Shrestha S et al,⁽¹⁹⁾ Muhammad J et al⁽²⁰⁾ and Mou MM C et al⁽²¹⁾ also found impetigo to be most common bacterial infection.

Of parasitic infestations group, scabies (10.62%) was the predominant type. Manisha B et al,⁽¹⁸⁾ Gunjana G et al,⁽²²⁾ Shah BG et al⁽²³⁾ and Nageswaramma S et al⁽²⁴⁾ also found scabies as most common infestation. This may be attributed to poor hygiene, overcrowding, lack of education and environmental factors.

Out of 160 children, fungal infections were observed in 11.25%. Among fungal infections tinea capitis (50%) was most prevalent skin disorders. Manisha B et al,⁽¹⁸⁾ Sugat A Jawade et al⁽²⁵⁾ and Muhammad J et al⁽²⁰⁾ also found tinea capitis to be most common fungal infection. However, candidal intertrigo was the most common infection (39.4%) in a study by Sharma et al.⁽¹⁴⁾

Viral infections were present in 9.37% children in our study. Hayden et al⁽²⁶⁾ and Anand et al⁽²⁷⁾ reported similar incidence in their studies. Molluscum contagiosum (53.33%) was the most common viral infection. Manisha B et al⁽¹⁸⁾ and Shah B G et al⁽²³⁾ also found molluscum contagiosum as the commonest viral infection.

The second most common pediatric dermatoses in present study was eczema and dermatitis group constituting 15.6% of cases. Atopic dermatitis was most prevalent among eczemas 32%. Rao et al⁽²⁴⁾ and Manisha B et al⁽¹⁸⁾ also had atopic dermatitis as most common eczematous disorder.

However, infantile seborrhoeic dermatitis (10.49%) more common in study of Sardana et al.⁽²⁸⁾

Among papulosquamous disorders (8.8%) the prevalence of psoriasis was 64.28% as similarly observed by Sacchidanand et al⁽¹⁰⁾ and Karthikeyan et al.⁽¹³⁾

Among pigmentary disorder (8.8%), vitiligo (90.91%) was more prevalent in girls than boys and this resemble with the study of Valia et al. One female case of lichen planus pigmentosus was also detected apart from vitiligo.

The prevalence of dermatoses also depends upon seasonal and climatic variations. In our study scabies, atopic dermatitis were noted predominantly in winters, while impetigo and miliaria during summer seasons. However Dhar et al⁽²⁹⁾ documented atopic dermatitis aggravation during winters.

Conclusion

Pediatric dermatoses are common all over the world, which are responsible for significant morbidity in children. Poverty, overcrowding, undernutrition, poor hygiene and lack of health education are responsible for high prevalence of infections and infestations. Pediatric dermatoses require a separate view in management as the clinical presentations differs from adult dermatoses. This study might help to know the changing trends of pediatric dermatoses.

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