

Original Article***Pattern of paediatric dermatoses among patients attending Dermatology out patient department in Jahurul Islam Medical College, Bhagalpur, Bajitpur, Bangladesh.***

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Abstract

Background: *Skin diseases in the paediatric population are common worldwide and their incidence appears to be increasing with more than one third of all dermatology outpatient attendees being children, however there is lack of studies on pattern of paediatric dermatoses in different regions of the country.*

Aims: *The main aim of the present study was to determine the various clinical pattern of dermatoses among children attending dermatology outpatient department, Jahurul Islam Medical college hospital, a rural based tertiary care teaching hospital, Bhagalpur, Bajitpur, Bangladesh.*

Methods and Materials: *This was a retrospective study where data of all the newly diagnosed, untreated male and female patients of paediatric age group (<1 to 18 years of age) attending dermatology OPD from January 2020 to December 2020 were evaluated to study the various pattern of paediatric dermatoses. A total of 7,479 patients of paediatric age group were included in this study and diagnosis was made on history, physical examination and relevant investigations.*

Results: *The prevalence of paediatric dermatoses in our OPD was (43.27%). Incidence of paediatric dermatoses was found in 3,255 males (43.52%) and in 4,224 females (56.48%). Male to female ratio was 1:1.30; and the majority of patients were in adolescent age group 2,826 cases (37.78%). Present study showed infections and infestations (26.07%) were the commonest dermatoses. This was followed by other non-infective dermatoses like Dermatitis (18.88%), Acne (13.49%), Papulosquamous disorder (8.81%), Hair disorder (7.50%), pigmentary disorder (5.61%), Haemangioma (0.52%), Genetic disorder (0.05%) and others (19.07%).*

Conclusion: *Skin infections are still the main cause of dermatological consultation in children in our OPD. Further studies should be conducted including both rural and urban paediatric population to know the differences in clinical pattern of various dermatoses in different regions of the country.*

Keywords: *Paediatric dermatoses, Children, Infections.*

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Introduction

Skin diseases constitute a major health problem in the paediatric age group and are associated with significant morbidity¹. The incidence of paediatric dermatoses appears to be increasing but adequate attention is not being paid to it as compared to systemic disorders in children. There are wide variations in the pattern and presentation of dermatoses in children with eczemas being common in developed countries and infections and infestations in developing countries². In our country poor sanitation, overcrowding, poverty, poor personal hygiene, socio-economic status, literacy, health awareness, access to health care are major attributes³. 30% of all out patient visit to a paediatrician includes skin diseases and 30% of all visits to a dermatologist involve children⁴. Paediatric dermatoses can be transitory or chronic and recurrent and a significant portion of the disorders is of genetic origin and associated with psychological impact and significant morbidity⁵. There is a paucity of large scale studies, studying the clinical spectrum of paediatric dermatoses in our country. We undertook this study with an intention to know the various pattern of paediatric dermatoses among children attending dermatology outpatient department Jahurul Islam Medical college hospital, a rural based tertiary care teaching hospital, in Bhagalpur, Bajitpur, Bangladesh.

Methods and Materials

This study was conducted in the Department of Dermatology, Jahurul Islam Medical college hospital, a rural based tertiary care teaching hospital, Bhagalpur, Bajitpur, Bangladesh between the periods of January 2020 to December 2020. In this retrospective study data of a total of 7479 patients of paediatric age group were recorded from dermatology outpatient register with following inclusion and exclusion criteria.

Inclusion criteria:

All newly diagnosed, untreated male and female Paediatric patients (from neonates to adolescents up to 18 years of age) attending dermatology OPD for a one year span from January 2020 to December 2020.

Exclusion criteria:

Exclusion criteria were previously diagnosed and treated cases; patients with more than one diagnosis; patients in whom definite diagnosis can't be achieved.

Patients were grouped according to age:

1. Infant: birth to < 1 year of age.
2. Preschool: 1- <6 years of age.
3. School age: 6 years - <13 yrs.
4. Adolescent: 13 years – 18 yrs.

Diagnosis was made on the basis of detailed history and clinical examination. Investigation such as KOH examination, gram's stain smear, culture, Tzanck test, wood's lamp examination, skin biopsy and others were carried out as and when required. Ethical clearance was taken from ethical committee of the institute. Results were tabulated and analyzed.

Results

During the study period of one year , 17285 new cases attended in our OPD of which 7479 belonged to paediatric age group. Thus the prevalence of paediatric dermatoses in our OPD was 43.27%. Out of 7479 paediatric cases male comprised 3255 cases (43.52%), and female 4224 cases (56.48%). Male to female ratio was 1:1.30.

Table-1 shows age and sex distribution of paediatric dermatoses. In this present study 1687 cases (22.55%) belonged to the age group < 1 yr. 1438 cases (19.22%) belonged to the age group 1- <6 yrs. 1528 cases (20.43%) belonged to the age group 6- <13 yrs. 2826 cases (37.78%) belonged to the age group 13- 18 yrs.

Table-2 shows various dermatoses encountered in paediatric population. Most common type of dermatoses found in our study were infections and infestations constituting 1949 cases (26.07%), followed by dermatitis 1412 cases (18.88%), Acne 1009 cases (13.49%), Papulosquamous disorders 659 cases (8.81%), Hair disorders 561 cases (7.50%), Pigmentary disorders 420 cases (5.61%), Haemangioma 39 cases (0.52%) and only 4 cases (0.05%) of Genetic disorders. Other dermatoses encountered in our OPD were 1426 cases (19.07%).

Table -3 shows various infections and infestations encountered in our study. Fungal infections (13.04%) and scabies (8.45%) were the common infections and infestations respectively, followed by bacterial infections (2.55%) and viral infections (1.33%). Among fungal infections dermatophyte infection (6.74%) was the most common.

Table-4 Displays various non infective dermatoses in our study and among them dermatitis constituted

(18.88%), of which atopic dermatitis (6.20%) was the most common. Vitiligo (4.94%), and psoriasis (3.18%) were the common pigmentary and papulosquamous disorders respectively. Hair disorders constituted (7.50%) and among them Alopecia areata (5.68%). Other dermatoses encountered in our study were urticaria (11.89%), keratoderma (2.43%), pityriasis alba (2.23%), miliaria (1.15%) and few other dermatoses of smaller percentage.

Table-1: Age and Sex distribution of Children

Age in years	Male	Female	Total
< 1	629 (8.41%)	1,058 (14.15 %)	1,687 (22.56 %)
1- <6	687 (9.19 %)	751 (10.04%)	1,438 (19.23 %)
6- <13	641 (8.57%)	887 (11.86 %)	1,528 (20.43%)
13-18	1,298 (17.35%)	1,528 (20.43%)	2,826 (37.78%)
Total	3,255 (43.52%)	4,224 (56.48%)	7,479 (100%)

Table-2: Distribution of various Dermatitis

Types of Dermatitis	No of C ases	Male	Female
Infections and infestations	1,949 (26.07 %)	971 (12.98%)	978 (13.08 %)
Dermatitis	1,412 (18.88 %)	637 (8.52 %)	775 (10.36%)
Acne	1,009 (13.49%)	299 (4.00 %)	710 (9.49%)
Papulosquamous disorder	659 (8.81%)	293 (3.92 %)	366 (4.89%)
Hair disorder	561 (7.50%)	165 (2.2 0%)	396 (5.30 %)
Pigmentary disorder	420 (5.61 %)	194 (2.59%)	226 (3.02%)
Hemangioma	39 (0.52%)	23 (0.3 1%)	16 (0.21%)
Genetic disorder	4 (0.05 %)	3 (0.04 %)	1 (0.01 %)
Others	1,426 (19.07 %)	670 (8.96 %)	756 (10.11 %)
Total	7,479 (100%)	3,255 (43.52%)	4,224 (56.48 %)

Table-3: Pattern of Infections and infestations

Patterns of Infection & Infestations	No of Cases	Male	Female
Fungal Infections			
Dermatophyte Infection	504(6.74%)	230(3.08%)	274(3.66%)
Pityriasis Versicolor	328(4.39%)	201(2.69%)	127(1.70%)
Candidiasis	143(1.91%)	61(0.81%)	82(1.10%)
Total	975(13.04%)	492(6.58%)	483(6.46%)
Bacterial Infections			
Impetigo	128(1.71%)	71(0.94%)	57(0.76%)
Folliculitis	41(0.54%)	28(0.37%)	13(0.17%)
Pitted keratolysis	16(0.21%)	13(0.17%)	3(0.04%)
Furunculosis	6(0.08%)	2(0.026%)	4(0.05%)
Total	191(2.55%)	114(1.52%)	77(1.03%)
Infestations			
Scabies	632(8.45%)	306(4.09%)	326(4.36 %)
Pediculosis	52(0.70 %)	0(0%)	52(0.70 %)
Total	684(9.15 %)	306(4.09%)	378(5.06 %)
Viral Infections			
Warts	49(0.66 %)	32(0.43 %)	17(0.23 %)
Molluscum Contagiosum	32(0.43 %)	14(0.19 %)	18(0.24%)
Herpes Zoster	11(0.15 %)	9(0.12%)	2(0.03 %)
Chicken Pox	7(0.09%)	4(0.05 %)	3(0.04 %)
Total	99(1.33 %)	59(0.79 %)	40(0.54 %)

Table-4: Distribution of Eczemas, Pigmentary disorders, Papulosquamous disorders, Hair disorders & others.

Eczemas	Total	Male	Female
Atopic Dermatitis	464(6.20%)	244(3.26%)	220(2.94%)
Pompholyx	371(4.96%)	146(1.95%)	225(3.01 %)
Seborrheic dermatitis	272(3.64 %)	120(1.61 %)	152(2.03%)
Contact Dermatitis	249(3.33 %)	107(1.43%)	142(1.90 %)
Nonspecific Dermatitis	56(0.75 %)	20(0.27 %)	36(0.48%)
Total	1,412(18.88%)	637(8.52 %)	775(10.36%)
Pigmentary Disorder			
Vitiligo	370(4.95 %)	190(2.54%)	180(2.41 %)
Freckles	50(0.66%)	4(0.05 %)	46(0.61%)
Total	420(5.61%)	194(2.59%)	226(3.02%)
Papulosquamous disorders			
Psoriasis	238(3.18%)	114(1.52%)	124(1.66 %)
Ptyriasis Rosea	226(3.02%)	106(1.42%)	120(1.60%)
Lichen planus	195(2.61%)	85(1.14%)	110(1.47%)
Total	659(8.81%)	305 (4.08 %)	354(4.73 %)
Hair disorders			
Alopecia areata	425(5.68%)	110(1.47%)	315(4.21%)
Androgenic alopecia	45(0.6%)	25(0.33%)	20(0.27%)
Trichotilomania	91(1.22%)	30(0.40%)	61(0.82%)
Total	561(7.50%)	165(2.20%)	396(5.30%)
Other disorders			
Urticaria	889(11.89 %)	412(5.51%)	477(6.38 %)
Keratoderma	182(2.43%)	86(1.15 %)	96(1.28%)
Ptyriasis Alba	167(2.23%)	75(1.00%)	92(1.23 %)
Miliaria	86(1.15 %)	43(0.57%)	43(0.57%)
Keratosis Pilaris	43(0.58 %)	23(0.31 %)	20(0.27 %)
Apthous Ulcer	27(0.36%)	12(0.16 %)	15(0.20 %)
Naevus	19(0.25%)	9(0.12%)	10(0.13 %)
Drug Reaction	13(0.17 %)	10(0.13%)	3(0.04 %)
Total	1,426(19.07 %)	670(8.96 %)	756(10.11 %)

Discussion

The prevalence of paediatric dermatoses in our OPD was 43.27%. WHO reported an overall prevalence of skin diseases among children ranging from 21%-87%⁶. In India the prevalence of skin diseases among children ranges from 8%-35% in school based surveys^{5, 7, 8}. Incidence of paediatric dermatoses was found to be in males (43.52%) and in females (56.48%) with a male to female ratio 1:1.30. Females outnumbered males in our study, similar observation was found in many other studies^{9,11} but on the contrary some study have shown male preponderance². Majority of patients in our study were in adolescent age group, similar observation was reported by Reddy et al and sharma et al in their studies respectively^{9,2}. Infections and infestations were the common dermatoses observed in our study constituting (26.07%). Sacchidanand et al¹⁰ and Bisht et al¹³ observed infections and infestations to be 32.47% and 36.46% respectively, comparable to our study, but Negi et al, Sharma and Mendiratta, Bhatia & Ghosh et al have found infections and infestations ranging from 35.6%-85%¹⁴⁻¹⁷. In all these studies whether institution based or community based, the infection and infestations were the main group of dermatoses. The higher frequency of infections and infestations in our study could possibly be due to large rural population of low socioeconomic strata attending our hospital. Among infections, fungal infection 975 cases (13.04%), followed by bacterial 191 cases (2.55%) and viral infection 99 cases (1.32%). Among fungal infections, dermatophyte infection 504 cases (6.73%) was the most common. Roy s et al¹⁸ have observed fungal infection in 12.35% cases with dermatophyte infection in 8.39%, comparable to our findings. The incidence of scabies in our study was 632 cases (8.95%). In other studies the incidence of scabies has varied from 5.1%-22.4%^[14, 16]. The incidence of pediculosis capitis in our study was low, 52 cases (0.69%), similar frequency 0.69% was seen by Medasani V¹. It was exclusively seen in females in our study. We recorded in our study 1412 cases (18.88%) of dermatitis of which, atopic dermatitis (6.20%) was the most common. Roy s et al¹⁸ in Uttarkand, India have found dermatitis in 16.9% cases with atopic dermatitis in 6.42%, comparable to our study, but studies in developed world reported incidence of atopic dermatitis ranging from 3.1%-28%¹⁹. Acne vulgaris constituted 1009 cases (13.49%), comparable to 8.06% seen by Medasani V^[1] in puducherry India, but lower frequency

3.5% was found by Roy s et al^[18] in Uttarkand India. Higher frequency in our study could be due to the fact that majority of patients in our study were in adolescent age group. Papulosquamous disorder constituted 8.81% and among them childhood psoriasis was 3.18%. Sacchidanand et al¹⁰ have found papulosquamous disorder in 6.08%. Pigmentary disorder found in our study was 5.61% with vitiligo in 4.94% and freckles in 0.66% cases respectively, but higher frequency of pigmentary disorder 9.7% with vitiligo in 6.7% and freckles in 2.96% cases was observed by Roy s et al¹⁸ in Uttarkand, India. Hair disorder in our study constituted 7.50% but lower frequency (4% and 3.2% respectively) was seen by Roy S et al and Yaseen U^{18,8}. Higher frequency noted, could be due to the larger number of patients included in our study. Interestingly we also come across 39 cases (0.52%) of haemangioma, a benign skin tumour in our study comparable to 37 cases (0.5%) recorded by Ayanlowo O et al¹¹ in Lagos Nigeria. We also recorded 4 cases (0.053%) of genetic disorder, two of which was xeroderma pigmentosa and two was epidermolysis bullosa, whereas Roy S et al and Medasani V reported genetic disorder 0.19% and 0.46% respectively^{18, 1}, comparable to our finding. Others dermatoses encountered in our study were urticaria in 11.89%, comparable to 10.2% seen by Ayanlowo O¹¹ in Lagos, Nigeria. We also recorded fair number of cases of Keratoderma (2.43%), Pityriasis alba (2.23%), and Miliaria (1.14%) in other dermatoses respectively in our study.

Conclusion

The pattern of paediatric dermatoses is very much influenced by climate, external environment, dietary habits, overcrowding, personal hygiene and socioeconomic status of a country. The present study highlights the pattern of paediatric dermatoses with infections and infestations are still very common among children attending OPD of dermatology, Jahurul Islam Medical College hospital, Bhagalpur, Bajitpur, a rural based tertiary care teaching hospital. The incidence of skin infections can be reduced by raising awareness about sanitation, nutrition and personal hygiene. Further large scale studies are required in different regions of the country, including both rural and urban paediatric population to evaluate the actual magnitude of skin disorder in paediatric age group and effective measure can be taken to curtail it.

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