



Original Research Article

Study of Pattern of Pediatric Dermatoses in a Tertiary Care Centre In Jammu Division of Jammu and Kashmir

Suhail Raheem Rather¹, Devraj Dogra², Vipin Gupta³

¹Post Graduate, ²Professor and Head, ³Professor,
Department of Dermatology, Venereology and Leprology G.M.C. Jammu, J&K, India.

Corresponding Author: Suhail Raheem Rather

Received: 28/02/2015

Revised: 04/04/2015

Accepted: 11/04/2015

ABSTRACT

Background: There are nearly half a billion children in this country as children up to 19 years of age consist of more than 40% of population in India. Children are world's most important resource, but most vulnerable and disadvantaged in society. Skin diseases are one of the major health problems in children and are associated with significant morbidity. There is definite variation in pattern of dermatoses in different age groups and seasons, knowledge about this variation will help in proper clinical diagnosis of different dermatoses.

Objectives: To study the pattern of pediatric dermatoses in a tertiary care centre in Jammu division of Jammu and Kashmir.

Materials and Methods: This study was carried out in the Department of Dermatology, Venereology and Leprology, G.M.C. Jammu. All children below 19 years of age were included in the study. The diagnosis was made after taking detailed history, cutaneous and systemic examination, and appropriate investigations. The dermatoses were divided into different groups and their frequency with respect to age and season was noted. Chi-square test was used to find out significance of any apparent association.

Results: The total of 1000 children with 1020 dermatoses was seen during the study period. Among these children, 20 had more than one dermatoses. Male female ratio was 1.63: 1. The majority of dermatoses belonged to infections and infestations group (43.73%) followed by dermatitis and eczema group (21.67%). Acne Vulgaris (29.82%) was single most common dermatoses in adolescents unlike other age groups. In age group 6-12 years dermatophytoses was the commonest infection while in age groups 3-6 years and 1-3 years popular urticaria was commonest dermatoses in infections and infestation group. Dermatoses like scabies, atopic dermatitis, seborrheic dermatitis and perniosis were common in winters; popular urticaria and tinea versicolor were common in summer and rainy season; and miliaria and urticaria in summer.

Key Words: pediatric dermatoses, age, season.

INTRODUCTION

There are nearly half a billion children in this country as children up to 19 years of age consist of more than 40% of population in India. Children are world's most important resource, but most vulnerable and disadvantaged in society. Skin diseases are one of the major health problems in children and are associated with significant morbidity. ^[1] At least 30% of all out-patient visits to a dermatologist constitute children. The prevalence of skin diseases amongst children in various parts of India has ranged from 8.7% to 35% in school based surveys. ^[2] Skin disorders in children vary from common dermatoses, like pityriasis alba to severe debilitating disorders, like epidermolysis bullosa; from benign disorders, like lichen striatus to life threatening disorders, like staphylococcal scalded skin syndrome. The chronic diseases, as atopic dermatitis, are associated with significant morbidity in children and psychological impact on children and their parents. ^[3] The diversity of skin disorders both in terms of presentation and outcome makes this study highly relevant for training of health professionals.

MATERIALS AND METHODS

This study was carried out in the Department of Dermatology, Venereology and Leprology, G.M.C. Jammu. All children below 19 years of age attending the dermatology out-patient department and referred from other departments from November 2012 to November 2013 were included in the study. The diagnosis was made after taking detailed history, cutaneous and systemic examination. Appropriate investigations as KOH examination, Tzanck smear, Gram's stained smear, haematological and biochemical investigations, VDRL test and Skin biopsy were done wherever indicated. The

dermatoses were divided into different groups and their frequency with respect to age and season was noted. The data was presented as percentages and proportions and displayed with the help of appropriate tabular presentations. Chi-square test was used to find out significance of any apparent association.

RESULTS

The total of 1000 children with 1020 dermatoses was seen during the study period. Among these children, 20 had more than one dermatoses. Male female ratio of 1.63: 1. The majority of dermatoses (Table 1) belonged to infections and infestations group (43.73%) followed by dermatitis and eczema group (21.67%) and acne vulgaris (15.1%). Of the infective dermatoses fungal infections (14.9%) were the most common, followed by viral (10%) and bacterial infections (7.06%). Among the fungal infections dermatophytoses was most common, followed by tinea versicolor. Folliculitis/ furunculosis was most common bacterial infection, followed by impetigo (1.96%) and secondary pyoderma (1.47%). Commonest viral infection was warts (3.62%), followed by molluscum contagiosum (2.55%). In diseases caused by arthropods, popular urticaria (5.20%) was most common dermatoses, followed by scabies (4.90%). Rare dermatoses like cutaneous leishmaniasis and Hand Foot and Mouth disease were also encountered. 9 cases of cutaneous leishmaniasis were diagnosed during study period, all belonging to Doda-Kishtwar belt of Jammu region along with 10 cases of Hand Foot and Mouth disease (included in viral exanthems). Other dermatoses in the descending order of frequency were pigmentary disorders (4.02%), in which vitiligo (2.45%) was the commonest disorder; followed by pityriasis capitis.

TABLE 1: Distribution of cutaneous changes as per age groups in 1000 paediatric patients (1020 dermatoses).

	1-3 yrs	3-6 yrs	6-12 yrs	12-19 yrs	total
Infections and infestations	52(49.06%)	72(50.70%)	129(49.81%)	193(37.62%)	446(43.73%)
Bacterial infections	10 (9.43%)	13(9.15%)	30(11.58%)	19(3.7%)	72 (7.06%)
Sec. pyoderma	1(0.94%)	3(2.11%)	7(2.7%)	4(0.78%)	15 (1.47%)
Folliculitis/furunculosis	4(3.77%)	4(2.82%)	13(5.02%)	13(2.53%)	34 (3.33%)
impetigo	5(4.72%)	6(5.66%)	8(3.09%)	1(0.19%)	20 (1.96%)
scrofuloderma	-	-	1(0.39%)	-	1 (0.1%)
eryseplas	-	-	1(0.39%)	-	1 (0.1%)
paronychia	-	-	-	1(0.19%)	1 (0.1%)
Diseases caused by arthropods	24(22.64%)	25(17.6%)	25(9.65%)	46(8.97%)	120 (11.76%)
scabies	6(5.66%)	4(2.82%)	11(4.23%)	29(5.65%)	50 (4.9%)
Papularurticaria	13(12.26%)	17(11.97%)	8(3.09%)	12(2.34%)	53 (5.2%)
Cut. leishmaniasis	-	1(0.7%)	6(2.32%)	2(0.39%)	9 (0.88%)
Paederus dermatitis	5(4.72%)	-	-	3(0.58%)	8 (0.78%)
Fungal infections	7(6.6%)	9(6.34%)	41(15.83%)	95(18.52%)	152 (14.9%)
Tinea # (dermatophytosis)	2 (2.83%)	1 (2.82%)	2 (10.04%)	9 (9.55%)	44 (8.04%)
candidiasis	4(3.77%)	-	1(0.39%)	1(0.19%)	60 (5.88%)
Tinea versicolor	-	5(3.52%)	14(5.41%)	41(7.99%)	6 (0.59%)
onychomycosis	-	-	-	4(0.78%)	4 (0.39%)
Viral infections	11(10.38%)	25(17.6%)	33(12.74%)	33(6.43%)	102 (10%)
Molluscum contagiosum	6(5.66%)	9(6.34%)	10(3.86%)	1(0.19%)	37 (3.62%)
warts	-	3(2.11%)	16(6.18%)	18(3.51%)	26 (2.55%)
Herpes simplex	1(0.94%)	-	3(1.16%)	5(0.97%)	13 (1.27%)
VZV infection	3(2.83%)	-	2(0.77%)	8(1.56%)	9 (0.88%)
exanthems	1(0.94%)	13(9.15%)	2(0.77%)	1(0.19%)	17 (1.67%)
Dermatitis and eczema	36(33.96%)	39(27.46%)	59(22.78%)	87(16.96%)	221 (21.67%)
Seborrheic dermatitis	23(21.7%)	11(7.75%)	15(5.79%)	25(4.87%)	74 (7.25%)
Contact dermatitis	12(11.32%)	7(4.93%)	20(7.72%)	22(4.29%)	61 (5.98%)
psoriasis	-	-	2(0.77%)	9(1.75%)	11 (1.08%)
Lichen planus	-	-	1(0.39%)	3(0.58%)	4 (0.39%)
Pityriasis alba	1(0.94%)	9(9.15%)	10(3.86%)	8(1.56%)	28 (2.74%)
Atopic dermatitis	-	7(4.93%)	3(1.16%)	1(0.19%)	11 (1.08%)
PLE	-	2(1.41%)	4(1.54%)	12(2.34%)	18 (1.76%)
Lichen nitidus	-	2(1.41%)	3(1.16%)	6(1.17%)	11 (1.08%)
PRP	-	1(0.1%)	-	-	1 (0.1%)
Pigmentary disorders	1(0.9%)	4(2.81%)	22(8.49%)	14(2.73%)	41 (4.02%)
Disorder of hair and nails	-	2(1.4%)	9(3.47%)	9(1.75%)	20 (1.96%)
Vascular stains/ malformations/ hamartomas(naevoid)	2(1.89%)	2(1.4%)	3(1.16%)	8(1.56%)	15 (1.47%)
Miliaria	2(1.89%)	4(2.81%)	6(2.32%)	6(1.67%)	18 (1.76%)
urticaria	1(0.9%)	4(2.81%)	3(1.16%)	7(1.36%)	15 (1.47%)
Genetic disorders	-	-	-	3(0.58%)	3 (0.29%)
Collagen vascular disorders	-	1(0.7%)	1(0.37%)	1(0.19%)	3 (0.29%)
Drug reactions	2(1.89%)	-	1(0.37%)	1(0.19%)	4 (0.39%)
Pityriasis rosea	1(0.9%)	-	2(0.77%)	8(1.56%)	11 (1.08%)
vasculitis	-	2(1.4%)	2(0.77%)	-	4 (0.39%)
Skin tumors	4(3.77%)	2(1.4%)	2(0.77%)	5(0.97%)	13 (1.27%)
Acne vulgaris	-	-	1(0.37%)	153(29.82%)	154 (15.1%)
others	5(4.72%)	10(7.04%)	19(7.34%)	18(3.51%)	52 (5.1%)
total	106(10.39%)	142(13.92%)	259(25.39%)	513(50.29%)	1020(100%)

right box represent number of tineacapitis, left other dermatophyte infections.

(2.65%), disorders of hair and nail (1.96%), miliaria (1.76%), urticaria (1.47%), pityriasis rosea (1.08%), other dermatoses (7.94%).

Age and Dermatoses (Table 1): Out of the 1000 patients, 503 (50.30%) of the patients belonged to the 12-19 years of age followed by 255 (25.50%) in the 6-12 years age group, 139 (13.90%) in 3-6 years age group and 103 (10.30%) patients in 1-3 years age group. Acne Vulgaris (29.82%) was a single

most common dermatoses in adolescents (12-19 years group).pityriasisversicolor was most common infection (7.99%) and seborrheic dermatitis (4.87%) was most common in Dermatitis and eczema group. In 6-12years age group Infections and infestations (49.81%) were most common

common, in which dermatophytoses (9.55%) was commonest infection, followed by dermatitis and eczema (22.78%) and pigmentary disorders (8.49%) (vitiligo and freckles). In 3-6years age group again infections and infestations (50.7%) formed the major group, but here popular urticaria (11.97%) was the commonest dermatoses followed by viral exanthems (9.15%) and molluscum contagiosum (6.34%). All cases of HFMD were reported in this age group and in winter season. Last group of 1-3years

age group infections and infestations formed the major group, again papularurticaria was commonest dermatoses in this group. Seborrhoeic dermatoses showed dual peaks and was major dermatoses in dermatitis and eczema group in 1-3 years and 12-19 years age group. We also observed change in pattern of dermatophytosis with increase in age. Tinea capitis was commonest dermatophytoses up to 12 years of age, while other dermatophyte infections were common in adolescents

TABLE 2: Seasonal variation observed in Infections and Infestations group.

Dermatoses	Winter	Summer	Rainy	χ^2	P-value
Total dermatoses	329	360	331		
Infections and infestations	133	162	152	0.396	0.820
Bacterial infections	16	33	23	6.083	0.047*
secondary pyodermas	3	9	3	4.8	0.09
folliculitis/ furunculosis	7	11	16	3.589	0.166
Impetigo	5	12	3	6.707	0.034*
scrofuloderma	-	-	1	0.263	0.876
eryseplas	-	1	-	0.263	0.876
paronychia	1	-	-	0.263	0.876
Diseases caused by arthropods	34	41	45	5.292	0.070
scabies	25	11	14	6.523	0.038*
papularurticaria	5	23	25	13.741	0.001*
cutaneous leishmaniasis	3	1	5	2.667	0.263
paederus dermatitis	1	6	1	7.185	0.027*
Fungal infections	42	59	52	0.495	0.780
Tinea (dermatophytosis)	28	32	22	1.47	0.479
tineaversicolor	10	24	26	7.6	0.022*
candidiasis	2	3	1	1	0.60
onychomycosis	2	-	2	2.005	0.366
Viral infections	41	29	32	0.99	0.609
warts	9	14	14	1.352	0.508
molluscumcontagiosum	8	8	10	0.308	0.857
VZV infection	8	2	3	4.773	0.091
herpes simplex	6	1	2	4.667	0.096
Other viral exanthems	10	4	3	5.065	0.079

*statistically significant (P-value <0.05)

Season and Dermatoses: Total number of cases in winter were 329 (32.25%), in summer 360 (35.29%) and in rainy season 331 (32.45%).

(Table 2) Bacterial infections were more common in summer ($\chi^2 = 6.083$, $P= 0.047$). Impetigo was frequent in summers ($\chi^2 = 6.707$, $P=0.034$). Scabies was frequent in winters ($\chi^2=6.523$, $P=0.038$). Papular urticaria was more common in rainy and

summer seasons ($\chi^2=13.741$, $P=0.001$). Tinea versicolor was common in rainy and summer season ($\chi^2=7.6$, $P=0.022$). 9 of the 10 cases of Hand Foot and mouth disease as mentioned earlier presented in winter.

(Table 3) Seborrhoeic dermatitis was common in winters ($\chi^2= 7.813$, $P=0.020$). PMLE in summer and rainy season ($\chi^2= 9.33$, $P=0.009$). Atopic dermatitis was frequent in winters ($\chi^2= 8.925$, $P=0.011$).

TABLE 3: Seasonal variation in Dermatitis and Eczema group.

Dermatoses	Winter	Summer	Rainy	χ^2	P-value
Total dermatoses	329	360	331		
Dermatitis and eczema	78	71	72	0.365	0.833
Seborrheic dermatitis	36	19	19	7.813	0.020*
Contact dermatitis	14	25	25	3.782	0.150
Pityriasis alba	8	10	10	0.286	0.866
PLE	-	8	10	9.33	0.009*
Psoriasis	5	3	3	0.729	0.694
Atopic dermatitis	8	-	3	8.925	0.011*
Lichen nitidus	4	4	3	0.182	0.912
Lichen planus	1	2	1	0.501	0.778
Lichen striatus	2	-	-	1.147	0.563
PRP	-	-	1	0.263	0.876

*statistically significant (P-value <0.05)

TABLE 4: Seasonal variation in other dermatoses.

Dermatoses	Winter	Summer	Rainy	χ^2	P-value
Total dermatoses	329	360	331		
Disorders of hair and nails	10	3	7	3.704	0.156
Acne vulgaris	57	52	45	0.506	0.776
Vascular stains / malformation/hamartomas	9	3	3	4.8	0.090
Miliaria	-	12	6	12	0.002
Urticaria	1	11	3	11.2	0.003
Genetic disorders	-	1	2	2	0.36
Collagen vascular disorders	-	3	-	6	0.04*
Drug reactions	-	2	2	2.005	0.366
Pityriasisrosea	6	3	2	2.368	0.306
Vasculitis	3	1	-	3.509	0.173
Skin tumors	3	6	4	1.078	0.583
Pityriasiscapitis	9	8	10	0.222	0.894
Perniosis	5	-	-	9.998	0.006*
Scar	2	2	1	0.4	0.818
Lichen scrofulosorum	1	1	-	0.166	0.943
Lichen spinulosus	-	-	1	0.263	0.876
Phrynoderma	-	-	1	0.263	0.876
Keratosis pilaris	-	1	1	0.166	0.943
Palmoplantar keratoderma	1	-	-	0.263	0.876
Ichthyosis	-	1	2	2	0.367
Chronic bullous disease of childhood	-	1	-	0.263	0.876
Recurrent focal palmar peeling	-	1	-	0.263	0.876
Steroid rosacea	-	1	1	0.166	0.943

* statistically significant (P-value <0.05)

(Table 4) Miliaria ($\chi^2=12$, P=0.002) and urticaria ($\chi^2=11.2$, P=0.003) were common in summer. All cases of perniosis were seen in winters ($\chi^2=9.998$, P=0.006).

DISCUSSION

The pattern of skin diseases in paediatric age group vary from one country to another and within the same country from one region to another due to various climatic, cultural and socio-economic factors. [4] The pattern of skin diseases in India is influenced by the developing

economy, level of literacy, social backwardness, varied climate, industrialization, access to primary health care, and different religious and cultural factors. [5] Epidemiological data on paediatric dermatoses in a community provides a tool to assess the quality of child health care and build community-based health care strategies. [6] The high male to female ratio in our study is comparable with recent study conducted by Sharma S et al, 2012 [7] and Patel JK et al, 2010. [8] Similarly Adityan et al, 2009 [9] reported

higher frequency in males, with male to female ratio of 1.25:1. Though in other studies dermatoses have been found more common in females. [10,2] Majority of dermatoses were seen in 12-19 years age group.

Infections and infestations were the most common category (43.73%) followed by dermatitis and eczema group (21.67%). This is almost in accordance with the previous studies. Many studies have reported infectious dermatoses as comprising more than one-third of all skin disorders. Karthikeyan K et al, 2004 [2] reported infections and infestations (54.5%) as most common dermatoses followed by dermatitis and eczema (8.6%). Similar observation was made in other studies. [11,12,4] Among infections fungal infections (14.9%) were most common followed by viral (10%) and bacterial infections (7.06%). This is consistent with the study conducted by Sharma S et al, 2012 [7] who reported fungal infections (6.9%) as the commonest infection, followed by bacterial and viral infections. Similar observations were made by Marrone et al, 2012 [13] and Komba EV et al, 2010 [14] where fungal infections were commonest infection. In most of the other studies, including one conducted in rural Pakistan by Porter MJ, 1984, [15] bacterial infections were the most common. Hot climatic conditions in our region may be reason for increased prevalence of fungal infections in our study.

Among fungal infections dermatophytosis (8.04%) was most common, followed by tineaversicolor (5.88%), which is in agreement with earlier studies conducted by Komba EV et al, 2010 [14] and Sharma S et al, 2012. [7] Commonest bacterial infection was folliculitis/furunculosis (3.33%) followed by impetigo (1.96%) and secondary pyoderma (1.47%). Commonest viral infection was warts (3.62%) followed by

molluscumcontagiosum (2.55%), which is consistent with observations made by Patel JK et al, 2010. [8] There is a wide variation in relative prevalence of different viral infections in different studies. In diseases caused by arthropods, papularurticaria (5.20%) was most common, followed by scabies (4.90%). The high frequency of papularurticaria in our study may be because of the hot climatic conditions combined with scant clothing that exposes children to insect bites as observed by Sardana et al, 2009. [12] In our study papularurticaria was most common in 3-6 years age group. Papularurticaria usually occurs in 2 to 10 years old children. Sensitization takes time; hence it is not seen in newborns. Higher prevalence in children may result from immune mechanisms and/or behaviours predisposing them to contact with insects. Most children outgrow the disease probably due to desensitization by repeated exposures. Papularurticaria results from hypersensitivity reaction to bites of mosquitoes, fleas, bed bugs, midges, biting flies, and other arthropods (mites and ticks). [16] The incidence of Scabies is comparable with the incidence rate found in other studies that ranges from 5.1% to 22.4% in different studies. [8]

The most common single dermatoses in adolescents (12-19 yrs) was acne vulgaris (29.82%). Gul U et al, 2008 [17] and Tamer E et al, 2008 [18] also reported the acne vulgaris (25.1%) as the most common dermatoses in adolescents. Acne vulgaris is believed to be the most common disease of the skin. The condition usually starts in adolescence, peaks at the age of 14 to 19 years and frequently resolves by mid-twenties. [9] Tineaversicolor (7.99%) was also common in this age group. The older children are more likely to have pityriasisversicolor as the condition is more common in the post pubertal age where sebaceous glands are active. [14]

In 6-12 years age group infections and infestations (49.81%) were again most common, followed by dermatitis and eczema (22.78%) and pigmentary disorders (8.49%). Gul U et al, 2008 [17] also reported infections (34.3%) as major dermatoses in 5- 11 years age group followed by eczemas (20.1%) and papulo-squamous disorders (9.6%), though pigmentary disorders were less common (2.5%) in their study. Karthikeyan K et al, 2004 [2] in their study in children less than 14 years of age also observed that infections and infestations were most common dermatoses (54.5%), followed by dermatitis and eczema (8.6%) and pigmentary disorders (5.7%).

In 3-6 yrs age group once again infections and infestations (50.7%) formed the major group. But unlike other age groups Papularurticaria (11.97 %) was most common dermatoses in this age group, followed by viral exanthems (9.15%) and molluscumcontagiosum (6.43%). Singh S et al, 2013 [16] have mentioned prevalence of papularurticaria as high as 10.6% in children less than 5 years. The high prevalence of viral exanthems in this age group may be because of cases of HFMD which were reported only in this age group, as mentioned earlier. Sarma N, 2013 [19] has mentioned children below 10 years of age as prime target for HFMD. Molluscumcontagiosum typically occurs in 2-5 years age group. [20]

Last group of 1-3 years old had infections and infestations (49.06%) as commonest group. As in above group papularurticaria (12.26%) was again the commonest dermatosis in infections and infestations group. But unlike in other groups Seborrheic dermatitis (21.7%) was the commonest dermatoses in dermatitis and eczema group. Balai M et al, 2012 [4] also reported infections and infestations (40.60%) to be the commonest dermatoses in children under 5 years of age, followed by

eczematous (34.86%) and hypersensitivity (10.22%) groups. Sardana K et al, 2009 [12] and Banerjee S et al, 2010 [21] also reported seborrheic dermatitis as the commonest dermatoses in dermatitis and eczema group in under 5 children. Sebaceous secretion rates are high in neonates due to placental transfer of maternal androgens. It explains the relatively high incidence of seborrheic dermatitis in infancy and the steady declining trend as the baby grows up. [21] The high incidence of tineacapitis in the younger population may be a result of the low level of fungistatic fatty acids in younger individuals. Large families, sharing of towels, clothing and hair accessories with infected individuals may lead to the spread of superficial fungal infections. [22]

Scabies was common in winters, while tineaversicolor and papularurticaria were common in both rainy and summer season. Bacterial infections, particularly impetigo was common in summer season. Tineacapitis was common in winters and other tinea infections in summer. Similar pattern was observed by Banerjee S et al, 2010 [21] in their study; scabies was more prevalent during winter, while impetigo was more frequent during summer and rainy season. Most cases of scabies occur during the winter. This may be a result of people spending more time indoors and in closer proximity to each other at this time of year. For pityriasisversicolor a history of recurrences during the summer months and/or heavy sweating is typical, as humid environment is considered necessary for the growth of the hyphal form. [23] The high prevalence of papularurticaria in rainy and summer season may be attributed to the biting habits of the insects in this weather. Rainy season is the favourable time for the breeding of the insects. [24] High temperature and humidity of summer and rainy season favours rapid proliferation of pyogenic bacteria, hence high prevalence of bacterial

infections. Sahl WJ et al, 1993 [25] reported high incidence of impetigo in summer, as in our study, poor hygiene and close contact between children in this season was believed to be responsible for this increase.

Seborrhoeic dermatitis and atopic dermatitis were common in winters. Similar pattern was observed by Banerjee S et al, 2010 [21] in their study, where seborrheic dermatitis and atopic dermatitis were more prevalent during winter. Low temperature and low humidity in winter are among many of the presumed etiological factors of seborrheic dermatitis. [26] Dhar S et al, 1998 [27] also reported aggravation of atopic dermatitis during winters. High frequency of atopic dermatitis in winters can be because of aggravation of their eczema in the winters as a result of decreased moisture. [28]

Acne vulgaris did not show any significant seasonal variation in prevalence in our study. Al-Amer AM et al, 2002 [10] showed that acne vulgaris improved during summer and improvement was believed to be because of bactericidal effect of UV light; but in Indian study by Adityan B et al, 2008 [9] it was observed that 23% exacerbated in summer, while 2.9% exacerbated in winter. As expected miliaria was common in summer season and perniois in winter. Urticaria was significantly more common in summer season. The increased incidence during summers can be because of increased exposure to environmental allergens like pollen during summers.

CONCLUSION

In our study more than 40% of patients belonged to infections and infestations group, more than 80% of patients belonged to infections and infestations, dermatitis and eczema group and acne vulgaris. Infections still outnumbered other dermatoses in our study and they are potentially controllable and

preventable. Therefore, the health care strategies that target infections represent the key to an efficient child health care programme. There is definite variation in pattern of dermatoses in different age groups and seasons, knowledge about this variation will help in proper clinical diagnosis of different dermatoses. We have seen a change in trend of paediatric dermatoses with occurrence of rare disorders like cutaneous leishmaniasis in a particular region, and increased number of cases of HFMD. There is obvious need for the diagnostic and therapeutic training for dermatologists, general practitioners and paediatricians in these diseases along with other common disorders.

REFERENCES

1. Ananthkrishnan S, Pani SP, Nalini P. A Comprehensive study of morbidity in school age children. *Indian Pediatr.* 2001 Sep; 38(9): 1009-17
2. Karthikeyan K, Thappa DM, Jeevankumar B. Pattern of pediatric dermatoses in a referral center in South India. *Indian Pediatr.* 2004 Apr; 41(4): 373-7
3. Chamlin SL. The psychosocial burden of childhood atopic dermatitis. *Dermatol Ther.* 2006 Mar-Apr; 19(2): 104-7
4. Balai M, Khare AK, Gupta LK, Mittal A, Kuldeep CM. Pattern of pediatric dermatoses in tertiary care centre of South West Rajasthan. *Indian J Dermatol.* 2012 Jul; 57(4): 275-78
5. Grover S, Ranyal RK, Bedi MK. A Cross Section of Skin Diseases In Rural Allahabad. *Indian J Dermatol.* 2008; 53(4): 179-181
6. El-khateeb EA, Imam AA, Sallam MA. Pattern of skin diseases in

- Cairo, Egypt. *Int J Dermatol.* 2011 Jul; 50(7): 844-53
7. Sharma S, Bassi R, Sodhi MK. Epidemiology of dermatoses in children and adolescents in Punjab, India. *J Pak Med Assoc.* 2012;22(3):224-229.
 8. Patel JK, Vyas AP, Berman B, Vierra M. Incidence of Childhood Dermatitis in India. *SKINmed: dermatology for clinician* 2010 May-June; 8(1): 136-142.
 9. Adityan B, Thappa DM. Profile of acne vulgaris- A hospital-based study from South India. *Indian J DermatolVenereolLepr* 2009; 75:272-8.
 10. Al-Ameer AM, Al-Akloby OM. Demographic features and seasonal variations in patients with acne vulgaris in Saudi Arabia: a hospital-based study. *Int J Dermatol.* 2002 Dec;41 (12):870-1.
 11. Porter MJ, Mack RW, Chaudhary MA. Pediatric skin disease in Pakistan. A study of three Punjab villages. *Int J Dermatol.* 1984 Nov; 23(9):613-6.
 12. Sardana K, Mahajan S, Sarkar R, Mendiratta V, Bushan P, Koranne RV, et al. The spectrum of skin disease among Indian children. *PediatrDermatol.* 2009 Jan-Feb: 26(1):6-13.
 13. Marrone R, Vignally P, Rosso A, Didero D, Pizzini E, Dassoni F, et al. Epidemiology of Skin Disorders in Ethiopian Children and Adolescents: An Analysis of Records from the Italian Dermatological Centre, Mekelle, Tigray, Ethiopia, 2005 to 2009. *PediatrDermatol.* 2012; 29(4): 442-447
 14. Komba EV, Mgonda YM. The spectrum of dermatological disorders among primary school children in Dar es Salaam. *BMC Public Health.* 2010 Dec 16;10:765.
 15. Porter MJ, Mack RW, Chaudhary MA. Pediatric skin disease in Pakistan. A study of three Punjab villages. *Int J Dermatol.* 1984 Nov; 23(9):613-6.
 16. Singh S, Mann BK. Insect bite reactions. *Indian J DermatolVenereolLepr* 2013; 79: 151-64.
 17. Gul U, Cakmak SK, Gonul M, Kilic A, Bilgili S. Pediatric skin disorders encountered in a dermatology outpatient clinic in Turkey. *PediatrDermatol* 2008; 25: 277-278.
 18. Tamer E, Ilhan MN, Polat M, Lenk N, Alli N. Prevalence of skin disease among pediatric patients in Turkey. *J Dermatol* 2008 Jul; 35(7): 413-8
 19. Sarma N. Hand, foot, and mouth disease: Current scenario and Indian perspective. *Indian J DermatolVenereolLepr* 2013; 79:165-75.
 20. Sladden MJ, Johnston GA. Common skin infections in children. *BMJ.* 2004 July 10; 329(7457): 95-9.
 21. Banerjee S, Gangopadhyay DN, Jana S, Mitra C. Seasonal variation of pediatric dermatoses. *Indian J Dermatol.* 2010; 55(1): 44-6
 22. Rahman MH, Hadiuzzaman M, Jaman MK, Bhuiyan MKJ, Islam N, Ansari NP, et al. Prevalence of superficial fungal infections in the rural areas of Bangladesh. *Iran J Dermatol* 2011; 14: 86-91.
 23. Haisley-Royster C. Cutaneous infestations and infections. *Adolesc MedState Art Rev.* 2011; 22(1); 129-45.
 24. Nair BKN, Nair TVG. Diseases caused by arthropods. In: Valia RG, Valia AR, eds. *IADVL Textbook and Atlas of Dermatology.* 2nd ed.

- Mumbai, India: Bhalani, 2001: 323-55
25. Sahl WJ jr, Mathewson RJ. Common facial skin lesions in children. *Quintessence Int* 1993; 24: 475-81
26. Plewig G, Jansen T. Seborrheic dermatitis. In: Freedberg IM, Eisen AZ, Wolff K, Austen KF, Goldsmith LA, Katz SI, eds. *Fitzpatrick's Dermatology in Internal Medicine*. 6thed. New York, USA: Mc Graw Hill; 2003. P. 1198-204
27. Dhar S, Kanwar AJ. Epidemiology and clinical pattern of atopic dermatitis in a North Indian pediatric population. *PediatrDermatol* 1998; 15: 347-51
28. Kanwar AJ, De D. Epidemiology and clinical features of atopic dermatitis in India. *Indian J Dermatol*. 2011; 56(5): 471-5.

How to cite this article: Rather SR, Dogra D, Gupta V. Study of pattern of pediatric dermatoses in a tertiary care centre in Jammu division of Jammu and Kashmir. *Int J Health Sci Res*. 2015; 5(5):124-133.

International Journal of Health Sciences & Research (IJHSR)

Publish your work in this journal

The International Journal of Health Sciences & Research is a multidisciplinary indexed open access double-blind peer-reviewed international journal that publishes original research articles from all areas of health sciences and allied branches. This monthly journal is characterised by rapid publication of reviews, original research and case reports across all the fields of health sciences. The details of journal are available on its official website (www.ijhsr.org).

Submit your manuscript by email: editor.ijhsr@gmail.com OR editor.ijhsr@yahoo.com