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Original Research Article

Seasonal variation of pediatric dermatoses: a retrospective study conducted in tertiary care centre Ujjain

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ABSTRACT

Background: Skin diseases in pediatric age are common health problem with wide variation in the presentation in various regions. Association of seasonal variation in skin disease has been studied for centuries. Environmental factors plays significant role in skin disease. Different climatic factors that may decide the incidence of skin diseases. Cold, warmth, light and humidity play direct or indirect role in occurrence of various dermatosis. Many studies have been done to study pattern of skin disease in pediatric population but only few studies are done for its clinical correlation of seasonal variation. Hence we decided to study seasonal variation in pediatric dermatoses. The objective of the study was to study the seasonal variation, age-wise variation and distribution of common dermatoses in pediatric population in 0-15 years.
Methods: This was a retrospective study done in R.D. Gardi Medical College, Ujjain over a period of one year. A total of 1110 cases of age 0-15 years, who presented in out-patient clinic of dermatology deparment were included in this study. Demographic profile and clinical details were recorded. Data were collected and patient's details were categorized according to four seasons summer, autumn, winter and spring. Microsoft excel was used for data entry and analysis was done using SPSS version 22.
Results: Out of all the subjects recruited, 55.7% were males and 44.3% were females with M:F ratio1.25:1. The maximum numbers of patients were in the age group of 10-15 years (43.3%). Majority of visits were in summer (n=360, 32.43%) followed by winter and spring season. Most common dermatosis seen during summer was bacterial infection (n=93, 8.37%) and during winter was eczema (n=62, 5.58%).
Conclusions: Dermatoses in children are wide spread problem responsible for significant morbidity in them. In the present study there is seasonal variation of dermatological diseases in pediatric age group.

Keywords: Seasonal variation, Age, Pediatric dermatoses

INTRODUCTION

Skin diseases are one of the basic health problem in pediatric age group. Association of skin diseases with various seasons has been studied for centuries.[1] Climatic changes play a little but significant role in many skin disorders. The commonest skin disorders encountered with pediatric age group are infections and infestations, eczema, papulosquamous disorders and miliaria. Climatic factors and environmental hygiene are established predisposing factors to the development of bacterial infections. Fungal infections are widespread in tropical and subtropical countries like India due to relatively high humidity. Pediatric dermatoses contrast from dermatoses in grown-up in clinical presentation, treatment and prognosis thus generating special field of interest. Dermatoses in children are more influenced by climatic exposure, dietary habits, socio-economic status and

external environment as compared to adults.[2] In India, there is wide variation in climatic factors specially in Malwa region. It has four unmistakable seasons in a year, Summer (June to August), Autumn (September to November), Winter (December to February), Spring (March to May). Madhya Pradesh represents 6.46% of total children population in country. As pediatric age contain substantial level of our population. So this study helps us in better understanding of frequency skin diseases in pediatric population and at finding the impact of seasonal variation in skin diseases in the pediatric age group of 0 to 15 years.

METHODS

A retrospective study was done in department of Dermatology, Venereology and Leprosy, R.D. Gardi Medical College Ujjain over one year of duration.

A total of 1110 cases of age 0-15 years, who exhibited in our out-patient clinic were incorporated in this study from June 2015 to May 2016. Statistical profiles and clinical details were recorded. Data were gathered and patient's details were sorted according to four seasons summer (June to August), autumn (September to November), winter (December to February) and spring (March to May). Microsoft excel was utilized for data entry and analysis was done using SPSS version 22. P value of 0.05 was considered as significant.

RESULTS

In the study, there were an aggregate of 1110 patients in the age group of 0-15 years, out of which 618 (55.7%) were males and 492 (44.3%) were females with M:F ratio 1.25:1. Maximum number of patients were in the age group of 10-15 years 481 (43.3%) followed by 5-10 years 326 (29.3%) as shown in Table 1.

Table 1: Demographic profile of study patients.

Age in years	Male	Female	Total	Percentage (%)
0-1	32	21	53	4.77
1-5	142	108	250	22.52
5-10	173	153	326	29.36
10-15	271	210	481	43.33
Total	618	492	1110	100

Table 2: Seasonal trend of different dermatoses.

Diagnosis	Summer	Autumn	Winter	Spring	Total	Percentage	P value
Bacterial infection	93	47	29	58	227	20.45	0.21
Fungal infection	73	43	22	38	176	15.85	0.03
Viral infection	23	33	20	21	97	8.73	0.04
Scabies	41	36	57	55	189	17.02	0.06
Eczema	53	22	62	40	177	15.94	0.16
Psoriasis vulgaris	8	10	35	18	71	6.39	0.00
Urticaria	26	24	22	22	94	8.46	0.13
Miliaria	31	6	6	4	47	4.23	0.23
Acne vulgaris	12	8	6	6	32	2.88	0.04
Total	360	227	264	259	1110	100	

Table 3: Age wise distribution of common dermatoses.

Diagnosis	Age-group (years)				
	0-1	**1-5**	**5-10**	**10-15**	**Total**
Bacterial infection	10	58	60	99	227
Fungal infection	6	32	53	85`	176
Viral infection	3	20	28	46	97
Scabies	14	40	54	81	189
Eczema	7	44	68	58	177
Psoriasis vulgaris	0	6	22	43	71
Urticaria	6	27	26	35	94
Miliaria	7	21	8	11	47
Acne vulgaris	0	2	7	23	32
Total	53	250	326	481	1110
Percentage	4.7	22.5	29.3	43.3	100

Most common dermatoses was bacterial infection (n=227, 20.45%) followed by scabies (n=189, 17.02%) and eczema (n=177, 15.94%). Bacterial infection being most common dermatoses in summer followed by fungal infection, eczema and scabies. Eczema was most commonly seen in winter followed by scabies as shown in Table 2. Maximum no. of pediatric dermstoses cases were seen in summer (n=360, 32.4%), followed by winter (n=264, 23.7%), spring (n=259, 23.3%) and autumn (n=227, 20.45%). Bacterial infection was most common dermatoses in adolescent (10-15 yr) followed by fungal infection and scabies. In 5-10 yr age group, eczema was most common followed by bacterial infection and scabies. In 1-5 yr age group bacterial infection was most common followed by eczema and scabies. In infants, scabies was most common followed by bacterial infection and miliaria as shown in Table 3.

DISCUSSION

Skin diseases are one of the essential medical problems in the pediatric age. The pattern of skin diseases in pediatric age groups vary from one nation to other and additionally inside same nation from one state to other due to different climatic factors, external environment, dietary habits & socioeconomic status. Skin infections are typical in children as they are exposed to various climatic, social and economic factors.[2] Immature immune system renders children more vulnerable to cutaneous infections and infestations.[3] Overcrowding, malnutrition and lack of good hygiene are inherent factors in a developing country like India[4] predisposing children for skin infections. 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.

In present study, 1110 children up to 15 years of age in both sexes exhibiting outpatient department of skin at tertiary care centre were included. In our study on analysing age demographic profiles showed that maximum number of cases were in the age group of 10-15 years, similar result was accounted in a study done by Shrestha et al.[5]

Male patients outnumbered female patients with male: female ratio of 1.25:1 in present study. Male preponderance was observed in some other studies done by Sharma et al and Patel et al.[6,7] A study done by Poudyal et al encountered the frequency of male children was more common (54.7%) as compared female children.[8] Few studies in literature have shown female preponderance.[9,10] This may be due to gender bias in our society where by guardians are more concerned about male children.

In our study the most prevalent dermatoses was bacterial infection (227; 20.45%) trailed by scabies (189; 17.02%). Comparative results have been observed by Karthikeyan et al.[3] However, in a study by Patel et al and Nanda et al demonstrated that eczematous dermatoses was the predominant variety.[11,12] Fungal infections more typical in study of Sayal et al.[13] Viral infections were the commonest in a study by Wenk and Itin et al and Gul et al.[14,15] The variation in occurrence of infective dermatoses depends on type of populace studied, environmental factors, hygiene and nutritional status.

There was a wide variety of dermatoses in various season were observed with bacterial infection being commonest in summer and eczema being commonest in winter in our study. Similar results were accounted by various other studies of Shrestha et al and Banerjee et al.[16,17]

In our study second most common dermatosis in summer was fungal infection (n=73; 6.57%). Sharma et al and Poudyal et al has also accounted fungal infection being commonest dermatosis in summer season.[6,8] In our study fungal infection is most common in 10-15 yrs of age in our study. Similar result was seen in study done by Poudyal et al.[8]

Miliaria was most commonly seen in summer with high dominance in 1-5 yr age group as similary observed by Banerjee et al.[17] Miliaria occurs commonly in hot, humid environments, which explain the high prevalence in summer in our study. This was experienced in study done by Shrestha et al and Rather et al.[16,19.]

Eczema was the most common dermatosis in winter (n=62; 5.58%) in present study this was supported by various other study.[5,6,8] In our study eczema was most common in 5-10yr age group (n=67; 6.03%). However, Shrestha et al has reported highest prevalence of eczema in 10-14 yr of age group.

The second most common dermatosis in winter season was scabies (n=57; 5.13%) in our study. Dhar et al and Banerjee et al[18] have also found more prevalence of scabies in winter season.[17] A study done by Shrestha, Jha et al have found almost equal prevalence in all four seasons.[5,16] In our study scabies was found to be more common in 10-15yr of age group which is similar to the study done by Shrestha et al.[5]

CONCLUSION

Pediatric dermatoses are common all over the world, which are responsible for significant morbidity in children. Poverty, overcrowding, under nutrition, 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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