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Research Article

Prevalence of skin diseases among infants in a tertiary medical facility in Uttarakhand

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ABSTRACT

Background: Skin diseases are common in infancy. This study aimed to determine to prevalence of various dermatoses in infancy in Uttarakhand. Objectives: To determine the prevalence of different dermatologic diseases in infant in Uttarakhand.
Methods: A prospective study was carried out for one year from 06 Sep 2013 to 05 Sep 2014, to study prevalence and patterns of dermatological lesions in infants, a tertiary care health facility in Uttarakhand. A total of 234 infants of both sexes were seen during this period.
Results: Of 234 patients 58.9% were males. Noninfectious dermatitis was the largest group of skin disorders in infancy, constituting 35.89% of total cases. Seborrheic dermatitis was commonest type of non-infectious dermatitis in infancy (42.85%) followed by atopic dermatitis (19.04%), Ptyriasis alba (14.28 %), contact and diaper dermatitis (7.14% each). Seborrheic dermatitis did not display any gender or seasonal bias. Infectious/ parasitic infestations formed second largest group of dermatoses in infants (26.92%) with commonest being fungal infections (49% cases of infectious group) followed by parasitic infestations (26.98%). Bacterial and viral infections were formed only 12.69% and 11.11% of infectious group cases. Nonfungal and nonparasitic infections showed higher incidence in summers.
Conclusion: Out of 234 infants who attended paediatric dermatology clinic, major dermatoses were of noninfectious origin with seborrheic dermatitis forming largest group. Infectious etiology dermatoses constituted second major group with fungal and parasitic etiology. Nonfungal and non-parasitic dermatoses showed higher prevalence in summer months.

Keywords: Paediatric dermatoses, Atopic dermatitis, Infectious dermatitis

INTRODUCTION

Numerous skin diseases affect children; however patterns differ according to geographical locations, age, sex, climatic conditions, seasonal, socioeconomic and environmental variations. Skin diseases constitute 30% of all outpatient visit to a pediatrician and 30% of all visits to a dermatologist involve children.[1,2] Infants in various studies constituted 15%, 20.33%, 25.2%, 11% and 25.46% of all paediatrics dermatoses cases.[3-7] In our case infants formed 32% of all preschool paediatrics patients who reported for dermatoses in pediatric dermatology clinic of department of DVL, in a tertiary care facility in Uttarakhand (SGRRIM & HS and Associated Shri Mahant Indiresh Hospital, Dehradun). This prospective study was designed to evaluate the pattern of pediatric dermatoses in infants of Uttarakhand, India. It was conducted for a period of one year between 06 Sep 2013 to 05 Sep 2014. The setting was pediatric dermatology

clinic of department of DVL, in a tertiary care facility in Uttarakhand (SGRRIM & HS and associated Shri Mahant Indiresh Hospital, Dehradun).

METHODS

A cross-sectional study was carried out at dermatology and pediatric out-patient clinics of SGRRIM & HS, and associated SMI hospital, Dehradun over a one year from 06 Sep 2013 to 05Sep 2014. It was conducted on 234 infants (>1 month to 12 completed months of age) of both sexes with different skin diseases.

Data collection: For every case, complete history was taken with particular emphasis on age, sex and previous history of a similar skin condition. The studied cases were further divided according to etiology, into the following groups: Bacterial skin infections, parasitic infestations, fungal infections, viral infections, dermatitis / eczema, sweat gland disorder, urticaria, hair disorders, pigmentary disorders and others skin disorders. The diagnosis was made by detailed history, clinical examination and investigations like haemogram, skin biopsy, Tzank smear, Gram's staining, wood lamp examination, KOH examination, VDRL and urine examination etc. were carried out on requirement basis. The diseases were tabulated based upon etiology and results were analyzed.

Statistical analysis

Data were coded checked entered and analyzed by using SPSS version 15. Data were represented as number and percentage. Chi-squared (X^2) or Fisher exact tests were used when appropriate, P value <0.05 was considered statistically significant, P value <0.001 means highly significant.

RESULTS

It has been found that out of 234 infant patients there were138 (58.97%) males and 96 (41.02%) females. Sex and etiologically, distribution of various skin disorders in this age group is given in Table 1. Non-infectious dermatitis was the largest group of skin disorders in infancy in our study constituting 35.89% of total 234 cases. No significant gender or seasonal variation was noted in this group (Table 2, 3). Seborrheic dermatitis most common type of noninfectious dermatitis in infancy (42.85% of this group) followed by major atopic dermatitis (19.04%). Other significant lesions included Ptyriasis alba (14.28 %), contact dermatitis and diaper dermatitis (7.14% of each). Seborrheic dermatitis did not display any gender or seasonal bias (Table 4).

A total of 63 infants suffered from infectious/parasitic infestations forming (26.92%) of total cases. Fungal infections were most common in this age group (49% of all infections/ parasitic infestations). Other major group was parasitic infestations (26.98% of infectious etiology dermatoses). Bacterial and viral infections were found to be forming only 12.69% and 11.11% of infectious group (Table 5).

Table 1: Pattern of dermatoses in Infants in study group.

Dermatosis	Male	Female	Total	%
Infections	26	20	46	19.65
Bacterial	5	3	8	3.41
Viral	5	2	7	2.99
Fungal	16	15	31	13.247
Parasitic infestations	9	8	17	7.26
Scabies	9	8	17	7.26
Pediculosis and others	0	0	0	0
Dermatitis	52	32	84	35.89
Atopic	11	5	16	6.837
Seborrheic	19	17	36	8.119
Ptyriasis alba	8	4	12	5.128
Perioral dermatitis	1	0	1	0.427
Pompholyx	0	0	0	0
Diaper	4	2	6	2.564
Contact	4	2	6	2.564
Non specific	5	2	7	2.991
Hair disorders	1	1	2	0.854
Nail disorders	0	0	0	0
Keratinization disorders	4	1	5	2.136
Acne	3	2	5	2.136
Sweat glands	9	1	10	4.27
Intertigo	4	2	6	2.564
Drug reactions	1	0	1	0.427
Urticaria/angioedema	3	1	4	1.709
Papular urticaria	8	7	15	6.41
Naevi/developmental Ds	8	6	14	5.982
Pigmentary	4	5	9	3.846
Autoimmune	1	1	2	0.854
Nutritional	0	1	1	0.427
Scars	0	0	0	0
Miscellaneous	5	8	13	5.555
Total	138	96	234	

Table 2: Pediatric dermatitis in infants.

Dermatose	Male	Female	Total	%
Dermatitis	52	32	84	
Atopic	11	5	16	19.04
Seborrheic	19	17	36	42.857
Ptyriasis alba	8	4	12	14.285
Perioral dermatitis	1	0	1	1.19
Pompholyx	0	0	0	0
Diaper	4	2	6	7.142
Contact	4	2	6	7.142
Non specific	5	2	7	8.333

Table 3: Seasonal variations in patterns of noninfectious dermatoses in infants.

Dermatose	Summer (Apr-Sep)		Winter (Oct- March)		Total
	Male	Female	Male	Female	
Dermatitis					
Atopic	7	2	3	3	15
Seborrheic	**6**	**4**	**12**	**13**	**35**
Ptyriasis alba	4	2	4	2	12
Perioral dermatitis	1	0	0	0	1
Pompholyx	0	0	0	0	0
Diaper	0	1	4	1	6
Contact	3	0	1	2	6
Non specific	4	2	4	0	10
Hair disorders	1	1	0	0	2
Nail disorders	0	0	0	0	0
Keratinization disorders	3	0	1	1	5
Acne	1	1	3	1	6
Sweat glands	6	0	4	2	12
Intertigo	4	1	4	2	11
Drug reactions	1	0	0	0	1
Urticaria/ angioedema	3	0	0	1	4

Table 4: Seborrheic dermatitis seasonal and gender variations.

	Summer	Winter	P value
Male	6	12	
Female	4	13	>0.05

Table 5: Pediatric dermatoses of infectious etiology in infants.

Infectious dermatoses	Male	Female	Total	Percentage
Infections / infestations	35	28	63	
Bacterial	5	3	8	12.698
Viral	5	2	7	11.111
Fungal	16	15	31	49.206
Parasitic infestations	9	8	17	26.984

There was no significant statistical difference on gender basis in prevalence of fungal infections (P value >0.05) (Table 6). There was no significant gender variation in infections (both parasitic and nonparasitic) but significant seasonal variation was noted in non-parasitic infections / non fungal infections, which occurred more during summer months (P value <0.01) (Table 7).

No significant gender and seasonal variations were noted in other lesions.

Table 6: Gender wise variations in fungal/non fungal infections.

	Male	Female	P value
Fungal	16	15	>0.05
Non fungal	10	5	

Table 7: Seasonal variations in parasitic/nonparasitic infections.

	Summer	Winter	P value
Parasitic	7	10	
Non parasitic	28	14	<0.01

DISCUSSION

Skin diseases in the pediatric population are common all over the world including rural and urban areas. There is variation in the pattern of dermatoses, with eczemas being the most common skin disorder in developed countries and infections and infestations in the developing countries. Dermatoses in children are thus a wide spread problems, which though are not responsible for significant mortality but considerable morbidity. Skin of young children is more prone to develop skin diseases. Lack of personal hygiene awareness and availability of water and sanitary facilities in rural and poor city populations, contributed to fungal, bacterial dermal infestations.

In Uttarakhand, the pattern of skin disorders in preschool children is not much different from other regions. Overall most common dermatoses in all age groups were bacterial infections (27.39), Seborrheic dermatitis (10.49%), scabies (10.16%), Pityriasis alba (5.85%), miliaria (5.46%), atopic dermatitis (5.27%), fungal infection (4.65%), urticaria/ angioedema (4.46%), viral infections (3.68%) and papular urticaria.[7] Less data is available of prevalence of dermatoses in infant age group.

This study was carried out to determine the prevalence of paediatric dermatoses in Infancy in Uttarakhand region. Many factors determine the results of epidemiologic studies on skin diseases. Genetic background, geographic area, climate, season, socioeconomic status, living conditions and medical resources are the most important factors.[8,9]

In our study there was no significant gender variation in prevalence of dermatoses in infants. Infants have formed 11%[6] of children suffering from dermatose in one study.[3] Other studies showed infants forming 15%[3] 20.33%[4] 25.2%[5] 25.46%[7] of population in their countries respectively. In our case infants formed 32% of pre-school children who reported for dermatoses in the paediatric dermatology clinic.

Non-infectious dermatitis was the largest group of skin disorders in infancy in our study constituting 35.89% of

total 234 cases. Seborrheic dermatitis was commonest type of non-infectious dermatitis in infancy (42.85%) followed by atopic dermatitis (19.04%), Ptyriasis alba (14.28 %) , contact and diaper dermatitis (7.14% each of these cases). Seborrheic dermatitis did not display any gender or seasonal bias. In other studies Acne vulgaris was the most prevalent dermatosis (12.4%), followed by atopic dermatitis (11.8%), contact dermatitis (11.3%), warts (9.5%), seborrheic dermatitis (4.3%) and impetigo (4.1%).

Atopic dermatitis was the most frequently seen dermatosis in both infants and preschool-age children.[10,11] Clinical pattern of atopic dermatitis is different in infants and children. Data from Indian study shows that in infants, eczema was acute in 52.72%, subacute in 23.35%, chronic in 23.35%, and follicular in 0.46% at the time of presentation.[12] A majority of the children with allergy had infantile eczema which is usually seen at a lower age bracket.[5]

In our study infections and parasitic infestations formed second large group of dermatoses in infants in Uttarakhand. Commonest lesions being fungal followed by parasitic, bacterial and viral infection etiology. Infectious/parasitic infestations formed second largest group of dermatoses in infants (26.92%) with commonest fungal infections (49% cases of this group) followed by parasitic infestations (26.98% of infectious etiology dermatoses).Bacterial and viral infections were found to be forming only 12.69% and 11.11% of infectious group. In other parts of the world, infections and infestations also were the most prevalent skin lesions. They recorded 47.1% in New Delhi,[9] 60% in Pakistan[13] and 54.5% in south India.[14] But studies from Switzerland[15] Turkey[10] and Kuwait[16] revealed differences, where noninfectious diseases are more frequent, representing (79.9%), (78.6%) and (68.8%) respectively. Fungal infections were highest in infants in our study while one study showed lowest fungal prevalence of fungal infections (13%) in this age group.[5] An epidemiologic study from Garhwal, a hilly area of Uttarakhand in children <14 years showed that Pediculosis capitis (22.6%) was the most common dermatosis, being three times more common in girls, followed by pyodermas (15.4%), Pityriasis alba (10.4%) and eczema (8.1%).[17] In one of the largest series from India on the clinical profile of cutaneous infections and infestations in the pediatric age group, parasitic infestations (53.66%) were the most common cutaneous disorder, followed by bacterial (34.66%), fungal (8.42%), and viral infections (3.85%). Among infestations, scabies was the leading offender (86.91%) followed by papular urticaria (7.49%) and pediculosis capitis (5.58%).[18]

As regard to season, most cases were observed in summer months (30.11%). This was in agreement with[5] in which cases showed high prevalence in summer (35.7%) while in Turkey[2] cases showed high prevalence in winter (30%).[10,19] Smaller data prevented us to draw proper statistical conclusions about gender or seasonal bias of other causes of Paediatric dermatoses in our study and larger data is needed to comment.

CONCLUSION

Dermatoses in children are thus a wide spread problems, which though are not responsible for significant mortality but considerable morbidity. Skin of young children is more prone to develop skin diseases. Lack of personal hygiene awareness and availability of water and sanitary facilities in rural and poor city populations, contributed to fungal, bacterial dermal infestations.

In our study of 234 infants reporting for dermatoses in paediatric dermatology clinic, noninfectious dermatoses formed commonest major group which included Seborrheic dermatitis, atopic dermatitis, Ptyriasis alba, diaper dermatitis and contact dermatitis. This is different from other paediatric groups where infectious etiology of dermatoses is more common. Second largest group of dermatoses was dermatoses of infectious origin. Here fungal infections were more common than bacterial or viral infections which were commoner in older age group. Non-fungal and non-parasitic infections showed higher incidence in summer months.

One cannot comment upon seasonal or gender variations on different types of non-infectious dermatoses as the size of sample was small. Therefore there is a need of doing larger study of dematoses in infancy as the pattern of dermatoses differs from other children and age groups.

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