

CLINICAL SPECTRUM OF PRIMARY SKIN DISORDERS IN CHILDREN LESS THAN 10 YEARS

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HOW TO CITE THIS ARTICLE:

Mridula A. M, Pushpalatha K, Girish M. S. "Clinical Spectrum of Primary skin Disorders in Children Less than 10 Years". Journal of Evidence based Medicine and Healthcare; Volume 2, Issue 5, February 02, 2015; Page: 505-512.

ABSTRACT: BACKGROUND: Skin disorders are a major cause of morbidity in children. Skin diseases can affect the quality of life of children to a great extent and can hinder their normal growth and development. **AIMS:** This study was done with the objective of assessing the frequency and clinical spectrum of primary skin disorders in children less than 10 yrs at ESI model hospital, a tertiary care hospital catering to the working community insured under ESI scheme. **METHODS:** This was a prospective study of 1 year duration. All children less than 10 yr of age presenting to our hospital were screened for skin disorders. Diagnosis was made clinically in all cases. **RESULTS:** A total of 282 children were found to have primary skin lesions. The frequency of primary skin disorders was found to be 5.75%. There was male preponderance (54%). Maximum Cases were seen in 0 to 5 yr age group (50%). 63% of cases were seen in children from families with income < 5000 per month. Infections and infestations was the commonest condition seen in 33.94% cases of which 48.6% were pyodermas, 21.6% were fungal infections, 10.8% were viral infections and 18.9 % were scabies. Next commonest condition was atopic dermatitis at 13.76% followed by pityriasis alba at 8.25% and insect bite reaction at 5.8%. **CONCLUSIONS:** A low frequency of skin disorders was seen in this population group. Males in the age group of less than 5 years had the maximum incidence. Lower income group had a greater incidence. Infections and infestations were more common than allergic skin conditions. **KEYWORDS:** skin disorders, children, frequency, spectrum. **KEYMESSAGES:** skin disorders in children are common. Infections, infestations and atopic dermatitis are the common conditions seen.

INTRODUCTION: Skin disorders form a major cause of morbidity in the paediatric age group. As much as 30% outpatient visits are attributed to skin disorders in paediatrics.¹ Both chronic as well as acute skin conditions affect the quality of life of children to a great extent and can hinder their normal growth and development.

Skin being the largest organ of the body can be affected by a variety of disorders. They could be congenital or acquired, acute or chronic and recurrent in presentation. Few skin conditions in children could be physiological (milia, Mongolian spots.) subsiding spontaneously. Also few skin conditions are unique to the paediatric age group (like pityriasis alba, diaper dermatitis, insect bite reactions.) and are less frequently seen in the adults. Etiologically paediatric skin disorders can be due to infections, infestations, nutritional deficiencies, allergies, immunological disorders or sometimes idiopathic. Also a number of systemic illnesses can have dermatological manifestations as a part of their clinical course. Thus the spectrum of skin disease

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in children varies from acute, physiological, self-remitting conditions to chronic, infectious, recurrent and difficult to treat conditions.

This study was undertaken with the objective of assessing the frequency and the pattern of skin diseases in children less than 10 yrs at ESI model hospital – a tertiary care hospital catering to specific population group. A systematic study like this will help in assessing the magnitude of the Problem of skin disorders which is often underestimated. Also it will enable us to know the kind of skin disorders most prevalent in this region, their age pattern and their possible relationship to seasons and socioeconomic status. Knowledge of this pattern of skin disease and its possible predisposing factors will enable us to undertake primary preventive measures as well as early diagnosis and treatment, thereby improving the quality of life of children.

OBJECTIVES OF THE STUDY:

1. To assess the frequency of primary skin disorders in children.
2. To assess the pattern of primary skin disorders seen in children with respect to etiology, age of presentation, sex, season and socioeconomic status.

MATERIALS AND METHODS:

SOURCE OF DATA COLLECTION: children less than 10 yrs attending paediatrics department at ESIC Medical College and PGIMSR, Rajajinagar, Bangalore.

METHOD OF DATA COLLECTION: A prospective study of one year period conducted between March 2011 to February 2012. All children below the age of 10 yrs attending the paediatrics department at ESIPGMSR were screened for primary skin disorders and those with skin lesions were included in the study. A detailed history with clinical examination was done in these children according to the clinical proforma. Dermatologist opinion was taken wherever required to confirm the diagnosis.

INCLUSION CRITERIA: All children (less than 10 yrs) visiting paediatric department with skin lesions.

EXCLUSION CRITERIA:

1. Children > 10 yrs of age.
2. Children coming for follow up after first diagnosis of skin diseases.
3. Physiological skin conditions like milia, erythema toxicum, mongolian spots, stroke bites in neonates are excluded from the study.
4. Dermatological manifestations of systemic disorders.

RESULTS: A total of 4904 children less than 10 yrs were screened during the study period and 282 of them were found to have primary skin disorders. Hence the frequency of primary skin diseases in children in the age group of 0 to 10 yrs appeared to be 5.75%.

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Gender	Cases (n = 282)	percentage
Males	152	54%
Females	130	46%

TABLE 1: Skin disorders in males and females

Age group	Cases (n=282)	percentage
<1 yr	27	9.57%
1 – 5 yrs	141	50%
6 – 10 yrs	93	32.9%

Table 2: Age distribution of skin disorders

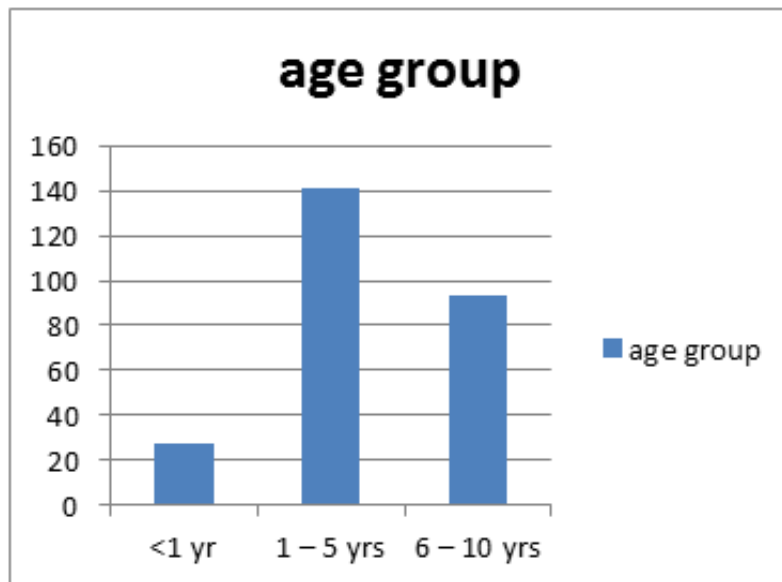


Figure 1

INCOME RANGE	CASES (n=282)	Percentage
<5000 per month	178	63 %
5000 to 10,000 per month	95	33.6%
>10,000 per month	9	3.1%

Table 3: Skin disorders in different income groups

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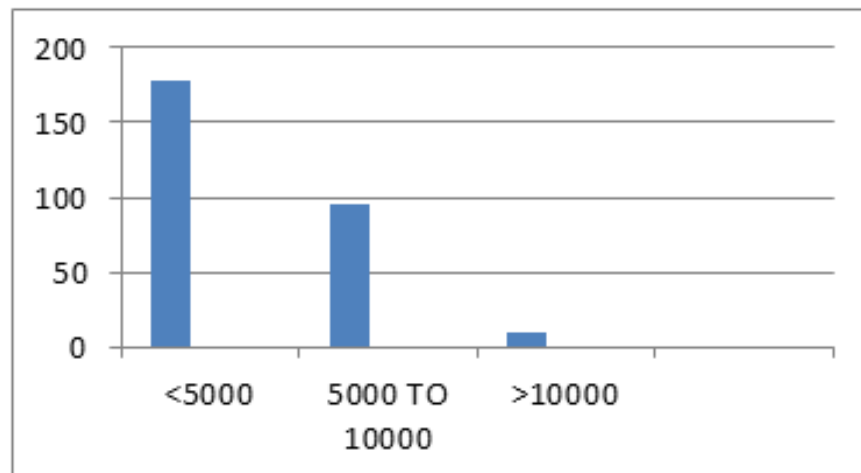


Figure 2: INCOME RANGE

DURATION OF ILLNESS	CASES (n=282)	Percentage
0 – 1 MONTH	207	73.4%
1 – 6 MONTHS	52	18.43%
> 6 MONTHS	23	8.1%

Table 4: Duration of illness

PAST H/O SIMILAR ILLNESS	CASES (n=282)	percentage
YES	142	50.35%
NO	140	49.64%
FAMILY H/O SIMILAR ILLNESS	CASES (n=282)	percentage
YES	43	15.24%
NO	239	84.75%

Table 5: Past and family history of skin disorders

SEASONS	CASES (n=282)	Percentage
MARCH TO MAY	61	21.6%
JUNE TO AUGUST	70	24.8%
SEPTEMBER TO NOVEMBER	70	
DECEMBER TO FEBRUARY	72	25.53%

Table 6: Skin disorders in different seasons

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DIAGNOSIS	NUMBER	Percentage
PYODERMAS	54	16.51%
ATOPIC DERMATITIS	45	13.76%
PITYRIASIS ALBA	27	8.25%
TINEA CORPORIS	24	7.33%
SCABIES	21	6.42%
INSECT BITE REACTION	19	5.81%
PAPULAR URTICARIA	18	5.50%
MILIARIA	14	4.28%
ACUTE URTICARIA	13	3.97%
CONTACT DERMATITIS	12	3.66%
XEROSIS	12	3.66%
VIRAL –WARTS, MOLLUSCUM.	12	3.66%
SEBORRHOEIC DERMATITIS	9	2.75%
PHRYNODERMA	7	2.14%
VITILIGO	6	1.83%
PLANTAR KERATOSIS	5	1.52%
ALOPECIA AREATA	3	0.91%
DRUG INDUCED RASH	3	0.91%
OTHERS	23	7.03%

Table 7: Different skin disorders diagnosed

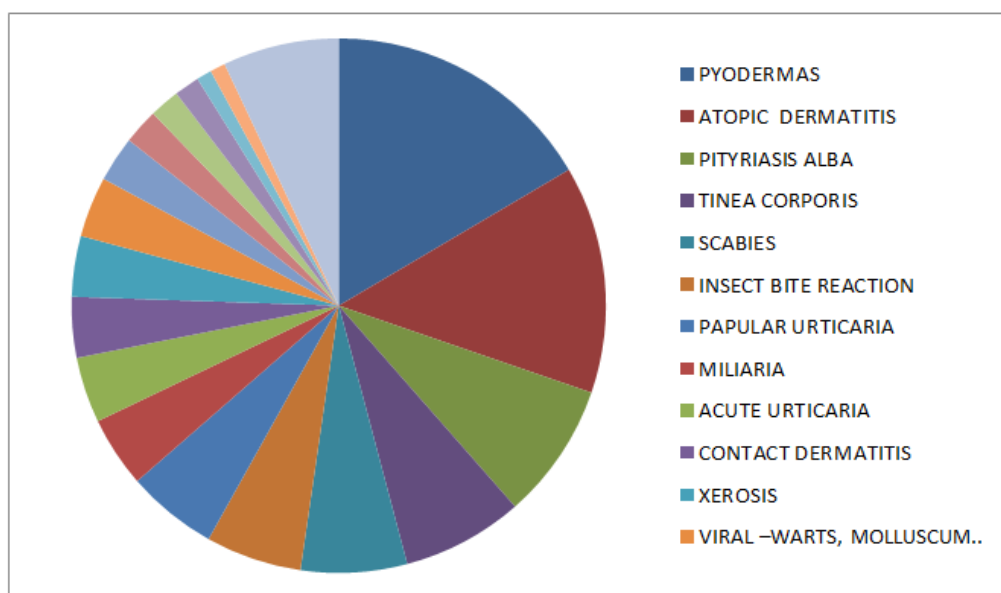


Figure 3: Skin disorders

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DISCUSSION: 4904 children less than 10 yrs were screened and 282 cases of primary skin disorders were found. Analysis of the result showed a low frequency of skin diseases (5.75%) in children in the age group of 0 to 10 yrs. This low frequency can be attributed to the exclusion criteria employed in the study in which all physiological skin conditions of neonates and systemic illnesses with skin manifestations were excluded. Also the age group taken (0 to 10 yrs) excluded all the adolescents while most of the other studies included children from 0 – 16 yrs. Also since most of the patients visiting our hospital are referred patients, many of the simple skin conditions are likely to be treated at the dispensary level itself thereby giving an apparently low frequency.

Of the 282 cases collected, majority of the skin disorders were seen in males (54%), m:f Ratio of 1.16:1. This was comparable to an Indian study of skin disorders in children done in Delhi which showed a male female ratio of 1.07: 1.²

50% of cases were seen in the age group of 1 to 5 yrs followed by 33% cases in 6 to 10 yrs age group. This was comparable to all the Indian studies which showed highest incidence in 1 to 5 yr age group - 44.94%,² 43.5%,³ 41.3%.⁴

63% cases were in the income range of < 5000 rupees per month followed by 33.6% cases in the income range of 5000- 10000. Maximum incidence of skin conditions was seen in the low income group (<5000pm) probably owing to poor hygiene, overcrowding and poor nutritional status in that group.

Majority of the cases (84.75%) did not have a family history of similar skin disorders. 50.4% of the cases had a past history of similar illness. Comparisons from other studies were not available on these parameters. 73.4% of cases presented with a history of less than 1 month of the skin disorder, 18.4% had Chronic history ranging from 1 to 6 months while 8.1% of cases were present for more than 6 Months.

91.4% of cases presented to paediatric opd first with the skin disorder and 8.8% cases were referred from dermatology opd after diagnosing the skin condition. In a similar study done in Delhi by the dermatology department, 75% of cases were referred by paediatricians².

73.7% patients presented with primarily a skin disorder while 26.2% patients presented with other complaints and were incidentally found to have a skin disorder.

Seasonal variation in the incidence was not evident, with cases being evenly distributed in all months, though a slightly higher incidence was seen in the months of December to February (25.5%).

Though a total of 282 children were found to have skin disorders, the total number of skin diseases diagnosed was 327 as multiple skin conditions were seen in many children. Of the 327 diagnoses made, majority were infections and infestations (33.94%). This was comparable to an Indian study from western India⁵ which showed 43.7% cases with infections and infestations.

A study done at AFMC⁴ showed 39.6% of cases to be due to infections and infestations. Another study from Saurashtra³ had 83.25% of cases due to infections. A study from South India⁶ showed 54.5% cases due to infection. A study from Karachi⁷ had 60% cases due to infections.

In our study, of the total 111 cases of infections and infestations (33.94%), 54 cases (48.6%) were bacterial infections, 24 cases (21.6%) were fungal infections, 12 (10.8%) were viral infections and 21 cases (18.9%) were of scabies. This was comparable to the Indian studies which showed bacterial infections at 58.09%,² 41, 14%.³

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DIAGNOSIS	PRESENT STUDY	SARDANA et al 2009 ²	Jitupatel et al, 2010 ⁵	Karthikeyan et al, 2004 ⁶	Karachi study ⁷	Thailand study ⁸	Manisha balai 2012 ⁹
Infections and infestations	33.94%	47.15%	43.7 %	54.5%	60%	21.9%	40.60%
Eczema/ atopic dermatitis	13.76%	26.95%	6.64%	8.6%	21%	41.2%	34.86%

Table 8: Comparison of present study with other studies

Next commonest skin disorder encountered was atopic dermatitis with 45 cases accounting for 13.76% of the total. This was less than the incidence noted in other Indian studies which showed 26.95%² and 24 %⁴ cases with eczema. Studies done in thailand⁸, and Kuwait^{10, 11} showed eczematous dermatitis to be the commonest at 41.2% and 31.3% respectively followed by infections as the next commonest group.

In our study pityriasis Alba was the next commonest skin disorder accounting for 8.25% of cases followed by insect bite reaction at 5.8% and papular urticaria at 5.5%.

CONCLUSION: Skin disorders were commonly seen in children less than 5 yrs of age and in children from lower socioeconomic status. Infection and infestations were the commonest skin disorder encountered which can be easily prevented and treated. Thus it would benefit to do a routine screening of all children of 0 to 5 yr age group attending the opd, for skin infections and infestations so that they can be diagnosed early and treated. Also families in the low income group, attending opd, can be given awareness about maintaining good hygiene in preventing infections and infestations of skin.

KEYMESSAGES: skin disorders are seen commonly in children less than 5yrs of age and in lower in group. Improvement in hygiene and living conditions can reduce the incidence of infections and infestations.

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Date of Submission: 18/01/2015.

Date of Peer Review: 19/01/2015.

Date of Acceptance: 21/01/2015.

Date of Publishing: 28/01/2015.