A CLINICO-EPIDEMIOLOGICAL STUDY OF DERMATOSES PREVALENT IN CHILDREN ATTENDING GOVERNMENT SCHOOLS IN URBAN AREAS OF AMALAPURAM

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ABSTRACT

Skin diseases are amongst the most frequent disease of school going-children in many developing as well as developed countries. The pattern and prevalence of these dermatoses depend on various epidemiological factors. The pattern and prevalence of these dermatoses can reflect the health, hygiene, socioeconomic status and the environmental condition prevailing in a certain community. In our country 100-150 million children are of school going age. The prevalence of paediatric dermatoses in various parts of India has ranged from 8.7% to 35% in school based surveys. So an effort has been made here to bring forth the pattern, prevalence and socio-demographic determinants of skin diseases among school going children in a town of South India. This study was conducted in students of class 1 to class x of the government schools in Amalapuram town of East Godavari district, Andhra Pradesh. Health education programme with emphasis on personal hygiene and environmental sanitation together with providing knowledge of the aetiology and spread of the disease and various treatments available would go a long way in controlling these diseases.

KEYWORDS
Dermatoses, Paediatric, School-Based Survey.

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INTRODUCTION: Paediatric dermatoses are a distinct group of disorders comprising of the skin problems encountered during childhood and adolescence. Dermatological problems constitute 30% of all out patient visits to a paediatrician and 30% of all visits to a dermatologist involve children. The pattern and prevalence of these diseases varies in different countries of the world and also within various regions of the same country depending on the various epidemiological factors prevalent in that region

Considering the fact that India has 100-150 million school going children, school surveys are very important tool to determine the pattern, prevalence and socio-demographic determinants of skin diseases. School based surveys are not only easy as a large number of children can be screened within a short time, they are economic too. It helps in the early detection and further control of diseases like leprosy. It also helps in creating awareness about health and hygiene among children, parents and teachers alike.

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MATERIALS AND METHODS: Consent was taken from the institutional heads of the schools, Mandal education officer and deputy district education officer Amalapuram. By explaining about the method of study, outcome and possible intervention informed consent was also obtained from the parents of the children.

Data was collected by interview cum clinical examination as per the proforma.

The study population consists of children of twenty government schools in Amalapuram. Amalapuram is a town situated in the coastal region of East Godavari district of Andhra Pradesh with hot and humid climate.

General information, present, past, family and personal history was collected by relevant questions. General physical examination, dermatological examination and systemic examination were done in good day light. The individual cases were diagnosed based on the morphology of the lesions. Relevant investigations like wood's lamp examination, complete blood picture, random blood sugar, and urine examination were done in the Outpatient department of DVL, Konaseema Institute of Medical Sciences.

Subject's family details were also collected using a standard carry home questionnaire.

RESULTS AND OBSERVATION:

No. of subjects	Total	Percentage
With dermatoses	786	36.05
Without dermatoses	1394	63.95

Table 1: Prevalance of Dermatoses

Total number of students screened was 2180. Out of 2180 subjects 786 presented with various skin manifestations. The prevalence of dermatoses in the present study was 36.05%

A total of 1085 children were examined in the 6-10 year age group; 421 of them were diagnosed with dermatoses. Of the 1095 subjects in 11-15 year age group, 365 presented with dermatoses. A significantly higher proportion of younger study subjects (age 6-10 years) had dermatoses.

Sex	Age (6-10 years)		Age (11-15 years)		Number	%
	N	%	n	%		
Boys	582	26.70	546	25.05	1128	51.75
Girls	503	23.07	549	25.18	1052	48.25
Total	**1085**	**49.77**	**1095**	**50.23**	**2180**	**100**

Table 2: Age and sex wise Distribution of study subjects

In the study group, boys (51.75%) slightly outnumbered girls (48.25%). 1085 students were of the 6-10 year age group and 1095 belonged to the age of 11-15 years.

Type of dermatoses	Age group 6-10 yrs				Age group 11-15 yrs				Number	%
	Boys		Girls		Boys		Girls			
	N	%	N	%	N	%	N	%		
Infections and infestations	90	27.44	102	31.10	62	18.90	74	22.56	328	41.73
Eczemas	32	29.63	24	22.22	32	29.63	20	18.52	108	13.74
Nutritional disorders	16	30.19	18	33.96	11	20.76	8	15.09	53	6.74
Pigmentary disorders	9	20.45	7	15.91	17	38.64	11	25.00	44	5.59
Disorders of skin appendages	25	16.56	24	15.89	45	29.80	57	37.75	151	19.2
Papulosquamous disorders	1	25.00	0	0	2	25.00	1	25.00	4	0.51
Genetic disorders	5	45.45	3	27.27	2	18.18	1	9.10	11	1.40
Miscellaneous	44	50.57	21	24.14	17	19.54	5	5.75	87	11.69

Table 3: Categorisation of Various Dermatoses

The various dermatoses observed were broadly classified into seven categories of which infections and infestations constituted the major group (41.73 %), followed by disorders of skin appendages (19.20%), eczemas (13.74%), nutrition deficiency disorders (6.74%), pigmentary disorders (1.40%) and papulosquamous disorders (0.51%) in descending order. Miscellaneous conditions constituted 11.69%. Infections and infestations are seen in a significantly higher proportion in the younger study subjects (age 6-10 years) than all other categories of dermatoses put together.

Overcrowding	Dermatoses present		Dermatoses absent		Total
	N	%	N	%	
Present	417	53.95	356	46.05	773
Absent	369	26.23	1038	73.77	1407
Total	**786**		**1394**		**2180**

Table 4: Association of Dermatoses With Overcrowding

A significantly higher proportion of subjects living in overcrowded houses had dermatoses.

Education of the mother	Dermat-oses present		Derma t-oses absent		Total
	n	%	n	%	
Illiterate	237	62.53	142	37.47	379
Up to Xth class	536	30.45	1224	69.55	1760
Above Xth class	13	31.70	28	68.30	41
Total	**786**		**1394**		**2180**

Table 5: Association of Dermatoses With Education of Mother

Among the children of illiterate mothers 62.53% had dermatoses. Whereas it was 30.45% in children whose mothers studied up to Xth class. In children whose mothers studied above Xth class 31.70% had dermatoses. Dermatoses were present in a significantly higher proportion of study subjects with illiterate mothers.

Type of house	Subject with dermatoses		Subject without dermatoses		Total
	N	%	N	%	
Kutcha	157	69.78	68	30.22	225
Semipucca	232	47.93	252	52.07	484
Pucca	397	26.99	1074	73.01	1471
Total	**786**		**1394**		**2180**

Table 6: Association of Dermatoses with Type of House

69.78% of children living in kutcha houses had dermatoses; 47.93% of children living in semipucca houses and 26.99% of those living in pucca houses had dermatoses. Dermatoses were seen in significantly higher proportion of study subjects residing in kutcha houses.

DISCUSSION: The prevalence of dermatoses in the present study was 36.05%. this finding is close to that reported by Dogra et al (38.8%) and Suman et al (42.3%) but much higher than reported by Sharma N. K et al (14.3%) and Rita Vora et al (15.4%).[1,2,3,4] These variations in the prevalence of skin disease may be related to genetic and racial constitution, social and hygienic elements, nutritional status, climatic factors, state of industrialization, age structure of study sample and other socio economic factors.

In our study infections and infestations constituted the major group (41.73%). In a hospital based study by Karthikeyan K et al 54.5% of the paediatric dermatoses were infections and infestations.[5] Sharma NK et al reported 30.8% which is consistent with our result.[4] This could be due to hot and humid weather conditions in these regions. However some studies as Rita Vora et al (18%) and Rao SG et al (19%) recorded low frequency.[3,6] This is because of improved sanitation, living conditions and increased awareness among the public in their study area.

In the present study parasitic infestations were most common among the infections and infestations group constituting 53.35% followed by bacterial 21.04%, fungal 17.8% and viral infections 7.93%. Pediculosis capitis was the most common infestation (13.61%) followed by scabies (8.65%) which is in accordance with school surveys conducted by Suma H et al (6.5%) and Suman Saurabh et al.[2,7] However two studies showed a lower prevalence of pediculosis capitis as in Rita Vora et al (1.56%) and Saurabh S et al (1.1%) perhaps due to lack of overcrowding, and awareness regarding hair hygiene.[4,8]

Out of various bacterial infections which constituted 8.78% in our study, secondary pyodermas formed the major group 40.58%, similar to that observed by DM Thappa et al. Two cases of Hansen's disease were recognized in our study which is similar to that observed by Rao SG et al (1 case).[9]

Fungal infections constituted 7.38% and viral infection constituted 3.31% of the total dermatoses in our study which is comparable to Karthikeyan et al (4.37%).[5]

Amongst non-infectious dermatoses, eczema was the commonest constituting 13.74% which was similar to that of Dogra S et al (13.6%). Our figures were lower than that of Saurab S et al (27.3%) but higher than Rita Vora et al (1.34%).[1,8,3] This variation could be due to genetic constitution, individual predisposition and environmental threats or allergens.

Nutritional disorders making up 6.74% of the total dermatoses are higher than Karthikeyan K et al (2.8%) and Rita Vora et al (2.6%).[5,3] This increased prevalence in our study was due to diet deficient of essential nutrients consequent of low income and lack of awareness combined with worm infestations as most of the study subjects lived in rural areas where open defecation and barefoot walking are common practices.

In our study the prevalence of dermatoses was slightly more in boys 37.14% compared to girls 34.89% similar to that reported by Suman H Tulsyan et al where there were 57.7% boys and 42.3% girls.

Dermatoses were found to be more in children living under over crowded conditions (53.95%) and in those residing in kutcha houses (69.78%). Dermatoses were present in a higher proportion of the subjects with illiterate mothers (62.53%). Our study is compatible to the observation made by Suman H et al in school based survey at Lucknow where 26.3% had dermatoses with lowest educational status and 1.6% had dermatoses with higher educational status of the mother.[2]

SUMMARY AND CONCLUSION: To summarize our study we can say that at a given point of time 1/3rd of the school children suffer from skin disease in India.

Acknowledging that our study being a cross-sectional one, diseases of short duration can be missed. It helps to assess the existing trend of paediatric dermatoses and provides preliminary data for future epidemiological and clinical research. More studies with multicenter approach are required to find the actual dimensions of the problem.

As skin diseases are associated with environmental factors, a public health approach is particularly important to school children involving their families and teachers.

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