Original Research Article

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Pattern of common skin conditions among school children in an urban area of a district in coastal Karnataka: a cross-sectional study

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ABSTRACT

Background: Overcrowding, Poor personal hygiene and Lower economic status are proved to be major causes of common skin conditions. School children are more prone for these infections and majority of them are preventable. The objective of the study was to assess the pattern of common skin conditions among school children in Urban South India.

Methods: A cross sectional study was conducted on 615 children from three primary schools coming under the community health centre, Mulky. Data was collected using a pretested semi structured questionnaire on sociodemographic characteristics and skin conditions were identified by examination.

Results: Out of the 615 children, 389 (63%) had infective skin conditions. Most of them belonged to Hindu religion (57.4%) followed by Muslim (32.7%) and Christian (9.4%). Skin infections were equal among both sexes. Among the skin infections, nearly 26.1% had fungal infections, 18.7% had bacterial infections, 13.1% had parasitic infections and 5.4% had viral infections.

Conclusions: Prevalence of skin infections is high in our study and there is a need to emphasize more on improving school health programmes and health education to teachers, parents and children.

Keywords: Skin infection, School children, Urban

INTRODUCTION

Skin is the largest organ of our body which constitutes to about 16% of the body weight and covers the entire body, both exposed and unexposed areas, making it a frequent target for infections. Paediatric group is more at risk for these conditions due to their thin and delicate skin, greater absorption because of greater ratio of skin surface area to body volume and poor ability to regulate temperature. Many earlier studies have also attributed increased frequency among this age group to their personal habits, socioeconomic status and the geographical effect of their places. ¹

Educational institutions are the places where children come into contact with various external stimuli and become more prone to infections. Skin disorders are mostly seen among the school children with a prevalence ranging from 8.7% to 35% as evident from school based surveys conducted in India. School surveys acts as a major indicator of the health status of the community and it is also time saving.²

Common conditions refer to those which have a prevalence of more than 1% in the community or at a primary healthcare setting. Skin disorders or conditions focussed here are mainly the infections of the superficial

layer of skin. Keeping in mind the above definition, the main disorders encountered here are pyoderma (folliculitis, furuncle, carbuncle), scabies, common ectoparasitoses (pediculosis), tinea capitis, superficial mycoses (dermatophytosis, candidiasis, pityriasis versicolor), benign viral tumours (verrucae, molluscum contagiosum) and dermatitis.³

Epidemiological studies on skin conditions among school children are rare and only a few are available. The results of those studies tell us about the importance of skin problems among school children which can be easily identified and promptly treated. There is also evident difference among the pattern of skin conditions geographically. So once proper assessment of skin conditions is made, effective health education to the parents, teachers and community can be given. Further improvements can also be made to the school health programme in this particular area. Keeping this in mind, the main objective of this study was to assess the prevalence of common skin conditions among school children.

METHODS

A school based cross-sectional study was conducted among 615 primary school children selected from 2 government primary schools and 1 private school located in the urban area of Mulky, Dakshin Kannada. Children studying from 1st to 7th standard were included in this study. Those children aged below 5 years and above 16 years, or were absent on two consecutive visits, or those

who had been previously diagnosed with other skin conditions were excluded. Universal Sampling method was used and the study was conducted over a period of 4 months (July 2016- Oct 2016). Written informed consent was taken from the school head master and the parents before the study was conducted.

Study procedure: Three schools that come under CHC Mulky were selected. After obtaining permission from the respective school heads, data was collected using a pretested semi structured questionnaire. A detailed head to toe examination was done in a separate sunlit room in the presence of teachers. Whole body skin examination was done for common skin conditions and then categorized based on causative agents like bacterial, viral, parasitic and fungal. Difficult to diagnose lesions were confirmed with the help of a dermatologist.

RESULTS

Out of the total 615 children assessed, 57.4% (353) were Hindus by religion, 32.7% (201) were Muslims and 9.4% were Christians. Skin conditions in this study were having almost equal prevalence among males (51.2%) and females (48.9%). The mean age of our study subjects was 11.6±3.24 years. Majority of them (41.9%) belonged to 14-16 age group followed by 19.8% in the age group of 11-13 years (Table 1). The Overall prevalence of skin conditions in this study is 63%, out of which higher proportion (26.1%) had fungal infection, 18.7% had bacterial infection, 13.1% had parasitic infection and 5.4% had viral infection (Table 2).

Socio-demographic characteristics	Number (N=615)	Percentage (%)		
Age in completed years				
5-7 years	80	13		
8-10 years	155	25.2		
11-13 years	122	19.8		
14-16 years	258	41.9		
Sex				
Male	315	51.2		
Female	300	48.7		
Religion				
Hindu	353	57.4		
Muslim	201	32.7		
Christian	58	9.4		
Others	3	0.5		

Table 1: Socio-demographic characteristics of study subjects (N=615).

Table 2: Overall prevalence of skin conditions among school children (N=615).

Serial No.	Type of skin infection	Number	Percentage (%)
1	Fungal	161	26.1
2	Bacterial	115	18.7
3	Parasitic	80	13.1
4	Viral	33	5.4
	Total	389	63

Table 3: Distribution of infection among subjects (N=6	515	=6	=	V	(1	ects	sub	ng	an	ction	nfe	i ir	of	ation	ribu	Dist	3:	ole	Γab	
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Type of infection		Number	Percentage(%)		
	Tinea cruris	48	7.8		
Fungal infection	Tinea pedis	23	3.7		
rungai infection	Pityriasis versicolor	90	14.6		
	Total	161	26.1		
	Folliculitis	13	2.1		
	Acne	44	7.15		
	Erythrasma	2	.3		
Do storiel infection	Furuncle	13	2.1		
Bacterial infection	Pytriasis Rosea	4	.7		
	Pitted keratolysis	4	.7		
	Pyoderma	40	6.5		
	Total	115	18.7		
	Varicella	1	.2		
Viral infection	Warts	15	2.4		
virai infection	Corns	17	2.8		
	Total	33	5.4		
	Scabies	60	9.8		
Parasitic infection	Pediculosis	20	3.3		
	Total	80	13.1		

Table 3 shows the distribution of skin infections among study subjects. Out of the 115 total bacterial infections, 44 (38%) had Acne as the major infection, followed by Pyoderma in 40 (34%). Fungal infection was prevalent in about 26.1% (161) of the school children in our study. Out of the 161 children, 90 (55%) had Pityriasis versicolor and 48% (71) had tinea infections. In our study only 5.4% (33) had viral infections with majority of the cases having corn infection. Parasitic infection was also not unusual with a prevalence of 13.4% (80) in this study. Among the 80 students, 75% (60) had scabies at the time of inspection and 20 had pediculosis.

DISCUSSION

Skin infections are common among children and it causes major concern and discomfort for their parents and the society. Even though mortality as such is less, morbidity due to social burden is high.

Out of 615 school children, an overall prevalence of 63% was seen in our study. Almost similar prevalence was seen in studies conducted by different researchers in different parts of India. 59.3% prevalence rate was obtained in a study done by Janaki et al in Chennai and 54% in a study done by Valia et al in Varanasi. Similar findings were found in a study done in Dar es Salaam, Tanzania by Komba et al where the prevalence was found to be 57.3%. This similarity in the prevalence could be because of similar sociodemographic characteristics and climatic conditions among the different study populations.

Among the skin infections, our study subjects had more of fungal infections (26.1%) with more preponderance to

Pityriasis Versicolor. This finding is almost similar to a study conducted by Ewaldo et al in Tanzania and Inanir et al in Turkey. Put a study conducted by Villa et al in Telangana showed a low prevalence of superficial infections among school children. The high prevalence in our study could be due to the humid and hot climatic conditions which directly favours fungal infections. Bacterial infections (18%) were the second most common skin conditions among our study participants with 7% prevalence of Acne which is similar to the findings revealed from a study done by Shrestha et al in Nepal. 11

In the current study, the percentage of parasitic infection was 13%. Most of them (9%) have Scabies as the main problem. This finding is in accordance with a study done by Rotti et al in Karnataka where the prevalence of the same infection was 8%. Pediculosis showed a low prevalence in the present study (3%), which is similar to a study done by Rao et al in Mangalore. Viral warts and corns were the prevalent viral skin conditions in the present study which were similar to findings in studies done by Patel et al and Janaki et al in India. 1,14

CONCLUSION

The results of the current study conclude that the prevalence of common skin conditions is high among our study participants. Determination of the skin problems is highly important for performing necessary preventive programs like health education and also for taking appropriate actions at the right time. Common skin conditions are easily identifiable and curable. So awareness about skin conditions and the necessity for early detection has to be promoted among parents, teachers and even the school children.

Limitations

Since our study included only urban schools, the results can't be generalised to all schools in Dakshin Kannada. We have only explored the infective skin conditions except Acne and so pattern of non-infective skin conditions cannot be assessed.

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Ethical approval: The study was approved by the

Institutional Ethics Committee

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