pISSN: 0976 3325 eISSN: 2229 6816

ORIGINAL ARTICLE

PREVALENCE OF VARIOUS DERMATOSES IN SCHOOL CHILDREN OF ANAND DISTRICT

Rita Vora[1], Nishit Bodiwala[2], Shivang Patel[3]

[1]Professor and Head, [2]Assistant Professor, [3]Resident, Department of Dermatology, Shree Krishna hospital, Pramukhswami medical college, Karamsad, Anand 388 325, Gujarat

Correspondence:
Dr Rita Vora (Professor and Head),
Department of Skin & V.D,
Shree Krishna hospital, Pramukhswami medical college,
Karamsad, Anand 388 325, Gujarat.
E-mail: ritavv@charutarhealth.org, Phone: 02692- 222130

ABSTRACT

Introduction: Skin diseases are common in children. School survey is a useful yardstick as it is easy to conduct, less time consuming and large number of children of particular age group can be screened for presence of diseases.
Method: This study was conducted in 48 schools (32 urban and semi urban schools,16 rural school) of Anand district over a period of 5 years from Jan 2006 to Dec 2010. Total 26177 students comprising 15248 male and 10929 female from KG to 12th standard were examined.
Result: Out of 26,177 students, 15.41 %(4035) students were found to have skin disorders. Out of this, 18.14% (732) had infectious dermatoses, 79.60% (3212) had non-infectious dermatoses and 2.26%(91) had nutritional dermatoses.
Discussion: The prevalence of skin disease (15.41%) reported in our study is quite less than other studies. Infectious disease showed low incidence compared to other studies due to proper hygienic condition.

Keywords: Various dermatoses, school children

INTRODUCTION

The pattern of skin disease in India is affected by various factors like ecological, environmental, racial, social, mental and literacy level[1]. In our country 100-150 million children are of school going age[2]. Children are more prone to develop skin disorders. In children skin disorders are an important health problem[3]. Though these are not responsible for mortality they do cause significant morbidity[4]. School survey is a useful yardstick as it is easy to conduct, less time consuming and large number of children of particular age group can be screened for presence of diseases at a time[5]. It is also a useful tool to detect prevalence of various skin diseases and status of health and hygiene of society[6]. It helps in detection and treatment of infectious disease like pyoderma, infestation, fungal infection, leprosy and nutritional deficiency dermatoses in early age[7]. A number of studies have been conducted to understand the skin problems in child population, which have recorded wide-ranging prevalence and patterns[4]. Only a few populations based epidemiological studies measuring the prevalence of skin diseases in school children exist[8]. We know very little about magnitude and burden of skin disease among children at a population level. Such knowledge forms an essential step in population-based needs assessment[9]. Health education and personal hygiene will definitely helps to improve health status of school children. Present survey was conducted to determine the spectrum and patterns of skin diseases in school children of Anand district, Gujarat which was not documented in past.

MATERIAL AND METHOD

Study area: 48 different school of Anand (32 urban and semi urban schools, 16 rural schools)
Study time period: Over a period of 5 years from Jan 2006 to Dec 2010
Inclusion criteria: All the school children are selected who were present at the school. Consent was obtained from the head of each institute.
Exclusion criteria: Age < 4 years and > 17 years.
Sample size: Total of 26177 students (15248 were boys and 10929 were girls).
Type of study: Cross sectional study.
After screening skin diseases were classified under three broad categories.
1. Infectious dermatoses
2. Non infectious dermatoses
3. Nutritional deficiency dermatoses

RESULTS

Table 1: Distribution of total dermatoses amongst boys and girls

	Boys	Girls	Total
Subjects	15248	10929	26177
Dermatoses	2342	1693	4035
Percentages	15.36	15.49	15.41

Chi-Squere value-0.08, P value-0.77 which is > 0.05. As p value is not significant, there is no difference of distribution of diseases amongst males and females. As shown in above table prevalence of skin disease in our study has been found to be equally common in both boys and girls.

Table 2: Category wise distribution of total dermatoses amongst boys and girls

Category	Boys	Girls	Total
Infectious	436 (10.81)	296 (7.34)	732 (18.14)
Non-infectious	1854 (45.95)	1358 (33.65)	3212 (79.60)
Nutritional deficiency	52 (1.29)	39 (0.97)	91 (2.26)
Total	2342 (58.04)	1693 (41.96)	4035 (100)

Chi-Squere value-0.86, P value-0.65 which is > 0.05.As p value is not significant, there is no difference of distribution of diseases amongst males and females. In our study we have found 52 different type of skin diseases, out of these 10 were infectious, 38 were non-infectious and 4 were nutritional deficiency dermatoses. We have found total 4035 students with dermatoses. Out of these 732(18.14) students had infectious dermatoses, 3212(79.60) students had non-infectious dermatoses and only 91(2.26) had nutritional deficiency dermatoses.

Table 3: Distribution of infectious dermatoses amongst boys and girls

Infectious der.	Boys	Girls	Total
Pyoderma	159(3.44)	105(2.60)	264(6.54)
T.Versicolar	66(1.64)	42(1.04)	108(2.68)
Scabies	105(2.60)	57(1.41)	162(4.01)
Dermatophtoses	29(0.72)	25(0.62)	54(1.34)
Warts	23(0.57)	14(0.35)	37(0.92)
Pityriasis rosea	2(0.05)	2(0.05)	4(0.10)
M.Contagiosum	19(0.47)	6(0.15)	25(0.62)
Chickenpox	10(0.25)	4(0.10)	14(0.35)
Herpes zoster	1(0.02)	0(0.00)	1(0.02)
Pediculosis	22(0.55)	41(1.01)	63(1.56)
Total	**436(10.81)**	**296(7.34)**	**732(18.14)**

In infectious dermatosis, one third of the children were suffering from superficial bacterial infection (pyoderma) while pediculosis capitis was seen only in 1.56 students. In some epidemiological studies performed in elementary schools, pediculosis capitis was most frequent skin disorder. [10, 11]
Out of non-infectious dermatosis P.alba and xerosis were common eczematoid condition observed in one third of students. In study done for prevalence of skin condition in primary school children in Turkey suggest that pilar keratosis, pityriasis alba, and xerosis were the most common eczematoid condition observed in more than one tenth of children.[12]

Table 5: Distribution of nutritional deficiency dermatoses amongst boys & girls

Nutritional defi. Der	Boys	Girls	Total
Phrynoderma	37(0.92)	30(0.72)	67(1.66)
Cheilitis	8(0.20)	4(0.10)	12(0.30)
Angular stomatitis	1(0.02)	2(0.05)	3(0.07)
Apthous ulcer	6(0.15)	3(0.07)	9(0-22)
Total	**52**	**39**	**91(2.26)**

Phrynoderma was seen in half of the nutritional deficient dermatosis. Acne vulgaris has been found to be the common dermatoses in our

study, which might be due to pre-pubertal and pubertal students we included.

Table 4: Distribution of non- infectious dermatoses amongst boys & girls

Non-infectious dermatoses	Boys	Girls	Total
Acne vulgaris	415(10.29)	342(8.46)	757(18.76)
P.Alba	460(11.40)	422(10.46)	882(21.86)
Miliaria	296(7.34)	174(4.31)	470(11.65)
Nevus	62(1.54)	38(0.94)	100(2.48)
Eczema	31(0.77)	23(0.57)	54(1.34)
Lichenoid rash	26(0.64)	17(0.43)	43(1.07)
Mole	11(0.27)	11(0.27)	22(0.55)
Dermographism with Chronic urticaria	20(0.50)	14(0.34)	34(0.84)
Dandruff	9(0.22)	6(0.15)	15(0.37)
Vitiligo	33(0.82)	23(0.57)	56(1.39)
Keratoderma	21(0.52)	16(0.40)	37(0.92)
Hair fall	7(0.17)	8(0.20)	15(0.37)
Papular urticaria	5(0.12)	4(0.10)	9(0.22)
Leucoderma	5(0.12)	3(0.08)	8(0.20)
Milia	22(0.55)	11(0.27)	33(0.82)
Freckles	3(0.07)	3(0.07)	6(0.15)
Hemangioma	2(0.05)	2(0.05)	4(0.10)
Papular urticaria	64(1.59)	49(1.01)	105(2.60)
Café au lait spot	3(0.07)	0(0.00)	3(0.07)
Lichen nitidus	2(0.05)	1(0.02)	3(0.07)
Scar	64	25	89(2.21)
Clubbing	1(0.02)	1(0.02)	2(0.05)
Alopecia	2(0.05)	1(0.02)	3(0.07)
Premature canitis	1(0.02)	0(0.00)	1(0.02)
Hirsuitism	0(0.00)	1(0.02)	1(0.02)
Scleroderma	0(0.00)	1(0.02)	1(0.02)
Xerosis	191(4.73)	119(2.95)	310(7.68)
Post inflammatory hyperpigmentation	35(0.87)	15(0.37)	50(1.24)
Post inflammatory hypopigmentation	43(1.07)	24(0.59)	67(1.66)
Allergic rash	10(0.25)	4(0.10)	14(0.35)
Icthyosis	1(0.02)	0(0.00)	1(0.02)
Atopic dermatitis	3(0.07)	1(0.02)	4(0.10)
Leprosy	1(0.02)	0(0.00)	1(0.02)
Lichen striatus	1(0.02)	0(0.00)	1(0.02)
Lichen simplex chronicus	1(0.02)	0(0.00)	1(0.02)
Id eruption	1(0.02)	0(0.00)	1(0.02)
Nail changes	2(0.05	1(0.02)	3(0.07)
Paronychia	1(0.02)	0(0.00)	1(0.02)
Total	**1854**	**1358**	**3212(79.60)**

DISCUSSION

We have compared our study with other studies like K.S.Negi[4], Kuruvilla[1] and Valia R.A.[7] study. In our study skin disorders were found only in 15.41, while in Kuruvilla it was 76.65 and in Valia R.A. it was 53.6. This might be because of semi urban area and good socio economic status of population in our area. In our study infectious dermatoses were present only in 18.14 while in K.S.Negi it was 50.9 and in Kuruvilla and Valia R.A. it was 42.68 and 43 respectively. This might be because of proper hygienic condition. In our study nutritional deficiency dermatoses were present only in 2.26 compare to 17.5 in K.S.Negi study. Non-infectious dermatoses were present in 79.60 in our study while it was only 31.6in K.S.Negi study.

CONCLUSION

It is important to determine the prevalence of skin disorders so that necessary educational programs and preventive measures can be performed. Overall incidence of dermatoses is only 15.41, which is quite low, compared to other study. Prevalence of skin disorders has been found to be equally common in both boys and girls. Non-infectious (79.60) dermatoses were more common then infectious (18.14) dermatoses. Infectious and nutritional deficiency dermatoses show low prevalence, while non-infectious dermatoses shows high prevalence compared to other studies. Survey was combined with treatment and education for communicable and nutritional deficiency dermatoses. This would make a significant contribution towards improving the health status of the vital segment of population. The finding that over 80 of the disorders can be grouped into fewer than six categories is important in informing training programs and delivery of service for primary health care teams. This study provides a baseline for further studies into morbidity and use of health care services by children with skin disease in the community. Health education and good personal hygiene will definitely help to improve the health status of school children.

REFERENCE

1. Kuruvilla maria, Sridher K S, Kumar Pramod, Rao Gat,Pattern of skin disease in Bantwal taliqua, Dakshina Kannada,IADVL-2000, Vol. 66/ Issue 5/ 247-248.
2. Mukherjee PK, Sen PC. Health status of school children in rural West Bengal. J Indian Med Assoc 1962; 38:421-426.
3. K.S.Negi, S.D.Kandpal, D.Prasad, Pattern of skin disease in children in Garhwal region of Uttar Pradesh, Indian Paediatrics 2001/ 38/ 77-80.
4. Bhatia V. Extent and pattern of pediatric dermatoses in rural areas of central India IJDVL-1997, Vol.63/Issue 1/ 22-25.
5. Gatha S Rao, Pramod kumar, Maria Kuruvilla.Prevalence of various dermatoses in school Children.IADVL-1999, Vol.65/Issue 3/126-127.
6. NL Sharma, RC Sharma Prevalance of Dermatologic diseases in school children of a high altitude tribal area of Himachal Pradesh, IJDVL-1990,Vol.56/375-376.
7. Valia R A, Pandey S S, Kaur Paramjeet, Singh Gurm.Prevalence of skin disease in Varanasi school children, IADVL-1991, Vol. 57/ Issue 3/ 141-143.
8. Popescu R, Popescu CM, Williams HC, Forsea D. The prevalence of skin condition in Romanian school children. Br J Dermatol 1999;140:891-896.
9. Stevens A, Gillem S. Health needs assessment: from theory to practice. Br Med J 1998;316: 1448-51.
10. Becheli L M, Haddad N, Pimenta WA, et al. Epidermiological survey of skin diseases in schoolchildren living in the Purus Vally (Acre State, Amazonia, Brazil). Dermatologica 198; 163: 78-93.
11. Figueroa JI, Fuller LC, Abraha A, Hay RJ. The prevalence of skin disease among school children in rural Ethiopia – a preliminary assessment of dermatological needs. Pediatric Dermatol 1996;13:378-381.
12. Isil Inanir, M. Turhan Sahin, Kamer Gunduz, Gonul Dinc, Aylin Turel, Serap Ozturkcan. Prevalence of Skin Conditions in Primary School Children in Turkey: Differences Based on Socioeconomic Factors Pediatric Dermatology Vol.19 No.4,307-311,2002