

PATTERN OF SKIN DISEASES AMONG PRIMARY SCHOOL CHILDREN IN BASRAH SOUTHERN IRAQ

Kathem K. Al-Rubiay, Omran S. Habib and Samira M Ebrahim

ABSTRACT

A survey was conducted in Basrah involving a random sample of 720 children obtained from lists of names in 12 primary schools. The sample covered 20% of pupils registered in the first, third and sixth classes of each school. The study was a cross-sectional aiming at determining the prevalence rates and distribution of skin diseases among these children. The sample consisted of 364 boys and 356 girls. The sample was drawn in such away to ensure fair distribution of schools in different parts of the city of Basrah. The results showed that 229 or 31.8% of the study children had some sort of skin disease at the time of the study. With respect to sex, the prevalence rate was 29.4% among boys and 34.3% among girls but the difference was statistically not significant. Regarding the prevalence rates in different classes, they were 23.3%, 30.4% and 41.7% among children in the first, third and sixth class in that order. The prevalence rates of the most common skin diseases among children were Pityriasis alba (5.6%), Pediculosis (5.4%), atopic dermatitis (3.6%), acne (3.6%), bacterial infection (3.5%), foot eczema (2.2%), warts (2.1%) and hand eczema (1.4%). The results suggest the need for school health services to emphasize the skin diseases as an important health problem together with other activities in their programmers.

INTRODUCTION

Skin diseases are common in the community and vary considerably in severity.^[1-5] Also, skin diseases are the most frequent diseases among school children both in developing and developed countries.^[6-12] Little is known about the prevalence of such diseases and the associated risk factors among children in Basrah. Knowledge about their significance in affecting the academic performance of school children is also lacking. Therefore, we have investigated the extent of skin diseases among primary school children in Basrah. In this paper we describe the extent of the problem in terms of prevalence and sex as well as class variation.

SUBJECTS AND METHODS

Children were recruited from twelve primary schools in Basrah city. These schools were selected from a list of schools in the city, which was obtained from the Directorate General of education following a systematic random sampling procedure. The sample was restricted to three classes out of six just for time and economic considerations. A total of 720 children were included and successfully examined. They consisted of 364 boys and 356 girls. The examination took place at schools in the presence of teachers, headmasters and at least two of the research team. The head, neck, forearms, hands, legs and feet were examined for each child. The

diagnosis was based on clinical grounds by a specialist dermatologist. Statistical analysis was performed using the SPSS package version 10.

RESULTS

A total of 720 primary school children including 364 (50.6%) boys and 356 (49.4%) girls were studied. The age range was 6-15 years with a mean age of 8.6 ± 2.3 years. Skin diseases were detected in 229 children giving an overall prevalence rate of 31.8% (Table-1). The prevalence rate was relatively higher among girls (34.3%) as compared to boys (29.4%), but the difference was statistically not significant ($P > 0.05$). Collectively, all types of eczema (pityriasis alba, atopic, hand and foot eczema) constituted 40.3% of all detected cases, followed by pediculosis accounting for 17.0%, then acne (11.4%) and bacterial infection (10.9%). (Table-1).

Sex specific prevalence rates for the most common skin diseases are described in (Table-2). The results show that pityriasis Alba was significantly more common among boys (8.0%) as compared to girls (3.1%) ($P < 0.001$). Pediculosis was more common among girls (8.4%) compared to 2.5% among boys statistically significant ($P < 0.001$). With respect to bacterial infection and feet eczema, they were both higher among girls compared to boys but the differences were insignificant (Table-2).

Regarding the prevalence rates in different classes (which indirectly reflect variation with age), the figures in (Table-3) indicate that the prevalence rate rises with advancing classes. It was 23.3% in the first class (younger children) compared to 30.4% in the third class and to 41.7% in the sixth class (older children)

Table 1. The prevalence rates of skin diseases (%)

Diseases	No.	Prevalence (%)	% out of total
Pityriasis alba	40	5.6	17.5
Alopecia	6	0.8	2.6
Pediculosis	39	5.4	17.0
Atopic dermatitis	26	3.6	11.4
Bacterial infection	25	3.5	10.9
Warts	15	2.1	6.6
Herpes simplex	6	0.8	2.6
Tinea capitis	6	0.8	2.6
Hand eczema	10	1.4	4.4
Foot eczema	16	2.2	7.0
Ichthyosis	1	0.1	0.4
Vitiligo	2	0.8	0.9
Lichen plantus	1	0.1	0.4
Acne	26	3.6	11.4
Others	10	1.4	4.4
Combination	25	3.4	10.9
Total	229	31.8	100.0

Table 2. Sex-specific prevalence rates for common skin diseases.

Diseases	Males		Females		P values
	No. of cases	Prevalence (%)	No. of cases	Prevalence (%)	
Pityriasis alba	29	8.0	11	3.1	0.01
Alopecia	3	0.8	3	0.8	NS
Pediculosis	9	2.5	30	8.4	0.001
Atopic dermatitis	15	4.1	11	3.1	NS
Bacterial infection	9	2.5	16	4.5	NS
Warts	8	2.2	7	2.0	NS
Tinea capitis	4	1.1	2	0.6	NS
Hand eczema	4	1.1	6	1.7	NS
Foot eczema	6	1.7	10	2.9	NS
Acne	6	1.7	20	5.6	0.01
Overall		34.3	---	29.4	NS

Table 3. Sex and class distribution of cases.

Class	Total children	No. of cases in boys	No. of cases in girls	Total cases	Prevalence rates (%)
First	240	27	29	56	23.3
Third	240	36	37	73	30.4
Sixth	240	44	56	100	41.7
Total	720	107	122	229	31.8

DISCUSSION

This is one of very few studies on skin diseases among primary school children in Basrah. The results showed that skin diseases were common with an overall prevalence rate of 31.4%. To date, we could not find similar studies to compare the present results with. However, previous studies showed that the prevalence of pediculosis capitis in Basrah was 14% and in Mosul, it was 27% which, both were much higher than the findings in this study. Comparing the present results with results reported in studies carried out elsewhere, it is possible to say that our results with respect to pediculosis are much lower than those reported elsewhere among children in Mosul as mentioned above or Amman, Jordan where a prevalence rate of 19.2% was reported.^[5,7,9,10] The variation in skin diseases in different populations could reflect variation in environmental conditions, time as well as problems related to study designs and inter observer variation. The present study, however, agrees with other studies in affirming the fact that pediculosis was more common among girls. No clear explanation could be put for the higher rate of pityriasis alba among boys as compared to girls. This may suggest the need for further studies on these aspects of skin diseases. The prevalence of atopic dermatitis was within the range documented across the world but it is difficult to conclude whether this problem is changing with time or not, given the fact that the global range is between 4% and 20%. The prevalence rate reported in this study was lower than those reported for western countries^[3,6,11,12] but relatively higher than those reported from Saudi Arabia at only 1.7%.^[13] These variations may reflect ethnic, environmental and diagnostic criteria used in different studies. With respect to acne, the results agree with widely known distribution. Acne is known to be more common and commences earlier in girls probably in connection with earlier puberty in girls.^[14-16]

REFERENCES

1. Yeatman JM, Kilkeny MF, Stewart K, et al. Advice about management of skin conditions in the community: Who are the providers? *Australian Journal of Dermatology* 1996; 37: 46-47.
2. Al-Rubiay KK. Pattern, determinants and illness behaviour of people with skin diseases in Basrah. Ph.D. thesis. University of Basrab 2001.
3. William HC. Epidemiology of skin diseases in: Champion RH, Burton JL, Burns DA et al (Eds.) *Textbook of dermatology*. 6th ed. Oxford, London. Edinburgh, Blackwell Science LTD. 1998; 139-157.
4. Al-Rubiay KK, Salem A. The pattern of skin diseases in Basrah province: Review of 9252 patients. *The Medical Journal of Basrah University* 1995; 13: 183-195.
5. Amer ZS, Nusier MN. Pediculosis capitis in northern Jordan. *Int. Dermatol.* 2000; 39:919-921.
6. Laughter D, Istvan JA, Tofte SJ, et al. The prevalence of atopic dermatitis in Oregon school children. *J.Am.Acad Dermatol.*2000; 43:649-655.
7. Shakkoury WA, Abu Wendy E. Prevalence of skin disorders among male school children in Amman, Jordan. *Eastern Mediterranean Health Journal* 2000; 5: 955-959.
8. Kilkeny MF, Merlin K, Young R, et al. The prevalence of common skin conditions in Australian school students: common, plane and planter viral warts. *British Journal of Dermatology* 1998; 138: 840-845.
9. Al-Rubiay KK. Prevalence of head lice among primary school children in two urban districts in Basrah. Iraq. *The Medical Journal of Basrah University* 1994; 12: 175-184.
10. Al-Mallah O, Al-Izzi NS. The incidence of the head louse (*Pediculus Humanus capitis*) among school children in Mosul. *J F Med. Baghdad* 1997; 37: 275-296.
11. William HC, Pembroke AC, Forsdyke H, et al. London-born black Caribbean children are at increased risk of a topic dermatitis. *J Am Acad. Dermatol* 1995; 32: 212-217.
12. Herd RM, Tidman MJ, Prescott RJ, et al. Prevalence of atopic eczema in the community: Lothian atopic dermatitis study. *Br. J Dermatol* 1996; 135:18-19.
13. Baharndan KA, Mahfouz AA, Tallab T, et al. Skin diseases among adolescent boys in Abha, Saudi Arabia. *Int.1 Dermatol.* 1996; 35: 405-407.
14. Healey F and Simpson NB. Acne vulgaris. *Br. Med. J.* 1994; 308:831-833.
15. Lucky AW, Biro FM, Huster GA, et al. Acne vulgaris in premenarchal girls: an early sign of puberty associated with rise of dehydroepiandrosterone. *Arch Dermatol* 1994; 130:308-314.
16. Lucky AW, Biro FM, Huster GA et al. Acne vulgaris in early adolescent boys. *Arch. Dermatol* 1991; 127: 210-216.