Prevalence of *Tinea capitis* among Primary School Children in Baghdad Governorate, Iraq

Khalid A. Khlifa
MBChB, MSc

Eman Al-Kaseer
MBChB, FIBMS

Jawad K. Al-Diwan
MBChB, FIBMS

Faris H. Al-Lami
MBChB, MSc, PhD

Abstract:

Background: *Tinea capitis* is most common of all cutaneous mycoses in children in developed and undeveloped regions

Objectives: to describe the prevalence of *Tinea capitis* among primary school children in Baghdad governorate in relation to certain socio-demographic characteristics

Methods: A total of 2160 school children were randomly selected from 30 primary schools in both urban and rural areas of Baghdad. Data collection was extended from 10th of Feb. to the 26th of April, 2004. A self administered questionnaire form was distributed to each selected student to be filled by his parents. Wood's light was used confirm the diagnosis of *Tinea capitis*.

Results: The prevalence of *Tinea capitis* 0.1%. Cases of *Tinea capitis* were diagnosed among male children only, living in rural areas, among children living in crowded conditions. Their families with low educational level of fathers and mothers

Conclusion: prevalence rate reflect the improvement in hygienic and socio- economic status in Baghdad, Iraq.

Keywords: *Tinea capitis*, Hygiene, Baghdad, school

Introduction:

Tinea capitis is most common of all cutaneous mycoses in children in developed and undeveloped regions [1]. Family members and school children are known to be at a higher risk of contracting the disease [2,3]. Tinea capitis is the second most frequent dermatophytosis in Mosul, Iraq after Tinea corporis [4] and most frequent cause of dermatophytosis in Jordan and Iran [5,6]. Such as age,

Materials & Methods:

A total of 2160 school children were randomly selected from 30 primary schools in both urban and rural areas of Baghdad. Their aged between 6 and 15 years (mean ± SD = 9.1 ± 3.57) with male to female ratio of 0.97:1.

Data collection was extended from 10th of Feb. to the 26th of April, 2004. A self administered questionnaire form was distributed to each selected student to be filled by his parents. The data collected included general socio- demographic information such as age, sex, residency, and educational level of parents.

Crowding index was calculated by dividing the number of households on the number of bedrooms. Wood's light was used confirm the diagnosis of *Tinea capitis.*

Chi–square (Yate's correction) was calculated for statistical analysis. P value less than 0.05 was considered statistically significant.

Sex, residency, educational level of parents …etc.

Results:

The prevalence of *Tinea capitis* among primary school children in relation to certain socio-dermographic variables is shown in Table 1. Only 2 school children were found to be infected with *Tinea capitis*, giving a prevalence rate of 0.1%. The disease was found among those 6 – 7 years and 8 – 9 years of age with prevalence rates of 0.14% and 0.15%, respectively.

These variations are of no statistical significance. Both cases of tinea capitis were diagnosed among male children giving a prevalence rate of 0.2%, and among children living in rural areas giving a prevalence rate of 0.3%. Both cases also were reported among children living in crowded conditions with a crowding index more than 3 and a prevalence rate of 0.3%.

Both cases were among children from families with low educational level of fathers and mothers giving prevalence rates of 0.3% and 0.2%, respectively.

Table 1 Prevalence of *Tinea capitis* among primary school children in relation to certain socio- demographic variables.

Variable	Total No.	*Tinea capitis*	
		No.	%
Age group			
6 – 7	681	1	0.14
8 – 9	652	1	0.15
10 – 11	583	0	0.0
≥ 12	244	0	0.0
Gender			
Male	1066	2	0.2
Female	1094	0	0.0
Residency			
Urban	1440	0	0.0
Rural	720	2	0.3
Crowding index			
≤ 3	1440	0	0.0
> 3	720	2	0.3
Education level of father			
Primary school or less	715	2	0.3
Secondary school or more	1445	0	0.0
Education level of mother			
Primary school or less	1231	2	0.2
Secondary school or more	929	0	0.0
Total	2160	2	0.1

Discussion:

The reported prevalence rate of tinea capitis in this study (0.1%) is lower than rates previously reported in Baghdad, Iraq (2.7%) [2] and in Basrah, Iraq (0.8%) [8]. Higher rates were reported in Spain (0.46%) [9], Kenya (7.8%) [10] and Egypt (7.4%) [11]. Much higher rates were reported among black children in South Africa (13%) and Ethiopia (33%) [13].

These variations may be attributed to social, socio-economic and geographical variations; cosmetic factors play a role in the spread of infection [14]. There has been a marked decline in the incidence of *Tinea capitis* during last 50 years due to improvements in social and hygienic practices. In Mexico City the incidence declined from 31% in 1940 – 1950 to 1.6% in 1986–1996 [15].

The low prevalence of *Tinea capitis* among primary school children in this study may be attributed to better collaboration between health and education sectors which was reflected by strict inspection of school children by their teachers for any manifestation of scalp lesions and those infected were prevented from attending school until treated and cured.

In this study the disease was restricted to those 6–9 years of age; this finding is in agreement with many studies which reported that the majority of cases occur in younger children under 10 years of age [13,16-19]. This has been mainly attributed to the sensitivity of dermatophytes to certain sebaceous gland secretions that first appear at puberty [16].

Our study demonstrated, also, that the disease was prevalent among males only. This result is an agreement with other studies conducted in Iraq [4,7,20,21] and Italy [22]. These sex variations in the prevalence rates of superficial mycosis were not observed in Romania [23], Turkey [24] and India [25].

In an attempt to study the association of infection rates with socio- economic status of children, the rates were analyzed in relation to residency, crowding index and educational level of parents as no proper acceptable classification of socio- economic state of Iraqi population is available.

This study revealed that the disease was strictly present among children in rural areas, living in overcrowding conditions and having a low educational level of parents.

Another study in Iraq revealed significant variations in the prevalence of *Tinea capitis* with residency, crowding index and educational level of parents [7]. Other studies in Iraq reported variable results regarding association of infection rates with residency [4,26,27]. Contact with animals in rural areas may play a significant role in the transmission of *Tinea capitis* [28].

In the United Kingdom Affro- Caribbeans are particularly affected with *Tinea capitis* [29].

Improvement in hygienic and socio- economic status

of Palestinian population had led to a marked reduction in the prevalence of Tinea capitis [30].

Low prevalence rate reflect the improvement in hygienic and socio- economic status in Baghdad, Iraq.

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Dept. of Community Medicine, College of Medicine, Baghdad University