

PREVALENCE OF DERMATOPHYTOSIS IN UNIVERSITY OF NIGERIA TEACHING HOSPITAL, ENUGU, NIGERIA: ANY CHANGE IN PATTERN?

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ABSTRACT

A total of 344 specimens of skin, hair and nail clippings, were examined for the presence of dermatophytes during the period May 2003 - April 2004 at the UNTH, Enugu. Out of these, 65 were found positive for dermatophytes. *T. soudanense* was the most frequently isolated species representing 70.8% of isolates, followed by *T. mentagrophytes* 12.3%. Adults were more predominantly infected than children, 89.2% and 10.8% respectively. *T. soudanense* was the only dermatophyte that was recovered from all sites apart from the buttocks.

Compared to an earlier study in 1975, there was a significant decrease in the prevalence of *T. capitis* ($P < 0.05$) and this explains the decrease in the prevalence of *M. audouinii*, as this dermatophyte is the most common cause of *T. capitis* in Enugu, Nigeria.

An improvement of Personal hygiene, better living conditions and improved socio economic conditions has led to a decrease of *T. Capitis*, as well as general awareness by the populace.

Key words: Dermatophytes, superficial mycoses, antropophilic.

INTRODUCTION

Dermatophytosis constitutes a group of superficial fungal infections of the epidermis, hair and nails. Dermatophytosis and other superficial fungus infection of the skin are a major public health problem in Nigeria¹, and Africa in general². Studies on the clinical and aetiological aspects of dermatophytosis have been carried out in different parts of the World²⁻⁴ and Nigeria^{1,5-9}. An earlier study¹ in 1975 from the university of Nigeria teaching hospital, reported on the causative agents of superficial mycoses. The present study which covered the period May 2003 to April 2004 reports on the prevalence of causative agents of superficial mycoses as well as changes, if any in the prevalence when compared to the earlier study¹.

MATERIALS AND METHODS

Three hundred and forty four (344) samples of skin, hair and nail scrapings suspected to be infected by superficial mycoses were collected in paper packets during the period. A portion of each clinical specimen was microscopically examined in 20% KOH for the presence of fungal hyphae and anthrospores and cultured on slopes of sabourand dextrose agar (oxoid) supplemented with chloramphenical (0.05mg/ml) and actidione (0.5mg/ml). All slopes were incubated at room temperature (28°C) and incubated for up to 4 weeks, being periodically examined every other day for the growth of dermatophytes. Lactophenol cotton blue (Gurrs London) was used

as stain for wet mount preparations.

RESULTS

A total of 344 samples were examined during the period May 2003 to April 2004, out of which 65 isolates of dermatophytes were recovered. Five species of dermatophytes were isolated from all the specimens (Table I) namely *Trichophyton Soudanense*, *T. mentagrophytes*, *M. audouinii*, *T. rubrom* and *M. nanum*, with *T. soudanense* being the most prevalent (70.8%), followed by *T. mentagrophytes* (12.3%).

Distribution of dermatophytes according to age and sex

Adults were more predominantly infected than children 89.2% and 10.8% respectively, with males and females accounting for 43.1% and 56.9% respectively.

Distribution of dermatophytes according to sites and lesions

Most isolates 51 (78.5%) were from the skin (other parts of the body such as legs, hands, arms, back, chest and abdomen), followed by the feet 5 (7.7%). (Table II). *T. soudanense* was the only dermatophyte that was recovered from all sites apart from the buttocks. Only two dermatophytes were recovered from the scalp, with both being of endotric type of infection. In contrast, in the earlier study (1) *M. audouinii* was the most prevalent (21.7%), with most causing *T. capitis*.

Also prevalence of *T. capitis* in the current study was (3.1%) compared with 24.1% in the previous study. The decrease was significant ($P < 0.05$).

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Table I: Distribution of Dermatophytes According To Age and Sex

Species	Number of Patients	Age		Sex	
		Adult	Children	Males	Females
<i>T. Soudanense</i>	46	42	4	19	27
<i>T. mentagrophytes</i>	8	6	2	4	4
<i>M. audouinii</i>	6	5	1	4	2
<i>T. rubrum</i>	4	4	-	1	3
<i>M. nanum</i>	1	1	-	-	1
Total	65	58	7	28	37

Table II: Distribution of Dermatophytes According To Sites of Lesions

Species	Total No. of patients	Scalp	Buttock	Groin	Feet	Toe web	Fingers & toe nails	*Other parts of the body
<i>T. soudanense</i>	46	2	-	2	4	2	1	35
<i>T. mentagrophyte</i>	8	-	-	-	-	-	-	8
<i>M. audouinii</i>	6	-	-	-	1	-	-	5
<i>T. rubrum</i>	4	-	-	2	-	-	-	2
<i>M. nanum</i>	1	-	-	-	-	-	-	1
Total	65	2	-	4	5	2	1	51

*These include arms, legs, abdomen, chest, back, neck e.t.c.

DISCUSSION

The present study has provided current information on the prevalence and pattern of dermatophyte infections in Enugu, Nigeria. It has also demonstrated that a variety of dermatophyte species can infect the glabrous skin as well as the scalp, producing a variety of lesions.

All the 5 species recovered were of antropophylic variety, with *T. soudanense* being the most prevalent (70.8%). This agrees with another study⁷ in Cross River State Nigeria. However in the earlier study¹, *M. audouinii* was the most prevalent (21.7%) with most causing *T. capitis*. Other studies^{6,8,9}, have also confirmed *M. audouinii* to be the predominant aetiologic agent of *T. capitis*. In contrast in other parts of the world, Europe and America, *M. canis* a zoophilic dermatophyte is the dominant aetiologic agent of *T. capitis*¹.

The significant reduction on the prevalence of *T. capitis*, led to a decrease in the prevalence of *M. audouinii* in the current study and this is due to the fact that there is now an improvement of personal hygiene especially among primary school children and improvement in the socioeconomic conditions of the populace. Many factors such as high humidity, crowded living and poor sanitary conditions and socioeconomic factors favour the spread and persistence of the disease in the tropics. Most of the populace are now aware of the occurrence and features of *T. capitis* and many now resort to self medications.

The isolation of *T. soudanense* from ringworm lesions on sites other than the scalp, viz groins, arms, legs, abdomen, chest and back (*Tinea corporis*) as well as fingers and toe nails (*Tinea unguium*) points to its versatile cutaneous infectivity.

Almost all the isolates of dermatophytes recovered in the current investigation belong to the antropophilic variety except one isolate of *M. nanum* which is zoophilic. This rarity of zoopholic dermatophytosis has also been confirmed in other studies⁵⁻⁷. The lower prevalence of dermatophytosis (18.9%) in the current study compared to 30.2% in the earlier study (1) could be mainly explained by the significant reduction in the prevalence of *T. capitis* from (24.1%) in the earlier study to 3.1% in the current study. This has already been explained by the improved person hygiene of majority of the children especially primary school children as well as improved living condition and socio-economic factors.

In contrast to the earlier study¹, females were more infected than males, although this was not significant (P <0.05).

There is the need to continue to monitor the prevalence and pattern of dermatophytosis in Enugu and in Nigeria generally, so as to observe any further changes in occurrence. Although the prevalence has decreased in Enugu, it is still a public health problem.

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