



CLINICO-EPIDEMIOLOGICAL STUDY OF DERMATOPHYTIC INFECTION IN PATIENTS ATTENDING TO TERTIARY CARE HOSPITAL.

Dermatology

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ABSTRACT

INTRODUCTION: Dermatophytosis is a common superficial mycosis causing significant cutaneous morbidity. Itching is severe, and disabling lesions on the genital and other areas cause social embarrassment and impair quality of life.

AIMS: To study clinico-epidemiological pattern of dermatophytic infection in a tertiary care hospital

MATERIALS AND METHOD: A cross sectional study of 200 patients presenting with dermatophytic infection who fulfilled inclusion criteria were included and studied.

RESULTS: Out of 200 patients majority of patients were having tinea cruris and corporis as clinical presentation, with 40% patients having combined clinical presentation. Overcrowding, sharing the personal use products like towel, lower socioeconomic status and occupation were main contributing factors. KOH positivity ranged between 30-70% in different body site lesions.

CONCLUSION: Due to recent changes in trend and incidence of dermatophytic infections study of various epidemiological attributes of dermatophytic infection may help in evaluating the factors contributing to rising infection. In this study we have tried to evaluate the same.

KEYWORDS

Dermatophytosis, tinea Cruris, Tinea Corporis

INTRODUCTION:

Dermatophytosis is a common superficial mycosis causing significant cutaneous morbidity. Itching is severe, and disabling lesions on the genital and other areas cause social embarrassment and impair quality of life[1]. The rising prevalence of dermatophytosis has been attributed to many factors including tropical climate, overcrowding, and urbanization, shared accommodation such as living in hostels, the use of occlusive footwear, tight-fitting clothes, community showers and sports activity.

There is a changing trend in the dermatophytic infections with rising number of cases and chronic, treatment unresponsive and recurrent cases. This superficial fungal infection was an easily treatable condition for the practitioners before few years with the commonly used antifungals. In current epidemic in Indian subcontinent it is no more a easy to treat to infection. In spite of growing concerns of antifungal resistance many Indian studies have failed to show in vitro antifungal resistance in recent years and various epidemiological factors have been observed as potential culprits not only for fungal transmission but also for recurrence of infection after the treatment.

AIM:

To study the clinical pattern with epidemiological background in dermatophytic infection.

OBJECTIVES:

PRIMARY OBJECTIVE:

To study the various clinical patterns of dermatophytic infection

SECONDARY OBJECTIVE:

To study the epidemiological factors associated with dermatophytic infection and their various clinical presentations.

MATERIALS AND METHODS:

200 patients presenting for treatment naïve dermatophytosis were included in the study over a period of 6 months from April 2019 to September 2019

STUDY TYPE: cross-sectional study

STUDY AREA: Dermatology out patient department of a tertiary care hospital

STUDY PERIOD: From April 2019 to September 2019

INCLUSION CRITERIA:

1. Patients with no previous antifungal treatment for dermatophytic

infection.

2. Patients who had not applied any topical steroid or any other topical preparation.
3. All the newer cases of dermatophytic infections who fulfilled the inclusion criteria and gave their consent were included.

EXCLUSION CRITERIA:

1. Patients with previous antifungal treatment, history of use of oral or topical steroids or any other topical preparation
2. Patients who were not willing to take part in study.

STUDY METHODOLOGY:

After the written informed consent, patients who met the inclusion criteria and were willing to take part in study were included in the study. A cross sectional data of all patients who attended the dermatology outpatient department, with lesions suggestive of superficial dermatophytic infection were subjected to confirmation of diagnosis by 20% KOH wet mount preparation and if required fungal culture. All patients underwent a full evaluation including history, physical examination, duration, onset and evolution of the disease and co-existing systemic diseases. Data regarding age, gender and evolution of the plaque, its site, size, number, morphology and clinical characteristics of lesions were documented.. Appropriate hematological and serological investigations were carried out as and when required.

RESULTS:

Total 200 patients; 146 male and 54 females were included in the study with male to female ratio of 2.7:1.

Age varied from 2 to 60 years.

Median age for female and male was 32 and 35 years respectively.

Out of 146 males 60 patients were manual labourer, 29 were skilled worker, 33 were businessman, 11 were higher professionals, 6 were students and 7 were unemployed.

Table 1: Occupation of patients.

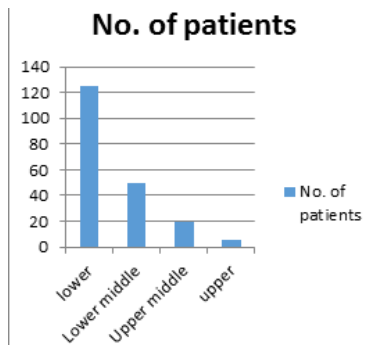
	Male	Female
Manual labourer	60(41%)	12(22%)
Skilled worker	29(19.8%)	6(11%)
Business man	33 (22.6%)	
Higher professionals	11(7.53%)	

Students	6(4.10%)	3(5.5%)
Unemployed	7(4.8%)	
Housewife		33(61%)

Out of 54 females 33 were housewives, 12 were labourer, 6 were skilled worker and 3 were students. (Table 1)

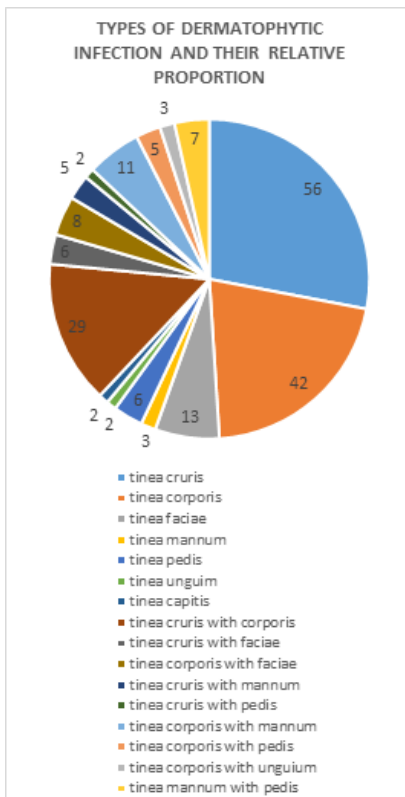
Locality-wise out of these patients 88 patients were residing in urban slums, 64 were residing in rural areas and remaining in urban areas. Out of 200 patients, 125 belonged to lower socio-economic class, 50 were from lower middle class, 20 from upper middle class, while 5 belonged to upper class according to modified kuppuswamy classification. (chart 1)

Chart 1 showing economic grouping of patients.



Out of 200 patients, 56 patients (28%) had tinea cruris, followed by tinea corporis in 42 (21%) patients. While we found tinea unguium and tinea capitis was the least common type with 2(1%) patients in each category. Two site involvement was common like tinea cruris with corporis in 29(14.5%) patients while tinea cruris with tinea faciae in 9(4.5%) patients, tinea corporis with tinea mannum in 11(5.5%), tinea cruris with tinea mannum in 7(3.5%), tinea cruris with tinea pedis in 2(1%), tinea corporis with tinea pedis in 5(2.5%), tinea mannum with tinea pedis in 7(3.5%), and tinea corporis with tinea unguium was seen in 3(1.5%) patients. Chart 2 shows the number of patients involving different areas of body.

Chart 2 showing different body areas involved.

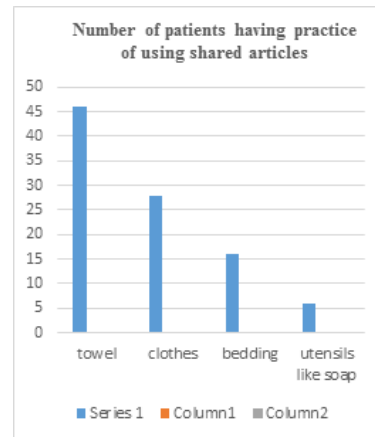


Out of total patients, 20% KOH scrapping was positive in 73.5% of patients. Tinea cruris showed highest number of positive cases while tinea faciae and manum were least positive. In KOH negative cases culture was positive in 42% cases.

Analysis of housing condition revealed that overcrowding (as defined by a condition whereby number of occupants outnumbers the capacity of dwelling space available as per UK scale) was seen with 122 patients out of total 200 patients.

Out of total 200 patients family history of dermatophytic infection was seen in 56 patients (23%) while evaluation of their hygiene practices revealed that sharing of objects like towel, napkins, caps etc. amongst family members were present in 96 patients with most common object of sharing being towel(46 patients) and the other objects were clothes bedding, and utilities like soap.

Chart 3 showing number of patients having practice of using shared articles



In these patients associated history of systemic disease was present in 38 patients (19%) with history of diabetes and hypertension was present in 18 patients, diabetes in 9 patients, hypertension in 8 patients and of thyroid disorder in 3 patients. Nutritional deficiencies were seen in 14 patients.

Co-existent cutaneous lesions were present in 23 cases(11.5%) – 4 patients with psoriasis vulgaris, 11 patients with acne, 2 patients with candidiasis, 2 patients with pemphigus vulgaris and 4 patients with folliculitis.

Figure 1 showing genital involvement in Tinea cruris



Figure 2 showing Tinea infection involving buttocks



DISCUSSION:

In last few years, we have been observing an epidemic of resistant and recalcitrant to treatment dermatophytic infections. Though there have been concerns of rising minimal inhibitory concentrations of antifungal drugs and rising number of recurrent and resistance cases have been attributed to these rise in MICs; certain epidemiological factors have to be looked for in evaluating such cases. In our study many of the patients were having family history of dermatophytic infection along with history of sharing the articles with family members. Number of patients had associated systemic and skin disorders requiring other therapies which might weaken the immune system of skin. Before considering a case of dermatophyte resistant to treatment or recurrent, one has to rule out such sources of re-infections. Also associated systemic disorders hampering the immunity should also be addressed. Even increasing number of extensive dermatophytosis among paediatric population is menace.

CONCLUSION:

Dermatophytosis (superficial fungal infection) is the commonest disease presenting in dermatology Out Patient Department.

A real upsurge in the incidence and prevalence of dermatophytosis has been noted for last few years. Along with the use of topical steroid based combination therapy and poor compliance to treatment various epidemiological factors has made this relatively easy to treat condition a really frustrating condition for treating physician.

Lower socioeconomic status, multiple site involvement, practice of sharing utensils and unhygienic environment has been seen as main culprits for transmission as well as relapse of dermatophyte infection. Hence along with treatment of existing infection, a physician should also address the above mentioned conditions in attempt to eradicate the infection.

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