



## A Study on cutaneous infections among adults presenting to the outpatient department of Dermatology.

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### ABSTRACT

**Introduction:** The prevalence of skin infections differ from place to place and are governed by the environmental conditions, personal hygiene and individual's susceptibility.

**Aim and objective:** This study is sought to determine the prevalence of various skin infections in the population attending the Dermatology Outpatient Department, Tirunelveli Medical College Tirunelveli, during the period of July 2012- August 2012.

**Materials and Methods:** A total of 340 patients (age >14yrs.) with skin infections attending outpatient department during one month period were taken for the study. Diagnosis was confirmed by microscopy examination of pus and skin scraping for fungal filaments. Result: 1 Out of 340 skin infection cases most common were fungal infections 200 (58.82%) Followed by bacterial 68 (20%), parasitic 57 (16.77%) and viral 15 (4.41%) infections.

In fungal infection, Tinea corporis was more prevalent, 83 (41.5%). In bacterial infection secondary pyoderma was most common.

**Conclusion:** Among skin infections, fungal infections are the most common and Tinea corporis was the predominant clinical type.

**KEYWORDS :** Skin infections, Tinea corporis, pyoderma.

### INTRODUCTION

Skin infections are worldwide in distribution. Among them, fungal infections are more common. Superficial mycosis is more prevalent in tropical and subtropical countries including India, where heat and moisture play an important role in promoting the growth of these fungi.<sup>[3,4]</sup>

The human skin is a vast immunological organ system that encases the entire body. It comprises not only of skin but of hair, scalp and nails. There are literally thousands of pathogens that can impact the human skin. One of the most important roles the skin plays in avoiding skin infection is to act as a barricade to these outside pathogens.

Skin infection can be bacterial, fungal, viral or parasitic. Fungal infections include dermatophytosis, yeast and yeast like fungal infections. Bacterial skin infections can range from mild infection like pyoderma to more serious necrotizing fasciitis. Among viral infections, herpesvirus being one of the most common, viral infection occur on areas where the skin is abraded and commonly seen in immune compromised individuals. Parasitic infections like Scabies and Pediculosis capitis can occur as a result of the close contact with infected individuals.

In current study, we have undertaken a clinical microbiological approach, correlating various.

Demographic data such as age, sex, with clinical features and identification of microbes using standard techniques.

### MATERIALS AND METHODS

A total of 340 patients (age >14yrs.) with infections attending the Dermatology outpatient department of Tirunelveli Medical College Hospital were taken for the study, over a period of one month (July-August 2012) after getting approval from the Institutional Ethical Committee of Tirunelveli Medical College and Hospital.

A detailed history of selected cases was taken in relation to name, age, sex, address and occupation, duration of illness, onset, progression, site and associated medical conditions.

Samples were collected from the site of lesion. For bacterial infections pus samples were taken with sterile swab and gram

staining was done. For fungal infections, scrapings were taken with a blunt sterilized scalpel from the active site of the lesion using standard technique. Samples collected were subjected to microscopic examination with 10% KOH.

For viral infections, Tzanck smear was done by gently rupturing the fresh vesicle with scalpel blade and gently scraping the debris from vesicle base, and were subjected to microscopic examination under oil immersion with Leishman's stain.

### RESULTS

A total of 1796 new patients attended the outpatient section of Department of Dermatology Tirunelveli Medical College during the period of our study. In which 1570 were adult cases and in that 340 (21.7%) had skin infections, and hence those patients were taken up for the study. There were 184 men (54.12%) and 156 (45.88%) women. The inclusion criteria were patients of age > 14 yrs. We got patients with age ranging from 15 to 92 yrs.

Out of 340 skin infection cases 200 (58.82%) patients had fungal infections, whereas 68 (20%) had bacterial, 57 (16.77%) patients had parasitic and 15 (4.41%) had viral infections.

In all age groups we found preponderance for fungal skin infections. Bacterial skin infections were more during second to sixth decades. Viral infections were seen common among people of age group 20-60 yrs. and parasitic infections were more amongst 20-40 yrs. age group.

In fungal infection, Tinea corporis was more prevalent, 83 (41.5%) among 200 fungal infection cases followed by Tinea versicolor and Tinea cruris. Tinea corporis and Tinea versicolor were prevalent in both the sexes with a mild difference in M:F ratio being 0.84:1 and 0.91:1 respectively. Tinea cruris was seen more in males than in females. In bacterial infections pyoderma was more prevalent, 66 (97.06%) out of 68 cases. We also got 11 cases of candidal intertrigo out of the 14 cases of candidal infection who attended the skin outpatient department.

We got 55 (98.21%) Scabies cases and one (1.79%) Pediculosis capitis case from the total of 56 parasitic skin infection cases we came across in our skin outpatient department.

We got 9 (60%) Herpes zoster cases, 3 (20%) chickenpox cases, 2

(13.33%) Herpes simplex and one (6.67%) viral wart case out of the 5 viral skin infection cases we encountered in skin outpatient department.

We also got 2 new cases of leprosy accounting for 0.6% of total cases.

## DISCUSSION

Very few Indian studies are available to find out the pattern of skin infections among patients reporting to skin outpatient department. In a study by Dasetal, reported from an urban institute in Kolkata, eczematous diseases were found in 83.25%, pyoderma in 14.36% and fungal infections in 9.7% of cases.<sup>(1)</sup>

Anand et al., in a study from Saurashtra showed skin infection comprised 83.25% skin diseases followed by atopic dermatoses (8.55%) and miscellaneous disorders (8.25%).<sup>(2)</sup>

Amongst skin infections in our study, fungal infections were more common which is in contrast with study by Dasetal.

Our study clearly emphasizes that the most common skin infection is fungal (58.82%). Bacterial infections (20%), parasitic infections (16.77%) and viral infections (4.41%) are also important comprising significant percentage in our study.

We found that 20-40 yrs. comprised the largest segment and 60-70 yrs the smallest segment of the patients reporting to the dermatology outpatient department. This is probably more so because 20-40 yrs. age group comprise the most mobile and 60-70 the least mobile age group. This study also focuses that fungal infection is the commonest infective dermatoses in this age group. The probable reason for age predilection is excessive sweating due to excessive physical activity in addition to the tropical climatic conditions.

Pyoderma which was common in the study of Anand et al, in paediatric population, was much less common in relatively older age group.

Earlier studies confirm that dermatophytic skin infections were more common in males than females as reported by Bhaskaran et al. from Tirupati and Maheshwari Amma et al<sup>(6)</sup>, the ratio being 2:1.

While most studies in and around Chennai showed a male dominance, a study reported a female preponderance (67.26%) (Kamalam.A.Thambiah et al.)<sup>(5)</sup>

In our study among the 186 patients who were clinically diagnosed as dermatophytosis, the percentage of males were 97 (52.15%) and females 89 (47.85%), with the male female ratio 1.09:1, which can be attributed to the increased health awareness among the women and their positive attitude towards treatment without inhibition and their increased cosmetic consciousness.

This result is comparable with the study done by Bhaskaran et al. from Tirupati and Maheshwari Amma et al<sup>(6)</sup>. This also supports the study done by Kennedy Kumar et al from SRM Chennai, where they got male female ratio of 1.12:1 for patients with dermatophytosis. The present study has revealed that the majority (43.01%) of the infection by dermatophytes has occurred during the second and fourth decades of their life, an observation which is in par with those of the earlier studies.

Tinea corporis was diagnosed in 83 (41.5%) out of 200 patients with fungal infections of skin. Our results are comparable to those from other places like Kashmir, Jabalpur and Manipal. Tinea corporis had been reported to be the most common clinical type even in few other countries like Spain and Brazil.

We also got 1 case of candidal intertrigo out of the 14 cases of candidal infection that attended the skin outpatient department

which is in accordance with other studies<sup>(7)</sup>.

Scabies is also common in patients attending outpatient department because of the tendency of too many people living together and thus accounted for 16.47%. We also got one Case of Pediculosis capitis in skin outpatient department during our study.

We got 9 (60%) cases of Herpes zoster out of the 15 viral skin infection attended skin outpatient department. Accounting for most common viral infection similar to other studies<sup>(8)</sup>.

We also got 2 new cases of leprosy accounting for 0.6%.

## CONCLUSION

In our study we found out that the fungal infections were most common among the various skin infections identified in patients (age > 14 yrs) attending the outpatient department of Dermatology. In that Tinea corporis was more prevalent.

The next prevalent infection was bacterial followed by the parasitic and viral skin infections. In all age groups we found preponderance for fungal skin infections. Bacterial skin infections were more during second to sixth decades. Viral infections were seen common among people of age group 20-60 yrs. and parasitic infections were more among 20-40 yrs. Age group.

The disturbing trend in our study was that we got 2 new cases of leprosy during our one month study. This should alert health care providers to rethink whether; we neared our goal of eradication of leprosy or have been able to manage the resources of National Leprosy Eradication Programme successfully. So, general skin health awareness programme should be organized to raise awareness in the public regarding hygiene and the predisposing factor that generally leads to skin infections in the community.

**Fig:1 Herpes Zoster Infection**



**Fig:2 Tinea corporis**



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