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Analysis Of Clinical,Therapeutic Pattern And Risk Factors Of Tinea Infections In A Tertiary Care Hospital,Nagunoor,Karimnagar,Telangana : A Prospective Study.

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Abstract: The study focuses on documenting the various presentations of tinea cases present in the hospital and identifying any trend in gender and age. The study is also proud to have evaluated the treatment approaches applied in the management of tinea infections, such as topical, oral, or combination medication. The research will also examine and look into possible risk factors that can result in causation of Tinea infections.The study was performed in the Department of Dermatology, Prathima Institute of Medical Sciences, Nagunoor ,Karimnagar, Telangana, India. The study was a six-month prospective , observational , cross-sectional study. A total of 150 outpatients visiting the dermatology outpatient department over the period of the study were enrolled. Data were gathered using a survey data collection form that documented demographic information, presenting symptoms, clinical diagnosis, and prescribing patterns.

Key words - Dermatophytes, Tinea Infections, Clinical Pattern, Prescription and Risk Factors.

I.INTRODUCTION

Tinea infections are the most common of the fungal infections, occurring in an estimated 20-25% of the world's population. Their occurrence is influenced by a wide range of factors including age, gender, climate, socioeconomic status, hygiene practices, and environmental exposure. Tinea or ringworm, is a cutaneous dermatophyte infection of keratinized tissue such as skin, hair, and nails. The illness is brought on by a particular group of fungi, i.e., dermatophytes, that infect keratin-containing tissues and mainly feed on keratin, the structural protein of such tissue. The organisms thrive in moist, hot conditions, and tropical as well as subtropical regions are thus highly prone to infection.Dermatophytosis is still a major global dermatological infection, facilitated by climatic, environmental, and behavioral factors. Dermatophytosis has been a major public health concern in India with increased prevalence of chronic, recurrent, and resistant cases. Across the world, epidemiologic patterns have changed over years. In the 21st century, anthropophilic species such as E. floccosum, M. audouinii, and T. schoenleinii have decreased in incidence throughout the entire continent of Europe, while Trichophyton rubrum has emerged as the causative species of choice globally especially in Asia, Africa, Europe, and South America. Enabling patients and healthcare professionals to prevent, early

diagnose, and effectively treat the disease holds the key to relieving the disease burden and avoiding recurrence.

II.METHODOLOGY

1. Study Site : The study was undertaken at the Prathima Institute of Medical Sciences, Nagunoor, Karimnagar, Telangana, India , a tertiary care teaching hospital with a bed strength of over 500 beds.
2. Study Period : The study was undertaken for a period of six months from July 2024 – December 2024.
3. Study Design : This was a prospective, observational, cross-sectional study.
4. Sample Size : 150 outpatients were included in the study.
5. Study Approval : The study protocol and written informed consent form were discussed and accepted by the Head of the Department of Dermatology, Prathima Institute of Medical Sciences.
6. Study Criteria :

6.1 Inclusion Criteria

- Both male and female patients
- Patients of all ages visiting Outpatients in the Dermatology OPD

6.2 Exclusion Criteria

- Patients who are not willing to give informed consent
- Pregnant women and Breastfeeding women
- Inpatients (IP)
- Patients with serious comorbidities

7. Source of Data and Materials : The necessary data for the research were gathered from patient case sheets and documented on a structured data collection form. Information obtained was: Demographic information such as name, age, gender, and family history. Clinical information like presenting symptoms, diagnosis, and treatment details.History of lifestyle and risk factor assessment through an interview session utilizing a standardized questionnaire. All the gathered data were compared and analyzed.

III. RESULTS AND DISCUSSION

During the study period data from 150 patients were collected and interviewed using a standard questionnaire to analyze the clinical , therapeutic profile of tinea infections and associated risk factors in the dermatology department at Prathima Institute of Medical Sciences, Nagunoor, Karimnagar.

1. Distribution Based on Age and Gender

In our study it was observed that the infection was highest in the age group of 21–30 years, where 36 patients were present. It was preceded by the 11–20 and 31–40 age groups, both of which had 32 patients (21.33%). The least number of infection cases were observed among the 81–90 age group with just a single patient being detected.The infection was most commonly observed among adolescents,children and young adults.This is probable due to engaging in outdoor activities and or in close proximity with family members,other Co-workers and increase exposure to infectious agents. Females were found to have a greater incidence of tinea infections, with 82 female patients and 68 were male patients. In a study conducted by the Raja keerthi Mai Dammu et al at a teritiary hospital chinakondrupadu,among 194 patients the patients with tinea infections was reported more in the age group of 21 -30 years comprising 59 cases,30.4%. which was consistent with our study.

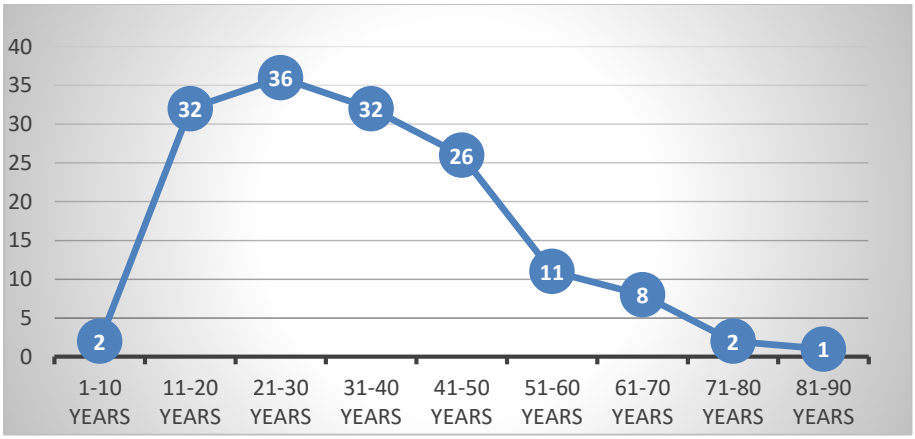

Figure 1 - Distribution of patients based on age wise.

2.Residence wise Distribution

Among 150 patients , 88 patients were from rural areas and 62 patients were from urban areas.The Tinea infection rates were most elevated within rural environments (n=88,58.66%) and possessed an implied association with environmental components at the local level, hygiene, or access to health care.

Table-1 Allocation of patients based on residence

Residence	No of patients	Percentage
Rural	88	58.66%
Urban	62	41.33%

3. Occupation Specific Patient Breakdown

Among 150 population tinea infection is highly reported in students -43 cases followed by occupation agriculture – 33 cases and next followed by labours and Housewives – 28 cases.This is due to the students and labours may study and work respectively in close contact with others and increase risk of transmission. Agriculture is the occupation involving contact to soil ,water and animals which leads to transfer of infectious microorganisms such as bacteria, fungi, parasites and virus. Infection in housewives due to work loads such as utensil cleaning ,washroom cleaning, clothes washing and exposure to hot sweat while cooking.This activities may increase the risk of infection if proper hygiene practices are not followed.

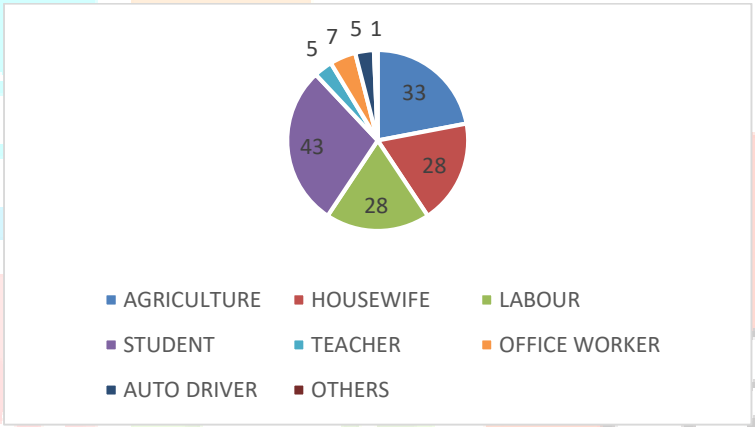

Figure-2 Patients distributed according to their professional background

4.Distribution based on different clinical types of Tinea infections

In our study among 150 study population , the most common clinical type was tinea cruris (31.33%,n = 47 cases), followed by tinea corporis (22.66%, n=34 cases). Other infections included tinea manuum (10%,15 cases), tinea faciei (7.33%,n=11 cases), tinea pedis (6%,n= 9 cases), tinea barbae (4%, n=6 cases), tinea incognito (1.33% , n=2 cases), and tinea capitis (n=1,0.66%). Multiple-site infections were observed in 16.66% of patients (n = 25). A paired T-test comparing the distribution of clinical types between males and females resulted in a p-value of 0.345, indicating no significant difference between genders. Among the total of 150 patients, the most common lesion feature observed was multiple hyperpigmented lesions, occurring in the majority of patients (n=89,59.33%), followed by single hyperpigmented lesions (n=35,23.33%) and followed by multiple hyper pigmented to erhthamatous lesion (n = 26, 17.33%). Itching, burning, and scaly patches were the most commonly observed symptoms. Among the 150 patients (n=53,35.33%) reported about the history of reoccurrence.

Table 2 : Distribution of patients based on clinical type

Clinical Type	Male	Female	No of patients	P value
Tinea Barbae	6	0	6	0.345185
Tinea Capitis	0	1	1	
Tinea Corporis	7	27	34	
Tinea Cruris	31	16	47	
Tinea Faciei	7	4	11	
Tinea Incognito	0	2	2	
Tinea Unguium	6	9	15	
Tinea Manuum	4	5	9	
Multiple sites	8	17	25	

5.Distribution based on the treatment prescribed

Among 150 prescriptions that were analyzed, the total no of drugs prescribed was 527. Luliconazole (n=150,100%) belongs to the category of antifungals was prescribed most followed by levocetirizine (n=148,98.66%) belongs to the category of antihistamines.70.2% of the antifungals prescribed were topical with the commonest prescribed being luliconazole (100%), followed by ketoconazole (n=61,40.66%). The most prescribed oral was itraconazole (n=98,65.33%), belonging to the triazole group, followed by terbinafine (n=37,24.66%), a drug belonging to the allylamine group.

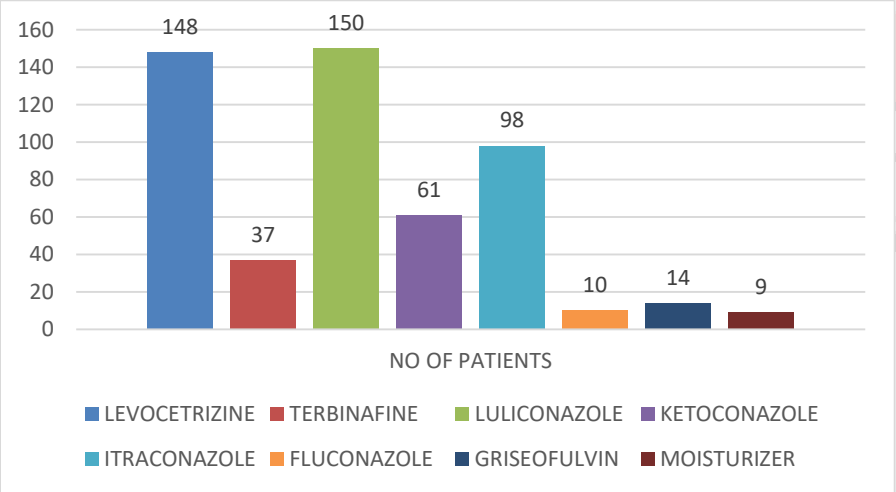

Figure – 3 Population distribution according to the treatmment prescribed

Table 3 : Prescription profile

Prescription profile	No of prescriptions
Luliconazole+Levocetrizine	15
Luliconazole+Levocetrizine+Itraconazole	37
Luliconazole+Levocetrizine+Terbinafine	23
Luliconazole+Levocetrizine+Itraconazole+ Ketoconazole	51
Lulionazole+Levocetrizine+Griseofulvin	14
Luliconazole+Levoetrizine+Ketoconazole +Fluconazole	10

From 150 prescriptions Levocetrizine +Luliconazole + Itraconazole + Ketoconazole , this combination profile is highly prescribed (n=51 prescriptions).

6.Analysis of Riskfactors

In 150 patients , Family history was reported as the major risk factor (n = 87 cases,58%) followed by sweating condition (n=78 cases,52%).Our study finds that People with a history of past infection of their family members with dermatophyte infection (n=87,58%) were likely to develop inea.These are spread by direct contact with infected persons, things, and in the absence of proper awareness, and hence it is a matter of public health and those with over sweating (n=78 cases, 52%) were more at risk due to the hot weather favorable for the development of fungus. Shikha Pandey et al had carried out cross sectional risk factors survey of mycotic infection at indore, in a population of 200 ,68 patients had family history of tinea infection and 46 patients mentioned about excess sweating ,they concluded that the family history and sweating are the risk factors which aggravates tinea infection.which was similar to our study.

This wider study not only identified major risk factors, like family history and sweat status, but also gave useful data on geographical and occupational patterns of infection distribution. The results emphasize the importance of specific public health intervention for preventive action, especially in sweat-prone and family history situations, as a method of easing the tinea infection burden in rural and urban settings. The evidence is suggestive of using a multiple-level approach that impacts both personal cleanliness and the environment to help curb the further transmission of these common but serious fungal infection.

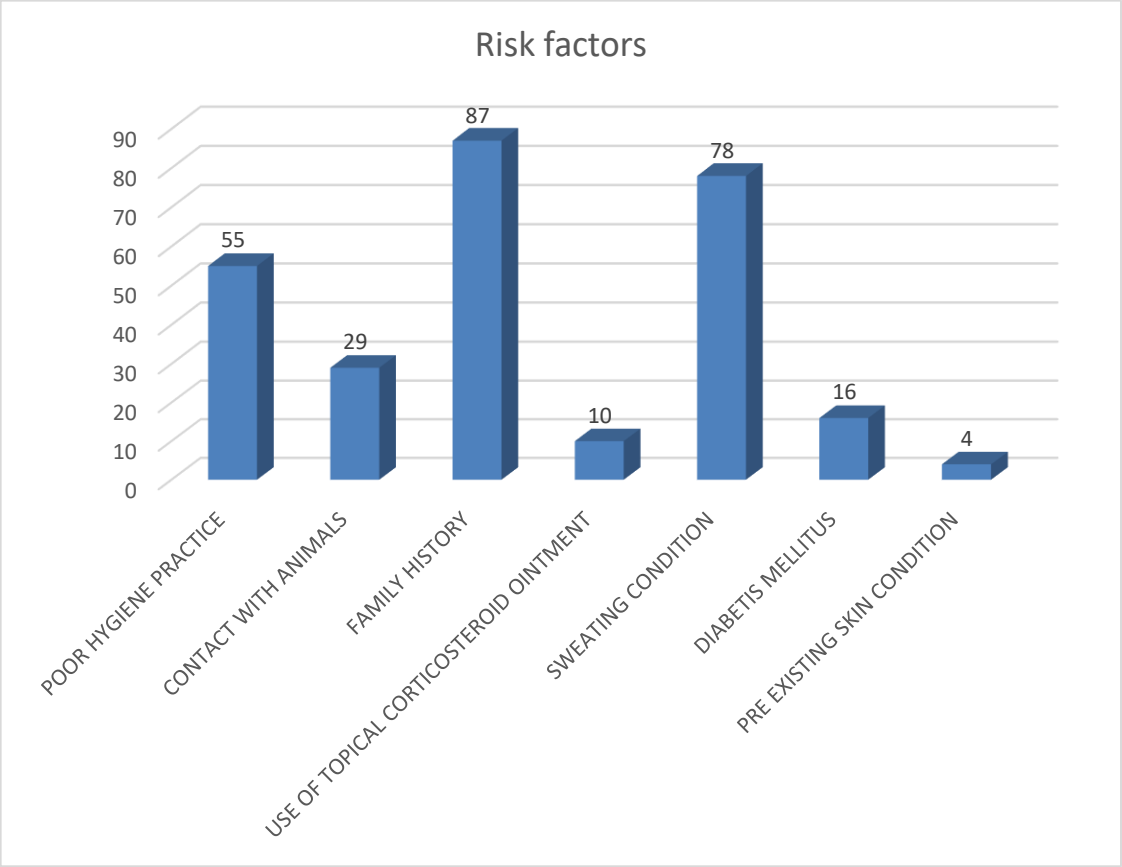

Figure 4 – Analysis of risk Factors

IV.CONCLUSION

Although drug treatment is central to tinea infection treatment, studies emphasize the importance of some lifestyle changes in avoiding retransmission and complications. Simple hygiene, particularly in infection-prone regions like the groin, nails, scalp, and skin is essential. Washing and drying the infected region is important since fungi grow well in warm, damp conditions. Not sharing personal items, i.e., towels, combs, or clothes, is a highly significant preventive measure, since these can act as infectious causes for the transmission of the disease. Not being in close proximity with the infected people and proper hand washing and disinfecting can decrease the chances of transmission quite significantly and not should use corticosteroids creams prior to proper diagnosis and prescription .Education and information campaigns on the necessity of cleanliness, along with early intervention by medical staff, can come a long way in preventing tinea infection from spreading amongst risk groups, particularly those which are present in rural settings where access is limited.

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