

AN EPIDEMIOLOGICAL SURVEY ON DADRU (TINEA) IN HARIDWAR

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ABSTRACT

Dadru is a *pitta-kapha Pradhan tridoshajvyadhi* affecting all age groups of population. Based on clinical appearance *sdadru* mostly resembles with Tinea. *Dadru* (Tinea) is the most common superficial fungal infection in tropical and subtropical countries. The main objective of the study is to evaluate the prevalence and assessment of recurrence causes of *Dadru* in the modern era. In this study, 497 patients were screened out of the 111 cases were registered and diagnosed clinically to have fungal infection. The collected samples (skin, nails) were subjected to direct microscopy with potassium hydroxide. The prevalence of Tinea was found with 22.3% (111/497). Tinea corporis was the commonest (74.64%) clinical presentation in these patients.

Keywords: *Dadru*, Tinea, prevalence, Tropical, Subtropical.

INTRODUCTION

In *Ayurveda*, all the major skin diseases have been classified under the *kushta*. *Ayurvedic* classics have considered each type of *kushta* to be a *tridoshaj* manifestation¹. *Dadru* is also a subtype of *Kushta*. *Acharya Sushruta* has especially described *Kushta* under

*Upasargajavyadhi*² due to its *darunasawbhawa* it is considered under mahagada³. Skin diseases are mainly caused by the involvement of several microorganisms where Tinea is one among them. Dermatophytes are a group of closely related filamentous fungi that infect

only superficial keratinised tissue- the skin, hair and nails. They cause a variety of clinical conditions collectively known as dermatophytosis, popularly called tinea or ringworm⁴. Fungal infections of the skin have been found in the last few decades to affect 20-25% of world's population⁵, making them one of the most frequent forms of infection. The most common and most widely distributed aetiological agent is *Trichophyton rubrum*, which causes different types of infection in different part of the world⁶. In recent years there has been a considerable increase in the incidence of skin problems in tropical and developing country like India⁷. The prevalence, as well as recurrence of Tinea infection, is very much common in the present scenario in spite of development of newer potent anti-fungal drugs. The main objective of the study is to evaluate prevalence and assess recurrence causes of

Dadru in modern era in rural and sub rural and urban areas of Haridwar.

Materials and Methods- Survey was conducted in different areas of Haridwar, i.e. Saraya, Jagajitpur, Jwalapur, Sidcul. A structured questionnaire was prepared and direct personal interview for the collection of primary data. The study was conducted for 6 months between March 2019 to August 2019. During survey approximately 497 patients were screened, out of the 111 patients were diagnosed clinically and registered on the basis of the cardinal symptom of superficial fungal infection Tinea red, itchy, elevated border which may result in pustule or vesicles on the border of affected area. Patients were advised for KOH mount test with 10% potassium hydroxide in the pathology lab of Rognidan Department, Rishikul Campus, Haridwar. Samples from skin scrapings were collected from the active edges of lesions.

Observation

Table 1: Shows Area-wise Distribution related to age, sex, occupation and so on

Area	No Of Patients	Percentage
Saraya	44	39.63%
Jagajitpur	17	15.31%
Jwalapur	31	27.92%
Sidcul	19	17.11%
Age	No Of Patients	Percentage
16-30	61	54.95%
31-45	38	34.23%
46-60	12	10.81%
Sex	No. Of Patients	Percentage (%)
Female	45	40.55%
Male	66	59.45%
Habitat	No. Of Patients	Percentage (%)
Rural	61	54.95%
Urban	50	45.04%
Occupation	No. Of Patients	Percentage (%)
Service	28	25.22%
Labour	28	25.22%
Housewife	35	31.53%
Business	5	4.50%
Students	15	12.61%
H/O of Past	No. Of Pts	Percentage
Present	71	63.96%
Absent	40	36.03%
Treatment History	No. Of Pts	Percentage
Local Application Cream	94	84.68%
Drug	17	15.32%

Table 2: Shows Predisposing factor related to Moisture, Stagnant water.

Moisture	No. of pts	Percentage
Present	60	54.05%
Absent	51	45.94%
Stagnant Water	No. of pts	Percentage
Present	58	52.25%
Absent	53	47.75%

Table 3: Shows Mode of Transmission related to H/O Sharing clothes, Contact Animal

H/O Sharing clothes	No. of pts	Percentage
PRESENT	83	74.77%
ABSENT	28	25.23%
H/O Contact Animal	No. of pts	Percentage
PRESENT	74	66.67%
ABSENT	37	33.33%

Table 4: Personal Hygiene Wise Distribution

H/O Bath	No. Of Pts	Percentage
Daily	54	48.65%
Alternate Day	57	51.35%

Table 5: Recurrence

Rainy Season	No. Of Pts	Percentage
Present	76	68.46%
Absent	35	31.54%
Summer Season	No. Of Pts	Percentage
Present	68	61.26%
Absent	43	38.74%

Out of 20 patients, 13 patients, i.e. 65% were KOH mount positive.

Chart-1: Chart Shows Sign And Symptoms Wise Distribution

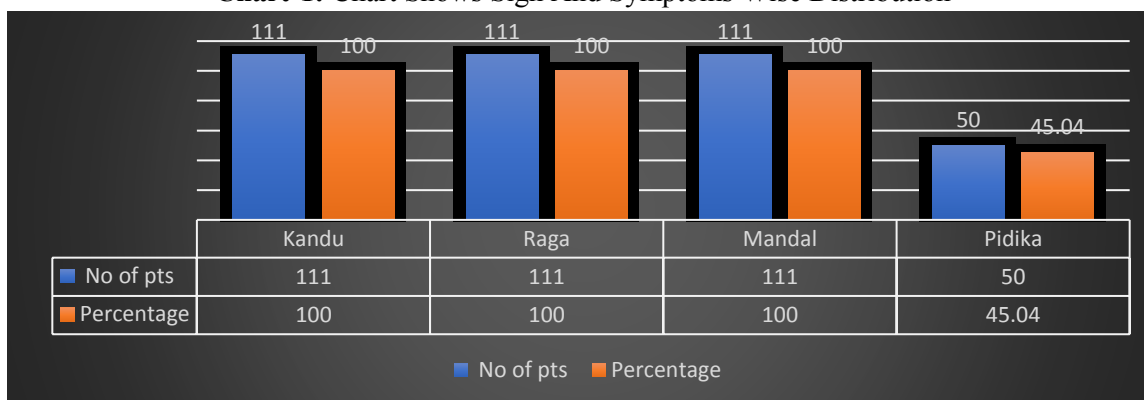


Chart-2: Chart Shows Recurrence Wise Distribution

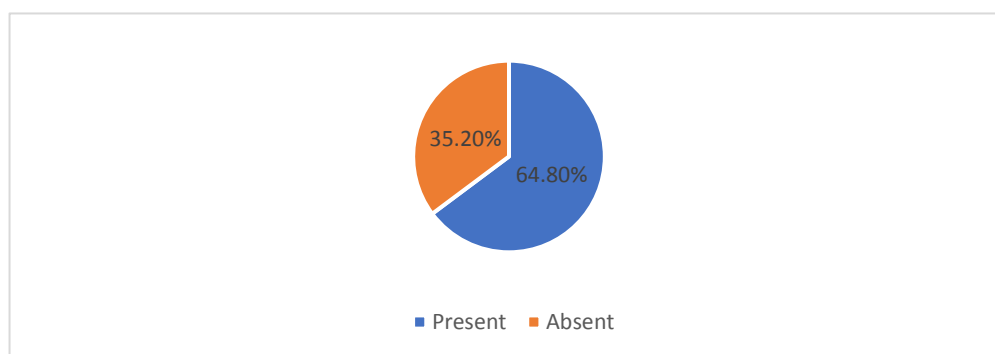
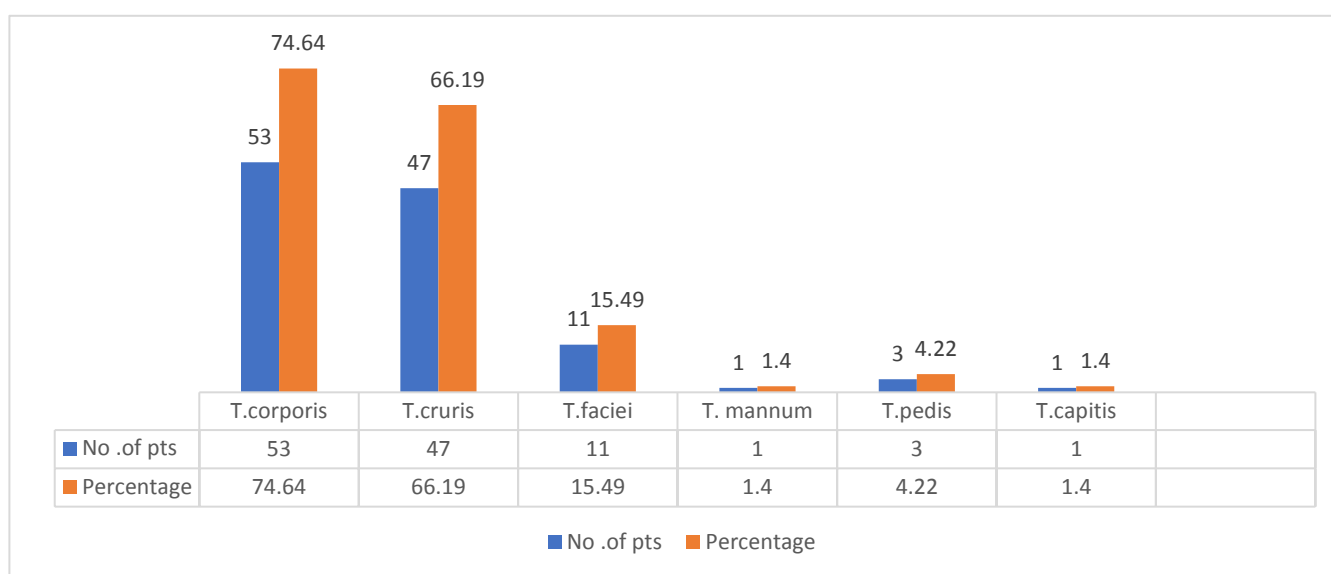


Chart-3: Chart Shows Site Wise Distribution



DISCUSSION

A total of 497 patients were screened during the study out of the 111 cases were registered and diagnosed to have fungal infection. According to that data the prevalence of superficial fungal infection 22.33% (111/497). In this study among the 111 Tinea patients 69.36% of patients were affected with Tinea corporis followed by 56.75% of patients were affected with Tinea cruris, 13.5% of patients with Tinea Facies, 2.7% with Tinea Pedis, 1.8% with Tinea capitis, 0.9% of patients with Tinea Mannum. The pattern distribution in the study can be associated with the affection of a closed and moist area of the body due to lack of personal hygiene. Similar observation was also reported by some other studies⁸.

Among the 111 patients, 59.45% were males and 40.55% were females. Increased incidence in males can be attributed to their greater outdoor exposure and physical activity which predispose to increased sweating. High prevalence in males have been also reported by other studies from India^{9,10}.

The predominant age group affected was 16-30 years as this is the age of maximum outdoor activity, almost similar observations have been by another study as well¹¹.

Prevalence of fungal infection mainly in rural areas of Haridwar rather than urban areas and low socioeconomic status may be due to unhygienic practices, less healthcare facility, lack of knowledge about the cause and prevention of the disease. The main sources of water for bathing and sanitation was polluted such as

ponds, rivers, tube wells. This can also attribute to the high prevalence of infection in rural and semi-rural areas. Similar observation was also reported by some other studies¹².

Maximum number of patients, i.e. 64.86% recurrent cases were during mid of spring and mid of summer (April-July) which could be due to favourable temperature (30-45 degree centigrade) and Humidity (80-90%) for growth of fungus.

Higher recurrence could be due to persistence of risk factors such as a damp house, physical activities leading to excessive sweating, the continuous wearing of tight and synthetic clothes and closed shoes, and sharing of clothes and linens, poor hygienic practice, migrants, overcrowding¹³.

It was observed that 74.77% of patients had a history of frequent sharing of towel, footwear and clothes. This could be contributed to the spread of infection. The objects such as clothing, bedsheets and towel harbour the fungal pathogens and are capable to produce disease among family members¹⁴.

It is more likely due to the duration of antifungal therapy given may be inadequate, treatment by quacks or history of past application of topical steroid and mixed creams seen in 84.68% of patients is a major contributing factor for recurrence of Tinea¹⁵.

Majority of patients, i.e. 74.7% of patients were having a history of sharing articles like towel, cloths and soap. According to the modern science, spore need food for growth. Organic matters such as soap, fabricare a good source of food containing skin cells. Uses of infected person towel, clothes and soap can easily transmit fungal infection one person to another person. In *Ayurveda, Acharaya Shushruta* clearly explained that *kushtha* is an *Aupsargikaroga* which can be transmitted through touching the patient often, sleeping and sitting together and wearing dress, garlands and unguents used by the patient who is suffering from contagious diseases like *Kushtha*¹⁶.

Majority of patients, i.e. 66.67% were having a history of contact with animals and soil. Zoophilic species are a natural parasite of animal *T. verrucosum* in cattle and *M. canis* in dogs and cats spread infection directly

by contact with animals. Geophilic species, which occur naturally in soil are *M. gypesum* and *T. ajelloi* spread infection indirectly. Tinea is a highly contagious skin disease. In *Ayurveda, Acharaya Shushruta* clearly explained that *kushtha* is an *Aupsargikaroga* which can transmit by *Gatrasparshan* (contact). So, based on observation, it may be said that the history of contact with animals and soil are important factors for the transmission of disease¹⁷.

CONCLUSION

According to the survey, the prevalence of *Dadru*(Tinea) was 22.33% (111/497). Tinea corporis is the most common clinical presentation. From the present study, it can be concluded that the causes of recurrence are persistent risk factors like damp house, sharing articles, past application of topical steroid and mixed creams and inadequate antifungal therapy. Personal hygiene, proper interventions and good healthcare facility and knowledge about disease helpful in prevention of the disease.

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