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An Observational Study to Assess the Etiological Factors in Pathogenesis of *Dadru* (Tinea)

Pushkar Singh Bhakuni[1*], Sanjay Kumar Singh[2] and Shashi Kant Tiwari[3]

[1-3]Department of Rog Nidana Evam Vikriti Vigyan, Rishikul Campus, Uttrakhand Ayurved University, Haridwar, Uttarakhand, India

ABSTRACT

Skin is the largest organ of the body and part of the integumentary system. All major skin disorders in *Ayurveda* are described under *Kustha*. *Dadru* is also a subtype of *Kustha.* According *Acharya Charaka Dadru* is a *Pittkapha pradhan tridoshaj vyadhi* affecting all age group of population. *Kandu, Mandal, Raga, Pidika* are the cardinal features of *Dadru*. Based on symptomatology *Dadru* is simulated with Tinea in modern perspective, which is superficial fungal infection affect skin, hair and nail. Incidence rate of *Dadru* gradually increasing day to day because of improper *ahara-vihajra*.The knowledge of *nidana* is helpful for proper diagnosis, prevention of disease and treatment also. The main objective of the study is to evaluate and analyze the etiological factors of *Dadru Roga*, for this purpose, an observational study was done on 40 patients of *Dadru*, based on demographic data, *Aharaja,Viharaja nidana.*

KEYWORDS

Dadru Kustha, Kandu, Mandal, Pidika, Raga, integumentary system, Tinea

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INTRODUCTION

According to different *Acharya Kustha* is a *tridoshaj vyadhi*[2] which follows *bahaya rogmarga*[3], due to its *daruna sawbhawa* it is considered under mahagada[4]. *Acharya Sushruta* has especially described *Kustha* under *Upasargaja vyadhi*[5] (communicable disease). *Dadru* is also a subtype of *Kustha Acharya Charaka* has mentioned *Dadru* under *Kshudra Kustha*[6] while *Acharya Sushruta* and *Vagbhata* has mentioned *Dadru* under *Maha Kustha*[7,8]. According *Acharya Charaka Dadru* is a *Pittkapha pradhan tridoshaj*[9] *vyadhi* affecting all age group of population. *Acharya Vagbhata* especially mentioned *Dadru* as *Anushangini*[10]. Based on symptomatology *Dadru* is simulated with Tinea in modern perspective, which is a superficial fungal infection of the skin. According to *Acharya Charaka* 7 Dravya[11] when are disturbed cause *Kushtha*. These are 3 *Doshas* namely-*Vata, Pitta* and *Kapha* and 4 *Dushya* namely-*Tvaka, Rakta,Mansa, Lasika*.[12] *Charaka* has emphasized the dual part played by *Nidana,* i.e. simultaneous vitiation of *Tridosha*& also *Shaithilyata*[10] in the *Dhatus* such as *Tvacha, Rakta, Mansa* and *Lasika.* Thus, vitiated *Tri Doshas* again momentum to vitiate *Shithila Dhatus* and hence the disease *Dadru Kushtha* gets manifested.

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 ringworm. Dermatophytes have been classified into three genera- Trichophyton, Microsporum and Epidermophyton. Depending on cell morphology, fungi can be divided into four classes: yeasts (Cryptococcus neoformans), yeast-like fungi (Candida albicans), moulds and dimorphic fungi. These dermatophytes infect the skin, the hair and the nails[13].

Dermatophytes grow only on the keratinized layers of the skin and its appendages and do not ordinarily penetrate the living tissues. The mechanisms of pathogenesis in dermatophytosis are not clear. Fungal products may be responsible for inciting local inflammation. Hypersensitivity to fungus antigens may play a role in pathogenesis and is probably responsible for the sterile vesicular lesions sometimes seen in sites distant from the ringworm. These lesions are called dermatophytids[14].

According to WHO, the prevalence rate of superficial mycotic infection is around 25%[15]. Every 5 out of 1000 people are suffering from Tinea infection. In recent years there has been a considerable increase

in the incidence of skin problems in tropical and developing country like India. The prevalence, as well as recurrence of Tinea infection, is very much common in present scenario instead of development of newer potent antifungal drugs. So, keeping the above view in mind it is necessary to establish the real precipitating cause and etiopathogenesis of the disease.

AIMS & OBJECTIVES

To assess the etiopathogenesis of *Dadru*.

MATERIALS & METHODS

Plan of study

a) Selection of patients-

1) Total of 40 patients were selected randomly from the OPD of *Roga nidan*, *Rishikul* Campus UAU Haridwar with chief complaints of *Dadru*.

2) All the cases registerd for the study were evaluated clinically and investigated thoroughly.

b) TYPE OF STUDY: Observational study

c) INCLUSION CRITERIA:

1. Patients of age group (16-60 years) of both sexes fulfilling the criteria of subjective and objective parameter.
2. Patients having sign and symptoms of *Dadru*.

d) EXCLUSION CRITERIA:

1. Patients of age group less than 16 years and more than 60 years.
2. Patients have other skin disease rather than *Dadru*.
3. Complicated cases of skin disorder.
4. Patients suffering from various deliberating systemic disorders like Diabetes Mellitus& other complicated systemic disorders.

e) Investigations: -

1. Haemogram.
2. Blood sugar-Fasting &Postprandial,
3. Stool- routine& microscopic.
4. KOH mount test.

DISCUSSION

Maximum patients were found in the age group of 16-30 years (Table 1). In this data, *Dadru* was present more in the adult age group it may be due to a more hectic life-style and dietary disturbances in young age. In the sex incidence, it was found out of total patients' maximum patients were Male (Table 1). The high incidence of *Dadru* in males may be due consequence of exhaustive physical work and prolonged exposure to the sun leading to excessive sweating. In addition, the tight-fitting and synthetic clothing particularly in males provide damp, sweaty and warm skin

Table 1 Epidemiological data

AGE (years)	No. of patients	Percentage
16-30	19	47.5%
31-45	16	40%
46-60	05	12.5%
RELIGION	**No. of patients**	**Percentage**
Hindu	35	87.5%
Muslim	5	12.5%
SEX	**No. of patients**	**Percentage**
Female	19	47.5%
Male	21	52.5%
OCCUPATION	**No. of patients**	**Percentage**
Service	11	27.5%
Labour	9	22.5%
House wife	18	45%
Business	1	2.5%
Students	1	2.5%
MARRITAL STATUS	**No. of patients**	**Percentage**
Married	31	77.5%
Unmarried	9	22.5%
SOCIO-ECONOMIC STATUS	**No. of patients**	**Percentage**
Lower	24	60%
Middle	16	40%
Upper	0	00%
EDUCATION	**No. of patients**	**Percentage**
U. E	24	60%
HSC	3	7.5%
SSC	1	2.5%
Graduate	11	27.5%
Illiterate	1	2.5%

conditions all these factors favour the growth of dermatophytes.

In the present study the majority of the patients were Hindu (Table 1). It cannot be said that another religion is not suffering from this disorder. This indicates that there was predominance of Hindus in Haridwar.

In the present study the majority of the patients were of Undereducated (Table 1). The high incidence of Tinea in Undereducated and illiterate person because lack knowledge about the diseases, unconsciousness for their hygiene and health, dietary habit makes them prone to develop the diseases.

In this study maximum number of patients were housewives (Table 1). The reason might be that housewives are busy in doing household work and they are not following proper personal hygiene routines as well as they are careless towards their own care and balanced diet, tight clothing, maceration and high rate of sweating in groin and waist regions which made them more prone for Fungal infection.

Majority of the patient followed *Vriuddha Ahara*, *Guru Ahara* and *Asatmya Ahara*

sevana (Chart 1) leads to *agni vaishmya* and production of ama causes *dhatu shathilya* and *Tridosha Prakopa* thus inducing the *Samprapti* of *Dadru.*

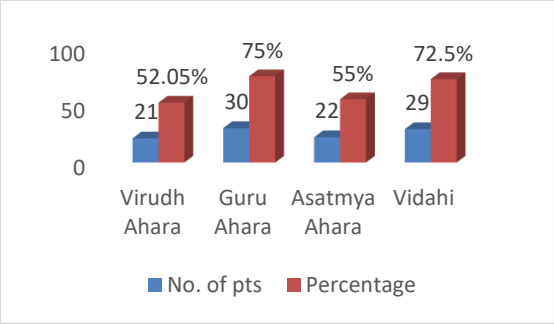

Chart 1 – AHARAJA NIDAN WISE DISTRIBUTION

Table 2 Personal history wise distribution

DIET PATTERN	No. of patients	Percentage (%)
Vegetarian	13	32.5%
Mix	27	67.5%

Maximum number of patients i.e. 37.5% were consuming *lavan rasa* followed by 25% with habituated with *amla rasa*, 20%patients were taking *madhura rasa* and 5% patients taking *kashya rasa* and 2%were taking *katu rasa* (Chart 2).

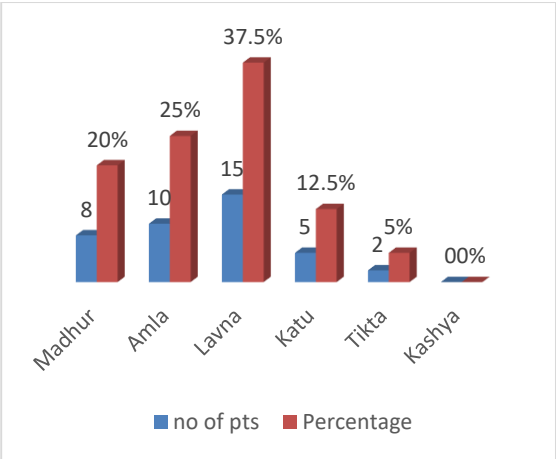

Chart 2 – DOMINANT RASA WISE DISTRIBUTION

Madhura, *amla* and *lavana rasa* higher intake may cause vitiation of *kapha dosha*. *Amla*, *lavan katu* may provoke pitta and *rakta dusthi*. *Kapha* and *rakta dusthi* may cause *khaivagunya* in *twak* and may lead to *dardu*. Excessive use of *lavana rasa* is a prime cause of *kustha* described by *Acharya Charaka*.

Majority of patients, i.e.74.83% patients having a history of sharing the article, *Gatrsparshan* (Table 3).

Table 3 *Viharaja Nidana* wise distribution

***Gatrasparshan*(History of contact)**	**No. of patients**	**Percentage**
Present	31	77.5%
Absent	9	22.5%
Vastramala anulepanad(History of sharing article)	**No. of patients**	**Percentage**
Present	30	75%
Absent	10	25%
Sitoushnakramatsevan	**No. of patients**	**Percentage**
Present	21	52.5%
Absent	19	47.5%
Diwaswapna	**No. of patients**	**Percentage**
Present	24	60%
Absent	16	40%

In Ayurveda *Acharaya Shushruta* clearly explained that *kushtha* is an *Aupsargika roga which* can be transmitted through touching the patient often, sleeping and sitting together and wearing dress, garlands and unguents used by a patient who is suffering from contagious diseases like *Kushtha.*

CONCLUSION

Dadru is caused by *Pitta-Kapha prakopa* and *rakta dushti*. *Aharaj* and *Viharaj nidan* may provoke *Pitta-Kapha dosha*. This provoked *Pitta* and *Kapha* cause *Avarana* of *Vata*. Then provoked *Vata* moves *Doshas* through *Tiryaga Siras* and reach to *Bahyamarga* and vitiate *Tvak, Rakta, Mansa* and *Ambu Dhatus*. This *Doshas* and *Dushyas* produced symptoms of *Kushtha*, like *Kandu, Raga, Pidika* and *Mandala.* In the present study, it was found that *nidana* described in *Ayurveda* for *Dadru* is very much relevant to the present era.

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