

## TO EVALUATE UPASHAYATMAKA EFFECT OF SARJADI LEPA IN DADRUKUSHTA (DERMATOPHYTOSIS)

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### ABSTRACT

**Background:** Fungal species that are confined to superficial layers of the human skin are known as Dermatophytes. Dermatophytosis is characterized by annular lesions with the intense itching, erythema, edema, and scaling. In recent year there have been a considerable increase in the incidence of skin problems in the tropical and developing countries like India due to various reasons like poverty, poor sanitation and personal hygiene, pollution etc. *Dadru kushta* (Dermatophytosis) is a type of *kshudra kushta* which is *kapha pittaja* in nature characterized by *Udgata Mandala* (round elevated lesion), *Raga* (Erythema), *Kandu* (Itching), and *Pidaka*, (Eruption) which simulates symptoms of dermatophytosis. *Sarjadi lepa* is an external application mentioned in classics for *Dadru kushta* with major ingredients *Chakramarda beeja*, *Sarja rasa*, *Hareetaki*. Even though various studies have been conducted on *Dadru kushta* (Dermatophytosis) considering the reoccurrence of the illness, present work was planned to study the *Upashayatmaka* effect of *Sarjadi lepa* in patients of *Dadru kushta*. **Objectives:** To study about etiopathogenesis of *Dadru kushta*, to evaluate the *Upashayatmaka* effect of *Sarjadi lepa* in *Dadru kushta*. **Methodology:** Open clinical trial with pre and post test design was carried out in 30 subjects aged 16 – 60, presenting with classical signs and symptoms of *Dadru kushta*. *Sarjadi lepa* was given for local application twice a day for 7 days. Detailed proforma was prepared to assess result and observation. **Result:** The symptoms *Kandu*, *Raga*, *Pidaka*, *Udgata mandala* were reduced significantly with ‘P’ value<0.001. **Conclusion:** The result of the study showed that *Sarjadilepa* is effective in reducing the symptoms of *Dadru*. It is inferred that observation of hygienic norms is important to elicit the early and better results.

**Keywords:** *Dadru*, *Tinea*, *Upashaya*, *Sarjadi lepa*

### INTRODUCTION

Skin is the largest organ of human body. Its size and external location makes it susceptible to wide variety of disorders. In recent years there has been a considerable increase in the incidence of skin problem in the tropical and developing countries like India.<sup>1</sup> The skin

is also available for minute observations so that important and sometimes insignificant alterations may be brought to the attention of the physician. Normal skin maintains an interrelated integrity and it is the purpose

of this research work to study in detail some deviations from that integrity through clinical point of view. All the skin diseases in Ayurveda have been classified under the broad heading of 'Kushta' which are further classified in to *Mahakushta* and *Kshudrakushta*. *Dadru* is one among the *Kushta*.<sup>2</sup> Acharya Charaka has included *Dadru* in *Khsudra Kushta*,<sup>3</sup> where as Acharya Vagbhata and Acharya Sushruta have explained under *Mahakushta*.<sup>4,5</sup> It involves the clinical features like *Kandu*, *Deerghapratana*, *Utsanna*, *Mandala*, *Raaga*, *Pidakas* which exhibits involvement of *Kapha* and *Pitta*. Acharya Vagbhata especially mentioned *Dadru* as *Anushangika*.<sup>6</sup> Ayurvedic Classics have considered each type of *Kushta* to be a *Tridoshaja* manifestation. Nonetheless their *Doshik* identity can be established on the basis of dominance of *Dosha* in the *Samprapti*. Thus *Dadru* is purely *Kaphaja* phenomenon.

On the basis of presenting symptomatology most of the scholars have simulated *Dadru* with 'Tinea' through modern perspective. It comes under, superficial fungal infections of the skin. Skin diseases are mainly caused by the involvement of several micro organisms where Tinea is one among them. Tinea/Ringworm infection is caused by a distinct class of fungi. They thrive in keratin layer of the epidermis, nails and hair. However, they do not invade the living epidermis. The serum fungal inhibitory factors in the extra vascular space prevent the penetration of the fungi in the living tissue. Several factors such as poor nutrition, unhygienic conditions, hot and humid climate, vocation promoting sweating and maceration, Diabetes mellitus, debilitating diseases, administration of corticosteroids and immunosuppressive agent, atopy, close and intimate contact with infected persons, animals and fomites predispose to ringworm infection. It should be noted that 10 - 15% of the general practitioners work with skin disorders.<sup>7</sup> 5 out of 1000 people are suffering from Tinea infection.<sup>8</sup>

In contemporary Medical science, management of Tinea is carried out with usage of topical or systemic antifungal, corticosteroids. Long lasting usage produce the adverse effect also.<sup>9</sup> Possible palliative treatment is with Ayurveda. There are numerous

Yogas in Ayurveda for the treatment of *Dadru Kushta*, in which *Sarjadi lepa* is safe, economical and easily available formulation.<sup>10</sup> Considering these properties the Yoga's was selected for the management of *Dadru Kushta*, for this present clinical study.

#### **MATERIALS AND METHODS:**

**Study Design:** Open clinical trial with pre and post test design

**Method of sampling:** Lottery method

**Sample Source:** Minimum of 30 patients was selected suffering from *Dadru Kushta*. Patients were analyzed and selected accordingly who fulfils the diagnostic and inclusion criteria.

#### **Drug details:**

##### **Sarjadi Lepa**

##### **Preparation:**

*Sarja rasa*, *Thusha*, *Chakramardabija*, *Haritaki* are made into powder form and should be applied on the lesion by mixing with *Tandulodaka*. The properties of drugs like *rasa*, *guna*, *virya*, *vipaka*, *karma* are mentioned below,

**Sarjarasa:** *Sarjarasa* has *kashaya*, *madhura rasa*, *ruksha*, *ushna guna*, *sita virya*, *katu vipaka*, *vata-pit-tahara*, *krimighna*, *kandughna* actions. **Chakramarda:** It has *katu rasa*, *laghu*, *ruksha guna*, *ushna virya*, *katu vipaka*, *kapha-vatahara*, *medohara* actions. **Hareetaki:** It has *lavana varjitha pancharasa*, *laghu*, *ruksha guna*, *ushna virya*, *madhura vipaka*, *tridoshahara*, *lekhana karma*.

##### **Diagnostic criteria:**

Patients presenting with *Mandala*, *Raga*, *Kandu* and positive for Dermatophytosis by 10% of KOH (Potassium hydroxide) microscopic examination with or without following symptoms:

- *Mandala* (round)
- *Raga* (Erythema)
- *Kandu* (Itching)
- *Pidaka* (Eruption)

**Microscopic examination:** Scraping collected from the skin lesion is placed on a slide and drop of KOH (Potassium hydroxide) 10% solution will be added and observed for hyphae and conidia under microscope within 03 hours of preparation.

### Inclusion Criteria

- Patients who are fulfilling the diagnostic criteria.
- Patients irrespective of sex and having age group between 16 to 60 years randomly included for the study.
- Patients having history of less than one year of origin.

### Exclusion Criteria:

- Patients associated with other types of *Kushta*.
- Onchomycosis, Tiniacapitis, Tiniapedis.
- Patients taking immune suppressive medications.
- Patients presenting with *Dadru Kushta* suffering with any other systemic disorders which may interfere in the course of study.
- Lesions with secondary infection.

### Laboratory investigations:

Blood routine

KOH microscopic examination

### ASSESSMENT CRITERIA:

Assessment was done based on the following parameters,

#### I. SUBJECTIVE PARAMETERS:

- *Kandu*

#### II. OBJECTIVE PARAMETERS:

*Raga, Mandala, Pidaka*

Assessment was done before intervention, and on 7<sup>th</sup> day based on grading's given for signs and symptoms of *Dadru*.

### INTERVENTION:

**Clinical intervention to evaluate *Upashaya*:** *Sarjadi Lepa*, local external application on the site of *Dadru* (*Tenia*) lesion (quantity sufficient) with *Tandulodaka*, two times a day, in morning and evening for 7 days.

### OBSERVATIONS:

Total 30 patients were registered in this study, and 30 patients have completed their course of treatment. The clinical study of this study deals with all aspects of the diseases, diagnosis and treatment. In this study all the patients were categorized into 3 age groups. The observations made in this aspect lead to the conclusions that maximum no. of patients (46.66%) were from the age group of 16- 31 years, while 26.66% patients were from the age group of 31-46 and 46- 60years. This is

the age group when the individual is more prone to follow *Nidanas* of *Kushta*. Male predominance 46.66% was evident from the table. There is no relationship of sex with the diseases. Maximum no. of patients i.e. 90% were Hindu. This may be due to the area where the study was performed. 26.66% were student & 23.33% were professionals. The prevalence indicates the communicable nature of *Dadru* among teenagers & the susceptibility of labour class to the infections is due to carelessness about hygienic norms, food habits & other *Nidanas*. 50% were from middle class 13.33% were from poor class, 36.66% were rich patients. Superficial fungal infections of the skin do not have any relationship with socio-economic status because in this study 36.66% rich patients were also encountered so this could not lead to any concrete decision in this regard. 63.33% had acute onset. *Dadru* started with slight itching or mild irritation & the negligence led to further aggravation of the diseases. 53.33% reported the aggravation of the diseases with regard to improper diet. 30% patient reported due to exposure to dust while 16.66% patients reported summer as an aggravating factor. Modern science also supports the seasonal variation of superficial fungal infections of the skin with respect to summer season 56.66% had moderate appetite, while 36.66% patients had good appetite and 6.66% patients had poor appetite. 73.33% were of mixed diet. 36.66% people were *Pitta Kaphaprakriti*, 33.33% people were *Vata Kaphaprakriti* and 30% people were *Vata Pitta prakriti*. *Aharaja Nidana*:

Among the *Aharaja Nidanas*, *Navanna* (76.66%), excess intake of *gramyaanupaaudakamamsa* (56.66%), *Dhadhi* (53.33%), *Guru Ahara* (50%) were observed. In this series, 66.66% patients were taking foods and drinks together and 46.66% patients were sharing personal items. Day sleep was reported by 26.66% patients. *Vegadharana* was common among 43.33% patients & 20% patients were drinking cold water after coming from sunlight. The lesions of *Dadru* were found 50% on the unexposed area where there are chances of friction, while 50% lesions were spread over exposed area.

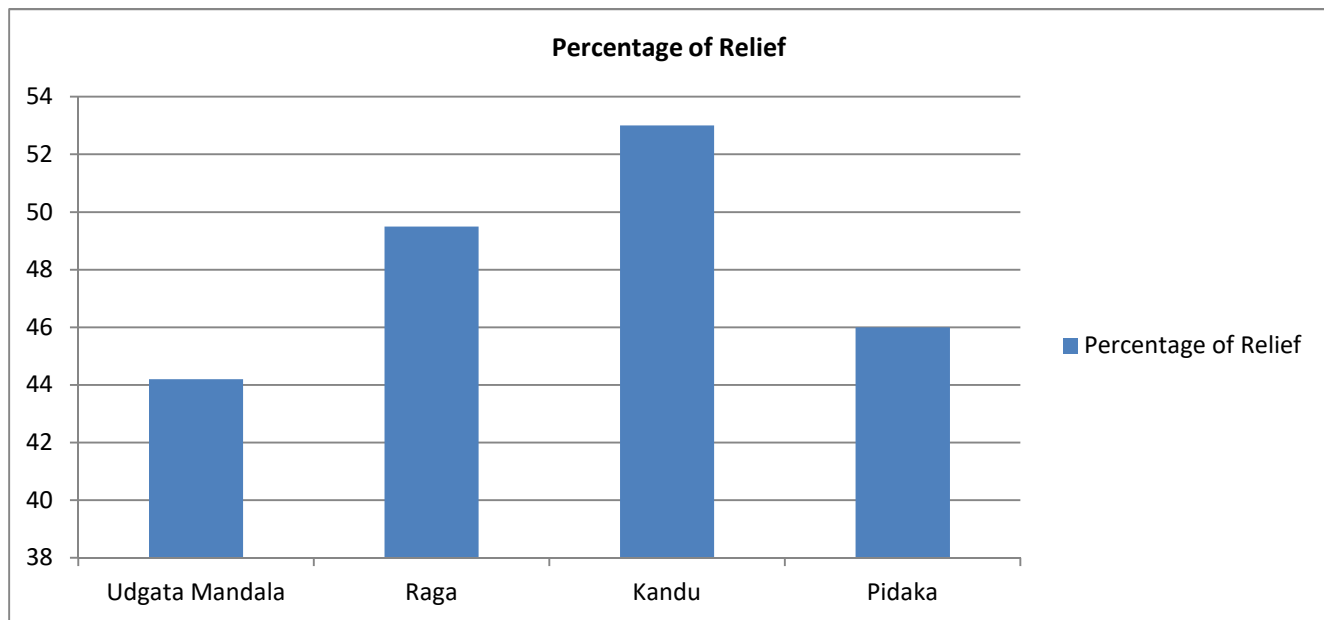
**RESULTS:**

**EFFECT OF TREATMENT IN SIGNS AND SYMPTOMS ON 7<sup>TH</sup> DAY**

There is statistically significant change in all the signs and symptoms. All the signs and symptoms have **P<0.001** shown in Table No 2

Signs and Symptoms	Mean		%	SD	SE	Pvalue
	BT	AT				
Udgata Mandala	2.33	1.3	44.2	0.466	0.085	P<0.001
Raga	2.1	1.06	49.5	0.253	0.046	P<0.001
Kandu	2.26	1.06	53	0.583	0.106	P<0.001
Pidaka	2.23	1.20	46	0.406	0.074	P<0.001

**Graph 1:** Showing Effect of treatment in Signs and Symptoms



**DISCUSSION**

The effect of therapy on the individual signs & symptoms is being discussed here as follows.

**Kandu:** *Kandu* was relieved by 53% and the test showed significant changes in the symptom with p value <0.001. **Raga:** The *Raga* was relieved by 49.5%. Statistically also, the result is highly significant with p value <0.001. **Udgata Mandala:** There was 44.2% relief in *Udgata mandala* and test showed statistically significant change with p value<0.001. **Pidaka:** There was 46% relief in *Pidaka* and test showed statistically significant change with p value<0.001

Maximum patients, (56.66%) had moderate appetite, while 36.66%patients had good appetite and 6.66%

patients had poor appetite. As the main *nidana Dadru* is *viharaja* and *aupasargika* where here *agni* has minimum role to play. Most of the patients i.e. 73.33% were of mixed diet. Non vegetarian diet helps in easy accumulation of and aggravation of *kapha dosha*. 36.66% people were *Pitta Kaphaprakriti*, 33.33% people were *Vata Kaphaprakriti* and 30% people were *Vata Pitta prakriti*. As *Dadru* is *Pitta kaphaja kushta*, the same was found in *pitta kaphaprakriti* persons. Among the *Aharaja Nidanas*, *Navanna* (76.66%), excess intake of *gramyaanupaau-dakamamsa* (56.66%), *Dhadhi* (53.33%), *Guru Ahara* (50%) were observed. The *nidanas* explained are not specific *nidana* of *Dadru*. But it leads to the aggravation of *Pitta* and *Kapha*. The combined use of *Dhadhi*,

*Matsya, ksheera, mamsa* etc for long duration can be considered as a *viprakrishta nidana* of *Dadru*. The *upasarganidanas* like *parasanga, gatrasmarsparsha, nishwasa, sahabhojana, sahashayya, vastramalyanulepana* etc causes *upasargarogas*. In this *kushta* is one among them. The *gatrasmarsparsha* and *vastramalyanulepana* is applicable to *Dadru* since *dadru* gets infected from one individual to another by close contact or by exchanging ones cloths. This can be considered as *sannikrishta nidana* for *Dadru* specifically. The excessive exposure to sunlight and *ativyayama* lead to excess production of sweat. This in turn produces the *krimi* and later on the development of *Dadru*.

All these *nidanas* will lead to,

- 1) *Agni Dushti*
- 2) *Dosha Prakopaka*
- 3) *Dhatudushti*
- 4) *Srotodushti*
- 5) Decrease of *Vyadhi Kshamatva*

The synchronization of all above actions, due to the *Nidana sevana* of *Kushtha* creates *Dhatu Shaithilya* (*twak, mamsa, ambu*) which forms the most important part in *Kushthotpatti*. For the *Doshas* to settle, they need *Shithiladhatus* which is produced only by the *Nidanas* of *Kushtha*. They cause *Kandu, raga, pidaka, udgata mandala* etc. It leads to the manifestation of *dadru*. The *pitta* and *Kapha* inturn causes aggravation of *vata*. Thus the vitiated *thridoshas* enters the *tiryakgatasiras* and reaches the *bahyarogamarga*. Hence the *mandalas* are produced at the site where the *doshas* get lodged.

In this series, 66.66% patients were taking foods and drinks together and 46.66% patients were sharing personal items. Day sleep was reported by 26.66% patients. *Vegadharana* was common among 43.33% patients & 20% patients were drinking cold water after coming from sunlight. All these *Nidanas* play a key role to start off the pathogenesis of *Kushtha*. The lesions of *Dadru* were found 50% on the unexposed area where there are chances of friction, while 50% lesions were spread over exposed area. *Dadru* can occur in anywhere in the body and can be spread to any area.

## PROBABLE MODE OF ACTION OF SARJADI LEPA

The contents of *Sarjadilepa* are the *Chakramarda-beeja, hareetaki, sarja rasa, Thusha*. All these have properties like *Katu, Kashaya, Madhura rasa Laghu, Ruksha, Ushna Guna, Ushna, Sheethavirya & Katu, madhuara Vipaka*, it acts as *Kapha pitta hara* as *Dadru* is *Kapha Pitta pradhanaroga*. This *Lepa* is also having *Sheeta* property as it is applied with *thandulodaka*, upon topical application, the active principles of the *Lepa* reach to the deeper tissues through *siramukha & swedavahisrotas* & stains it with its *Laghu & Ushna* property. Due to its *Ushna, laghu, rooksha* properties it deblocks the obstruction in *swedavahisrotas* & allows the local toxins to flow out through the *Sweda*, thus clearing out the micro channels. The *UshnaVirya* of *SarjadiLepa & SheetaGuna* of its vehicle i.e. *tandulodaka* causes pacification of *Kapha & Pitta* which forms the *samprapti* thus alleviating the symptoms. **Kandu:** In most of the patients *Kandu* was relieved significantly was due to the *Kandughna, krimighna* and *kaphahara* property of *Chakramarda & Sarja rasa*. **Raga:** *Raga* was relieved because of the *pittahara* and *seetavirya* property of *sarja rasa, thandulodaka and tridoshahara, madhuravipaka* property of *Hareetaki*. **Pidaka:** *Pidaka* was relieved by *Vranaropana, Sothaghna, and Lekhaneeya* property of *drugs*. **Udgata Mandala:** *Udgata Mandala* was relieved by *Laghu, ushna, kaphahara, Dadrugghna* property of *drugs* which expels the aggravated *Kapha*.

## CONCLUSION

*Dadru* is one of the most common and tenacious skin diseases with repeated relapse and remissions. It is *Kapha pitta pradhana Vyadhi*. The symptoms like *Kandu, Raga, Pidaka, Udgata mandala* are the cardinal features of *Dadru* and they are similar to lesions of *Dermatophytosis*. *Dadru* is managed by *Sodhana, Samana, and Bahirparimarjana Chikitsa*. Local application works faster due to Physiological effect of heat on the skin. *Bahirparimarjana* in the form of *Lepa* was selected which is easy done and acts as *Sthanika chikitsa* for fast relief.

Observations showed Teenagers and youth were the main victim of disease. From observation it was found that *aharaja nidana like navanna, dhadhi, gramya anupa audaka mamsa, guru ahara* and *viharaja nidana like Sahabhajana*, sharing personal items, *ve-gadharana* were found to be most common causative factor for manifestation of *dadru*. It is inferred that observation of hygienic norms is important to elicit the early and better results. *Upashaya* is one of the effective tools mentioned in Ayurveda for diagnosis and treatment of diseases. Present study aimed to analyse utility of *sarjadi lepa*. The result of the study showed that *Sarjadilepa* is effective in reducing the symptoms of *Dadru* with “p” value <0.001.

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