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A CLINICAL STUDY TO EVALUATE THE EFFICACY OF DADRUHARA TAILA IN DADRU KUSHTHA (DERMATOPHYTOSIS) IN CHILDREN

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ABSTRACT

Dermatophytosis is a major public health problem in many developing countries, related primarily to poverty and overcrowding, it is caused by a different kind of fungi. In *Ayurvedic* classics, various skin disorders have been described under the heading of *Kushtha*. *Dadru Kushtha* is being a *Kshudra Kushtha* that has ***Pitta-Kapha*** predominance, and it is characterized by the reddish-colored *pidika* in the form of a *mandala* with elevated and itching borders. In *Ayurveda* classics, it is mentioned that *Kushtha* should be treated with *Samshodhana, Shamshaman*, and *Nidana-Parivarjana* methods and *Tikta-Kashaya Rasa* predominant drugs should be used in the management of *Kushtha*. *Dharuhera lepa* is mentioned in the *Astang hridyam* under *Kushthrogadhikar* but in the present research work, the scholar has prepared *Dadruhara taila* by using the drug of *Dadruhara lepa* for the assessment of the effect of *Dadruhara taila* on *Dadru kushtha* in case of children. *Dadruhara taila* has been chosen for the present study because taila is easy to use in children.

Keywords: *Dadru kustha, Dadruhara taila, Dermatophytosis*

INTRODUCTION

The skin is the largest organ of the human body. The size and external location make it sensitive to a wide variety of disorders. Cutaneous diseases are considered a major health problem in children. In recent years, the impact of skin problems has increased considerably in tropical countries and developing countries such as India because of various reasons such as poverty, poor sanitation, hygienic, humidity, pollution, etc. [1] The 21st century with its continuous changing lifestyles, environment, and dietary habits have made person as the main victim of many diseases. Now a day skin disorder is very common in school-going children. The patient always suffers physical, emotional, and socioeconomical embarrassment in society. Normal 10-15% of general practitioners work with skin disorders (Roxburgh's common skin disease). In Ayurveda, all skin diseases have been categorized under the spacious heading of **Kushtha**. They are categorized even more in Maha Kushtha and Kshudra Kushtha.

Dadru Kushtha one of the *Kshudra kushtha* runs a chronic course and is generally difficult to treat even if it is cured Relapses are very common due to decrease maintenance of healthy status. All *kushtha* are having *Tridoshaja* origin so *Dadru kushtha* can be said in the same way. Despite its origin, various *Ayurveda Acahryas* mentioned different dominancy in *Dadru kushtha* i.e., *Piita Kaphaj dosha (Charak Samhita* 7/30), *Kaphaj* (*Acharya Sushruta*) which also suggest specific symptoms complexes.

According to the definition of it, the reddish-colored *pidika* in the form of a *mandala* with elevated and itching borders is known as *Dadru*. Usually is caused by *Nidanas* in three main classifications, that is, *Aharaja*, *Viharaja*, and *Krimija*. Here can be considered *Krimi* for the related fungi that are dermatophytes capable of causing changes to the skin. The *Samprapti* of *Dadru* mainly involves vitiation of ***Pitta -Kapha*** *doshas* and *Dushti* of *Rasa* and *Raktavaha strotas*.[2] As per the symptomology, *Dadru* has been directly co-related with dermatophytosis in modern science, which is defined as a highly contagious fungi, that may cause a wide variety of lesions on the skin. The lesions are circular, dry, erythematous, scaly, and itchy and have an inflamed border containing papules & vesicles surrounding a clear are of relatively normal skin. [3] Epidemiological studies indicate that the host defence has an important influence on the severity of the infection. the disease tends to be more severe in individuals with diabetes mellitus, lymphoid malignancies, immunosuppression, and states with high plasma cortisol levels, such as Cushing syndrome. some dermatophytes, most notably the zoophilic species, tend to have more severe, suppurative inflammation in humans. [5] In modern medical science, it is managed with topical and systemic antifungal agents and the use of corticosteroids. In *Ayurveda Shodhan*, *Shaman*, and *Bahirparimarjana* (topical) *Chikitsa* is indicated for *Dadru*. The ancient Acharyas discovered Ayurvedic formulations after continued study, observation, experiments, trial, and judgement. *"Dadruhara Lepa" is* one of the formulations, mentioned in the ***Ashtang hridya*** under *Kushtharogadhikar* but in the present research work, the scholar took ***Dadruhara taila*** by using the drug of *Dadruhara lepa* for the assessment of the effect of *Dadruhara taila* on *Dadru kushtha* in case of children. *Dadruhara taila is a combination of 10 drugs i.e., Laksha, Sontha, Pippali, Marich, Chakarmard ¸ Gandhaviroja, Kushtha, Sarshapa, Mulak*.

AIMS AND OBJECTIVES

a) To study *Dadru kushtha* in children.
b) To evaluate the efficacy of *Dharuhera taila* in *Dadru Kushtha*.
c) To provide an economic, safe, and cost-effective herbal formulation in *Dadru Kushtha*.

Material and Method:

- 50 patients in between age group of 3-10 years diagnosed with *Dadru kustha* (Dermatophytosis) after detailed clinical history and physical examination, were selected from O.P.D and I.P.D. of *Kaumarbhritya* Department, Rishikul Campus, Uttarakhand Ayurved University. Among these, 9 patients left the treatment before the complete of the therapy. Hence, the final assessment of the

result was done only on 41 patients. The study was a non-Randomized open clinical trial. Duration of study 2 months after registration, divided into the one-month study with drug followed by another one month without drug to know the recurrence of the disease. There was There are 4 follow up: 1st & 2nd follow-up was at the interval of every 7 days, then 3rd follow-up after 15 days & 4th follow-up was after 30 days. Ethical clearance from the Institutional ethical committee was obtained and the trail was also registered under the clinical trial registry of India. **(CTRI/2021/09/036463)**.

- **Preparation of the drug:**

Required raw drugs *(Laksha, Sontha, Pippali, Marich, Chakarmard ¸ Gandhaviroja, Kushtha, Sarshapa, Mulak)* were collected from Anamika herbals pharmacy *& identified by Dravyaguna Department of Rishikul campus, Haridwar.* The *Dadruhara taila* were prepared in the Anamika herbals pharmacy Sidcul, Haridwar.

INVESTIGATION:

To support the clinical diagnosis, routine and specific investigations were carried out as per requirement.

❖ **ASSESSMENT CRITERIA:**

a) Subjective Assessment:

Parameter	Grade (3)	Grade (2)	Grade (1)	Grade (0)
Kandu	Ugra Kandu (Continuous kandu with sleep disturbance)	Bahu Kandu (Continuous kandu without sleep disturbance)	Ishat Kandu (Kandu on & off)	No Kandu
Pidika	>7 pidika (In the largest mandala)	4-6 pidika (In the largest mandala)	1-3 pidika (In the largest mandala)	No pidika
Raga	Red colour	Blanching & Red colour	Fade & near to normal	Normal skin colour

b) Objective Assessment:

Parameter	**Grade (3)**	**Grade (2)**	**Grade (1)**	**Grade (0)**
The area occupied by the mandala	> 15 cm (Severe)	5- 15 cm (Moderate)	< 5 cm (Mild)	0 cm (Normal)
Number of Mandala	>7	4-6	1-3	No mandala

Result:

Statistical analysis: - To obtain the efficacy of the therapy proper Statistical analysis was carried out by applying the Wilcoxon test on subjective parameters and objective parameters. The information collected on the basis of observations was analysed using an appropriate statistical test to evaluate the significance at different levels i.e., at 0.05, 0.01, and 0.001 levels. The obtained results were interpreted as: -p-value >0.05: -Not significant, p-value < 0.05: Significant, p-value <0.01: very significant, p-value < 0.01: highly significant.

TOTAL EFFECT OF TREATMENT MODULE IN THIS STUDY

a) TABLE – Showing Improvement in Subjective Criteria: (Table no. 1)

Symptoms	**Mean Score**		**D**	**Relief %**	**W**	**P**	**Significance**
	B. T	**A. T**					
Kandu	2.65	0.88	1.77	66.79	-861.000	<0.01	**HS**
Pidika	2.51	1.33	1.18	47	-435.000	<0.001	**HS**

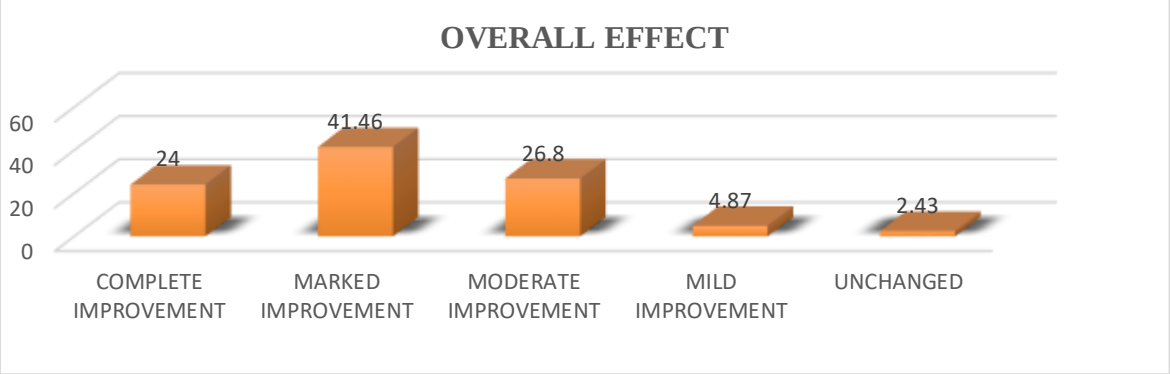
Raga	2.43	0.92	1.51	62.13	-496.000	<0.01	**HS**

a) TABLE – Showing Improvement in Objective Criteria: (Table no. 2)

Parameters	Mean score		D	Relief%	W	P	Significance
	B. T	A. T					
The area occupied by lesions	2.44	1.71	0.73	29.9	-253.00	<0.001	**HS**
Number of Mandala (Lesions)	2.52	1.55	0.97	38	-465.00	<0.001	**HS**

❖ **OVERALL EFFECT OF TREATMENT MODULE:**

- After full observation of treatment modules, it was found that in this study**:**
- The number of patients with complete improvement was 10 (24%)
- The number of patients marked improved was observed in 17 patients (41.46%)
- Moderate improvement was observed in 11 patients (26.8%)
- Mild improvement was observed in 02 patients (4.87%)
- The number of patients unchanged was 01 (2.43%).



DISCUSSION

1. Age-wise Distribution of Patients

In the present study, 50 patients were registered. The prevalence of the disease is more in **the 8-10 years of age group (56%),** followed by 06-07 years (24%), and then minimum patients in the 3-5 years group of age (20%). In this study, we found that the children in the age group 8-10 years were more prone to ringworm infestation because of the predisposing factors such as period of prepubertal in this age child more prone to infection because children usually play the outdoor game with very close contact and use the public toilet frequently and not maintain proper hygiene.

2. **Gender-wise Distribution of Patients**

In the present study out of 50 patients, **64% were males** and 36% were females.

The incidence of this disease is more in males than females. {S. Balamuruganandveda, Geethavani babu in Puducherry, India that dermatophytosis result was found to be more prevalent in males 62.6% compared to females 37.4% with male to female ration being 1:67:1 However there are studies showing male patient more prone to ringworm infestation because males' children do not maintain the proper hygiene as compared to females. (Age & Gender wise seasonal distribution of Dermatophytosis in a Tertiary care hospital at Puducherry). Hospital-based survey-2019 February, Vol-13(2); WC06-WC10.}

3. **Religion Wise Distribution of Patients**

In religion-wise distribution, it has shown that the maximum no. of patients was belonging to the **Hindus groups (86%),** whereas only 12% of patients were Muslims and 2% were Sikh. Although the population of the Hindu community is high in this geo-

graphical territory, it is obvious that Hindu patients were found more in numbers. Thus, it is found that this disease has no relation to religion.

4. **Habitat Wise Distribution of Patients**

During this study, it has been found that this disease is more prevalent in **rural 58% of area**s than semi-urban 30% area followed by urban areas in 12%. Ringworm infestation mainly found in rural areas the reason being is that dermatophytosis spreads more in unhygienic conditions and overcrowded regions.

5. **Socio-Economic Distribution wise Distribution of Patients**

Based on socio-economic distribution. It was found that the maximum no. of patients was belonging to the **poor sector of society at 44%** followed by the lower middle class at 38% and the middle class at 12%.

6. Educational Status of Children wise Distribution of Patients

In the present study out of 50 patients, **82% were school-going** and 18% were non-school going. This might be due to the fact that the school itself is an overcrowded area where children have direct close contact with an infected child.

7. Positive Contact History of Dermatophytosis infestation wise Distribution of Patients

During this study, it has been found that this disease is more occur in a patient who has **positive contact history of Dermatophytosis i.e., 70%**. In Ayurveda according to *Acharya Sushruta, Dadru* comes under *Aoupasargika Rogas* i.e., transferred from person to person likewise modern science also explains the mode of transmission of Dermatophytosis (Tinea) from person to person. In *Kandu*, *Pidika*, *and Raga, the* Area occupied by Mandala(lesions) and the Number of Mandala (lesions) highly significant results were observed during this study. The drug *Dharuhera taila* consists of ingredients that balance each other in rasa *panchaka* and enhance the *Kushthaghna*, *Kandughna*, *Krimighna,* anti-psoriatic, anti-microbial, anti-parasitic, anti-inflammatory, anti-helminthic, anti-allergic properties which help in minimizing the clinical features like *Kandu* (Pruritus), *Pidika* (Papules), *Raga*.

CONCLUSION

Kushtha is described as '*Tridoshaja Vyadhi'*, each one has its particular *Dosha* predominance. In the case of *Dadru Kushtha*, is described under *Kshudra Kushtha* has *Pitta- Kapha* dominance with involvement of *Tridosha* which can be evident by observing its sign and symptoms. As the disease *Dadru* can be also caused by the *Krimi* (Dermatophytes) according to the modern perspective also, the content in *Dharuhera Taila* acts on parasites by their *Krimighna* properties which further helps in reducing itching and irritability of the skin. *Dharuhera Taila* also has the *Kushthaghna*, *Kandughna*, *Krimighna*, anti-inflammatory, anti-microbial, anti-allergic, anti-itching, anti-parasitic, anti-helminthic and Immuno-modulating properties that they work against inflammation, itching, elevated edges, and improved immunity. Since in *Ayurveda, Kushtha* is described under *Aupasargika Roga* likewise modern science also explains the mode of transmission of Tinea infestation is direct skin-to-skin contact. Thus, keeping these points in mind, the Prevention rules described earlier were advised to each of the patients during this clinical trial. In *Kandu*, *Pidika*, and *Raga*, the area occupied by Mandala(lesions) and the Number of Mandala (lesions) highly significant results were observed during this study. The number of patients with complete improvement was 10 (24%), the Number of patients with marked improved was observed in 17 patients (41.46%), moderate improvement was observed in 11 patients (26.8%) and mild improvement was observed in 02 patients (4.87%) where unchanged was 01 (2.43%). **It was concluded that *Dharuhera Taila* is useful in the management of *Dadru Kushtha* and there was no side effect seen on any patient of the trial drug.**

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Case study:01

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Case study:02