



An Effective Antifungal Treatment Through Ayurveda – A Case Study

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Abstract-

The body's first and largest organ that interacts with environmental factors like physical, chemical, and biological factors is the skin. Spontaneous remissions and relapses are caused by variations in the external stimuli and the body's innate capacity to deal with these circumstances. These elements interact to produce a specific pattern of reactivity that causes distinctive skin disorders in various body regions. Due to poor diet, filthy living circumstances, and tropical and developing nations like India, the incidence of skin issues has significantly increased in recent years. The body portion that is exposed the most is the skin. Any skin condition causes the patient to feel physically, emotionally, and economically humiliated in his or her society from a beauty standpoint. The terms *Twak vikara* and *Kustha roga* are used in *Ayurveda* to describe skin infections. *Dadru* is one of the *Kushta roga* and is referred to as a *Dadru Kustha*. Due to the similarities in their symptoms, *Dadru Kustha* and *Tinea/Ringworm*, a cutaneous fungal illness, are often compared in modern medicine.

Aim and Objectives- This study's objective was to evaluate *Karanjadi Lepa*'s effectiveness in treating *Dadru Kustha* (Tinea).

Materials and Methods - *Karanjadi Lepa* is made from pasted seeds of *Azadirachta indica*, *Cassia tora*, and *Pongamia pinnata*. For 30 days, it was applied topically to the afflicted area.

Results - Clinical research indicates that *Karanjadi Lepa* has a substantial effect in reducing *Tinea faciei* and *Tinea corporis* symptoms such itching, erythema, eruption, size of lesion, and number of lesion.

Conclusion - All of the constituents in *Karanjadi Lepa* have antifungal and antibacterial activities, and this leads to positive patient outcomes. The substances are readily available, affordable, and have no adverse effects. It demonstrates a fresh angle for using Ayurveda to treat dermatophytosis.

Keywords- *Dermatophytes, Dadru Kustha, Karanjadi Lepa, Tinea faciei, Tinea cruris.*

Introduction- A significant rate of lifestyle changes has resulted from economic development. Skin diseases were quite prevalent and were caused by changes in lifestyle, environmental pollutants, eating poor food, or unclean conditions. In tropical and developing nations like India, the prevalence of skin problems is rising as a result of changing lifestyle factors such as the tendency to consume fast, spicy, and unhealthy cuisine, lack of awareness of personal hygiene and health, insufficient sleep, and environmental pollution¹. Today, one of the most common dermatological conditions is fungus-related skin infections. 40 million people have fungal infections, according to research². Fungal infections that show up on the skin, hair, or nails superficially are common and often difficult to treat.

All skin conditions are listed under the term "*Kustha*" in *Ayurveda*. They are further divided into the *Mahakustha* and *Kshudrakustha*. *Kshudrakustha* has eleven subtypes, while *Mahakustha* has seven. The most prevalent skin condition, *Dadru* is classified as a *Mahakustha* disease by *Acharya Sushruta*³ and *Vagbhata*⁴, although *Acharya*

Charaka included it as a *Kshudrakustha* disease⁵. *Rasa*, *Rakta*, *Mamsa*, and *Lasika* are included in the *samprapti*⁶ and *Dadru* is a *Tridoshajavyadhi* with a predominance of *Kapahapitta*. The *Kustharoga*, which includes the *Aharaja*, *Viharaja*, *Upasargaja*, and *Krimi*⁷, are used to explain *nidan* (etiological factor) of *Dadru*. *Kandu* (itching), *Raga* (erythema), *Pidaka* (eruptions), and *Utsanna Mandal* are clinical signs of *Dadru Kustha* (elevated circular lesion)⁸. According to contemporary science, *dadru* is a skin fungal infection similar to *tinea*. Dermatophytes, which are very contagious, are the cause of *tinea*⁹. Dermatophytes, a group of related fungus, can lead to skin alterations of the type known as *tinea*, ringworm, dermatophytosis, or mycosis¹⁰. Typically, 10-15% of practitioners treat all kinds of skin conditions on a daily basis. Five out of every thousand persons had *tinea* infections¹¹. *Dadru* can be linked to a *tinea* infection because all of the symptoms are out of balance. The climate in India is favourable for developing and maintaining mycotic infections. Adults between the ages of 16-45 years are more likely to get dermatophyte infections%¹².

Dermatophyte infections have a lower risk of morbidity, discomfort, and transmission when they are identified early and treated effectively. Dermatophyte infections are less likely to be fatal, uncomfortable, or spread if they are identified early and treated effectively. The anatomical site of the infection, safety, effectiveness, cost, and chance that the patient would adhere to therapy are just a few of the considerations that the doctor should take into account while determining the best course of action¹³. The many stages of *tinea* infection, including *corporis*, *cruris*, and *faciei*, are treated with topical antifungal medications, oral antifungal medications, and topical systemic corticosteroids. The effectiveness of Ayurveda in the treatment of "Tinea infection" lacked sufficient data. In the current case study, a patient with *tinea faciei* and *tinea cruris* who was not receiving sufficient relief (with recurrence or relapse) from modern medications chose to have Ayurveda treatment for long-lasting relief. *Tinea* infection and *Mandala kushta*¹⁴ are connected. For the purpose of publishing this case report, the patient's written informed consent was obtained.

Present case study -

A 21-year-old male patient visited the outpatient department (OPD) of *Kayachikitsa* Department, MRD No.5398583 of Sir sundar lal Hospital, Banaras Hindu University, Varanasi on 13th November 2022. He was student of BA final year from Chunar district, Uttarpradesh approach with severe itching over left chick of the face and in both inguinal region since 6 months along with erythema and circular lesion with eruption on the affected area. He has taken modern treatment for 1 month and has no satisfactory results, so he left the treatment and came to the OPD of *Kayachikita* to get relief from Ayurveda. He has a relief for a time being after some time, itching again aggravates.

Personal history-

Name - ABC, **Sex** - Male, **Age** - 21years, **BP**- 110/76mm Hg, **Pulse** - 72 beats/min, **Temperature** - 97.2⁰F, **Occupation**– Student (BA final year), **R/R** - 20/min

Marital status – Unmarried, **Weight** - 60 kg.

Past history - 5 years ago, he was diagnosed with typhoid and periodically had a cough and a cold.

No H/O any major illness/surgery

No H/O any drug allergy

Local examination- The inguinal area was severely itchy, which interfered with sleep. A 3.5 cm patch at the left chick and a circular lesion measuring more than 7 cm are found in the inguinal area, associated with erythema and eruption.

Materials and Methods-

Karanjadi Lepa: The crushed seeds of *Karanja* (*Pongamia pinnata*), *Chakramarda* (*Cassia tora*), and *Neem* (*Azadirachta indica*) bark were combined with water (boil) to make this *Lepa*. According to numerous studies, all of these medications have antifungal, antibacterial, and antimicrobial properties.

Preparation method of *Karanjadi Lepa* -

All the medications were collected from local market of Dina gollanath, Varanasi. From the Institute of Science, BHU's department of Botany, all the raw medicines were identified. The raw medications were all washed and allowed to air dry. Using mesh sieve no. 85, these medications were ground into a fine powder and blended consistently. All of the aforementioned procedures were carried out by IMS, BHU's pharmacy department. Boiling water was used to apply this evenly distributed powder (after cool down to normal temperature).

Assessment criteria of symptoms-

Assessment criteria of patient based on gradation which was mentioned or standardize by previous Researches in Ayurveda¹⁵.

1. Itching
 - Grade 0: No itching
 - Grade 1: Continuous itching (no disturbance while doing work)
 - Grade 2: Continuous itching (disturbs the work)
 - Grade 3: Continuous itching (disturb sleep)
2. Eruption
 - Grade 0: No eruption
 - Grade 1: Eruption in 0%–25% of affected area
 - Grade 2: Eruption in 25%–50% of affected area
 - Grade 3: Eruption in 50%–75% of affected area
3. Elevated circular lesion
 - Grade 0: No circular lesion
 - Grade 1: 1–3 circular lesion
 - Grade 2: 4–6 circular lesion
 - Grade 3: >7circular lesion
4. Size of lesion
 - Grade0: No lesion
 - Grade 1: Less than 2cm
 - Grade 3: 2-5cm
 - Grade 3: More than 5cm
5. Erythema
 - Grade 0: No erythema
 - Grade 1: Light red color / near to normal colour
 - Grade 3: Moderate red color
 - Grade 3: Bright red color

Treatment schedule-

On the affected areas of the body, *Karanjadi Lepa* was applied twice daily for 20 minutes, or until the paste was fully dry. To avoid any water contamination, boiling the water was chosen in this circumstance.

Follow-up was taken every 15 days for a total of 30 days.

Precaution- Washing towels and underwear in hot water and letting them air dry thoroughly is a precaution. Never use the soap or towels from another family member. After scratching or handling the lesions, washing hands with soap or hand wash liquid immediately.

Dietary and Lifestyle modification-

Consume bitter (*Tiktaras yukta*) vegetables such drumsticks, *Karela* (bitter gourds) and *Parval* (Ridge gourd). Avoiding *Dadhi* (curd), milk, and jaggery, sleeping during the day, and consuming too much mulaka (radish)¹⁶.

Result and Observation-

When *Karanjadi Lepa* was applied, the patient experienced complete relief from the symptoms of itching, eruption, and remarkable healing from erythema, size of lesion, and number of lesion in inguinal areas, while the lesion on the face completely disappeared without any symptoms. The patient had severe itching, eruption, and erythema prior to treatment [Fig. 1]. After the course of treatment was completed, a notable improvement was evident in the symptoms that were represented graphically [Graph 1].

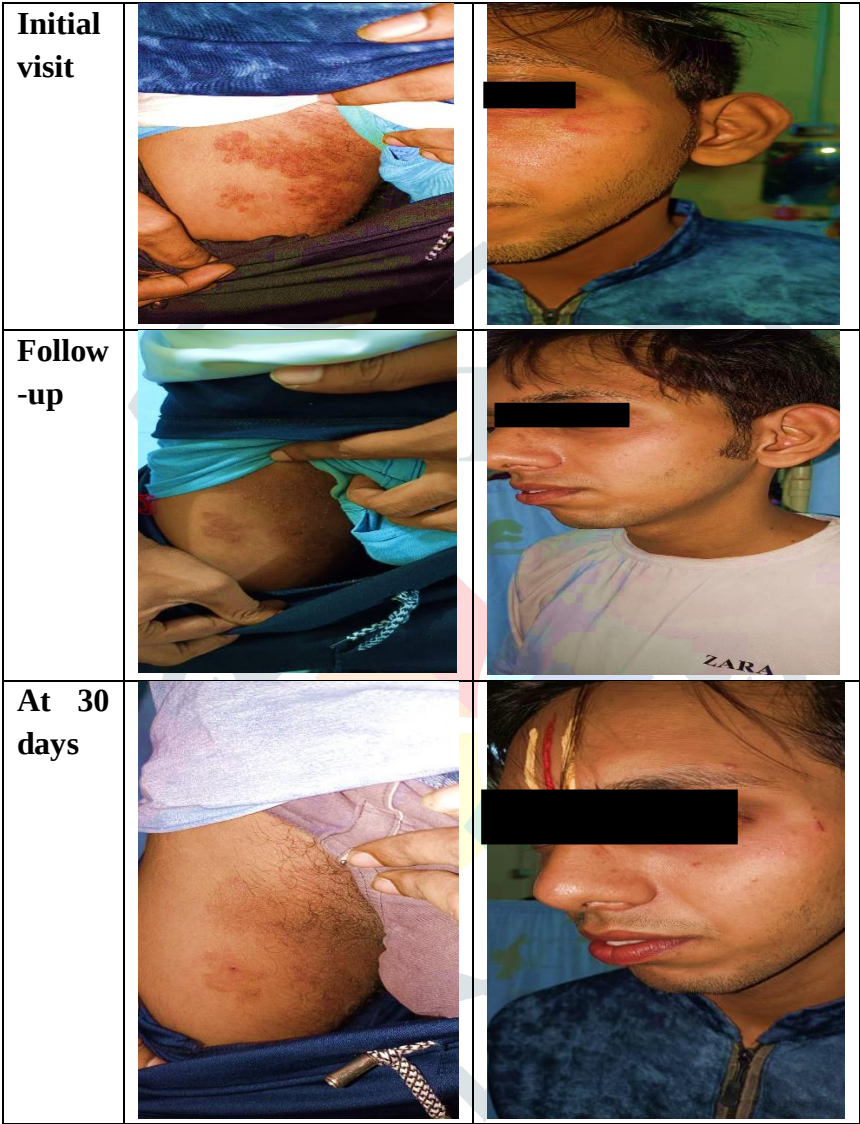
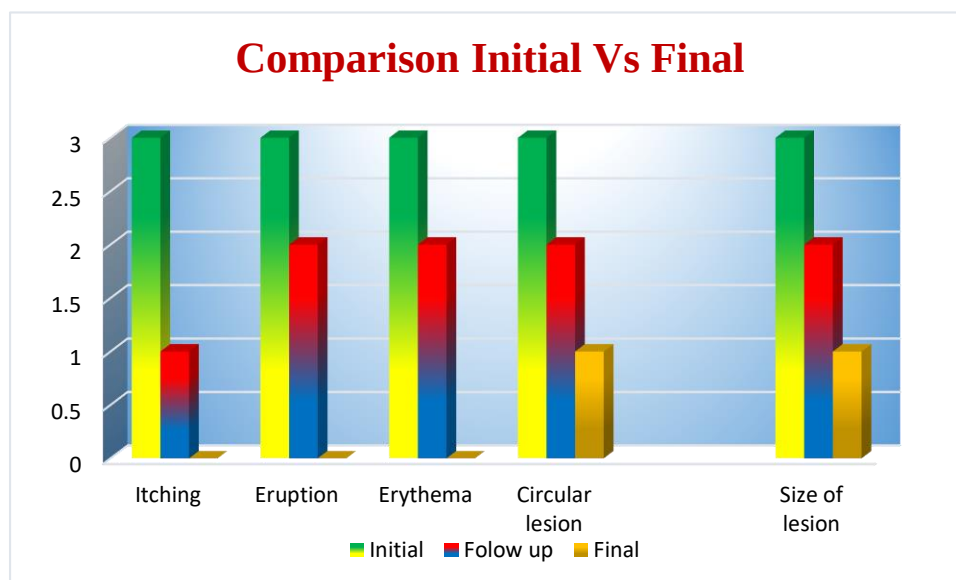


Fig.1- Showing comparison of Initial symptoms Vs final after treatment.



Graph.1- Showing comparison of Initial symptoms Vs final after treatment.

Discussion-

Infected tissue such as skin, hair, and nails can get infected by dermatophytes, fungi that penetrate and proliferate inside keratinized tissue. *Trichophyton*, *Epidermophyton*, and *Microsporum* are the three classes into which dermatophytes are divided. Over the world, cutaneous dermatophytosis is becoming more and more common, particularly in tropical and subtropical nations like India. Tinea is frequently brought on by unsuitable diets, poor cleanliness, and fungi. Due to industrialization and lifestyle changes, fungal infections are most frequently found in middle class and lower class societies. This is because of unhygienic and incompatible food, the wearing of the same undergarments repeatedly without washing them, and synthetic fabrics that trap heat inside and make people perspire, creating an ideal environment for fungus growth. Tinea faciei and T. cruris is not a life-threatening condition, but it causes anxiety because of the deformity and because its intensity interferes with daily activities. The ingredients in *Karanjadi Lepa* include the seeds from *Karanja*, *Chakramarda*, and *Neem*, which have been known to have antifungal, antimicrobial, and antibacterial properties. All of these medications were previously listed in the *Kustha rogadhikar adhaya*¹⁷, in an Ayurvedic classics. The active elements of the substances in this *Lepa* were released into the base when *Lepa* was spread over the surface of skin in the opposite direction of hair growth through a suitable foundation. The medication eventually entered and was absorbed through the skin. It had undergone cutaneous biotransformation, which had subdued toxins and opened up microchannels¹⁸. According to *Acharya Sushruta*, *Lepa* has the same efficacy as throwing water on a fire, which quickly puts out the flames. Similar to how *Lepa* should be applied to calm down agitated *Dosha*. The *Karanjadi lepa* seems to be effective herbal remedy which is simple to create, free of side effects, and whose constituent parts work together to provide notable results.

Conclusion-

This study demonstrated the qualities of *Karanjadi lepa*, which by their contemporary studies reveals antifungal, antimicrobial, and antibacterial property. These characteristics allow it to effectively treat patients by reducing erythema, itchiness, eruptions, lesion size, and quantity in cases of Tinea faciei and T. cruris. As an inexpensive and efficient treatment for a fungus infection, *Karanjadi lepa* ingredients are widely available on the market and has no negative side effects. Thus, it is a very practical treatment for *Dadru*. It demonstrates a notable improvement in the aforementioned case, therefore it can be applied to a sizable group of fungal patients in order to form a firm conclusion.

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