

A COMPARATIVE CLINICAL STUDY OF TRIPHALADI KWATH AND TRIPHALADI UDVARTANA IN DADRU (TINEA CORPORIS)

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Abstract

Objective: This clinical investigation aimed to evaluate and compare the therapeutic efficacy of internal systemic administration (Triphaladi Kwath) versus localized external intervention (Triphaladi Udvartana) in the management of Dadru (Tinea corporis). The study was structured around the Ayurveda's pharmacological principle of Apararpana (depletion therapy), targeting the underlying Santarpana (over-nutrition/saturation) pathogenesis of dermatophytosis.

Methodology: A randomized, comparative Phase II clinical trial was conducted involving 80 subjects aged 18–60 years, diagnosed with Dadru. Participants were bifurcated into two cohorts: Group A (n=40) received 40–50 ml of Triphaladi Kwath orally, and Group B (n=40) underwent localized Triphaladi Udvartana (powder scrubbing) for a 30-day duration. Clinical progress was quantified through subjective parameters - Kandu (pruritus), Raga (erythema), Pidika (papules), and

Mandala (annular lesions) - alongside objective metrics, including the Dermatology Life Quality Index (DLQI) and lesional surface area measurement.

Results: Statistical analysis revealed significant symptomatic attenuation in both cohorts ($p < 0.001$). Group A (internal administration) exhibited clinical superiority in resolving systemic inflammatory markers, with a 79.8% reduction in Raga, 65.4% in Pidika, and a 47% decrease in the number of Mandala. Furthermore, Group A showed a higher improvement in quality-of-life scores (44.3%). Conversely, Group B (external application) demonstrated a statistically significant advantage in mitigating localized pruritus, achieving a 90.8% reduction in Kandu compared to 64.6% in Group A.

Conclusion: Although both modalities proved clinically effective, Triphaladi Kwath demonstrated overall therapeutic dominance in resolving the comprehensive pathology of Dadru. The findings

validate the Ayurveda's paradigm of Abhyantar Shuddhi (internal detoxification), suggesting that systemic metabolic correction is more effective for dermatological resolution than isolated topical application, which remains primarily beneficial for localized symptomatic relief.

Keywords: Dadru, Tinea corporis, Triphaladi Kwath, Udvartana, Ayurveda.

Introduction:

In the contemporary era, skin diseases are highly prevalent due to sedentary lifestyles, irregular dietary habits (Viruddha Ahara)¹, and environmental pollution. Ayurveda categorizes almost all skin manifestations under the broad heading of Kushtha². Among these, Dadru is a frequently encountered condition. While Acharya Charaka classifies it under Kshudra Kushtha, Acharya Sushruta and Vagbhata include it among the Maha Kushtha due to its high contagiousness and tendency to recur.

Dadru is a Kapha-Pitta predominant disease^{3,4}, clinically presenting with Kandu (itching), Raga (erythema), Pidika (papules), and Utsanna Mandala (elevated circular lesions). These features closely resemble Tinea corporis (ringworm), a superficial fungal infection caused by dermatophytes (species of *Trichophyton*, *Microsporum*, and *Epidermophyton*). This infection is more common in adults between 16-55 years. Skin diseases are the fourth most common cause of disability worldwide⁵. According to WHO prevalence rate of dermatophyte

infection is 20-25%⁶. In 2016, fungal skin diseases were ranked fourth highest in the incidence of disease (2.1 billion cases) when compared to 328 different diseases and injuries globally⁷. In India 5 out of 1000 people are suffering from Tinea infection⁸. The prevalence of Tinea corporis was reported to be 28.48% in a clinico-mycological study conducted in and around Pune⁹.

According to Ayurveda's principles, Dadru is a Santarpanottha Vyadhi¹⁰ (disease caused by over-nutrition/saturation). Therefore, the line of treatment must follow Apatarpana Siddhant (depletion therapy). This study utilizes Triphaladi Kashaya, a potent formulation mentioned in Ayurveda's classics¹¹ for Santarpana disorders, administered through two distinct routes - internal (Abhyantar) and external (Bahir-parimarjana)¹².

Materials and Methods:

Study Type - This study was designed as a simple randomized, comparative Phase II clinical trial aimed at evaluating the therapeutic effect in patients diagnosed with Dadru Kushtha under controlled and systematic clinical conditions.

Blinding Method - The study was conducted using a single-blind method in which the patients were unaware of the treatment allocation. However, the investigators were aware of the intervention due to the practical nature of the clinical procedures. This approach was adopted to reduce bias and ensure objective assessment of treatment outcomes.

Source of Data (Selection of Patients) - The study population was selected from patients attending the Outpatient Department (OPD) and Inpatient Department (IPD) of the Ayurved Rugnalaya during the year 2025. A total of 80 patients who fulfilled the predefined inclusion criteria were screened and enrolled in the study. The selection was carried out through a systematic clinical evaluation to ensure suitability for participation in the trial.

Ethical Clearance - Prior to the initiation of the clinical trial, ethical approval for the study on Dadru Kushtha patients was obtained from the Institutional Ethical Committee (Reference No. – AAM/2023, dated 09/09/2023).

Diagnostic Criteria - Patients were diagnosed based on the classical clinical features of Dadru Kushtha as described in Ayurvedic texts. Individuals presenting with characteristic symptoms were assessed clinically, and those meeting the diagnostic parameters and inclusion criteria were subsequently enrolled in the study.

Inclusion Criteria - Patients presenting with classical signs and symptoms of Dadru Kushtha, including Kandu (itching), Raga (erythema/redness), Pidika (papular or elevated skin lesions), and Mandala (circular or ring-shaped lesions), were included in the study. Participants belonging to the age group of 18 to 60 years, of either sex, and those who were willing to participate and provided written informed consent were considered eligible for inclusion.

Exclusion Criteria - Patients below 18 years and above 60 years of age were excluded from the study. Individuals diagnosed with other dermatological conditions such as eczema and psoriasis were not included. Additionally, patients suffering from diabetes mellitus, major chronic systemic illnesses, and autoimmune disorders such as systemic lupus erythematosus (SLE) were excluded to avoid confounding factors and to maintain homogeneity of the study population.

Withdrawal Criteria - Patients were withdrawn from the study if they were unwilling to continue treatment during the trial, did not provide or withdrew written informed consent, left the study against medical advice, developed significant adverse effects during the intervention, or were lost to follow-up for two consecutive visits during the treatment period.

Experimental Groups and Therapeutic Intervention - The study population was bifurcated into two cohorts of 40 participants each. Group A was assigned to internal systemic therapy consisting of 40 - 50 ml of freshly prepared *Triphaladi Kwath* (decoction), administered orally twice daily during the *Abhakta kala* (on an empty stomach). Group B was assigned to external topical therapy utilizing *Triphaladi Udvartana*, where the *Triphaladi Churna* (fine powder) was applied as a dry powder rub to the affected lesions 2 to 3 times daily. The total duration of the therapeutic intervention spanned 30 days, with structured follow-up assessments conducted at 10-day intervals (Day 0,

10, 20, and 30 - to monitor clinical progression and treatment response.

Assessment Parameters: Evaluation of therapeutic efficacy was executed through a combination of subjective and objective metrics. Subjective assessment involved a standardized grading system for the primary symptoms of *Dadru*, namely *Kandu* (itching), *Raga* (erythema), *Pidika* (papules), and *Mandala* (circular patches). Objective evaluation was performed using two primary tools: the measurement of the total lesion surface area via transparency sheets and graph paper to quantify physical resolution, and the Dermatology Life Quality Index (DLQI). The DLQI served as a validated psychometric instrument to assess the psychosocial impact of the disease and the subsequent improvement in the quality of life following the intervention.

Drug Composition: The Triphaladi¹¹ formulation contains ten ingredients: Amalaki, Bibhitaki, Haritaki, Aragvadh, Patha, Saptaparna, Vatsak, Nimba, Musta, and Madanphal. These herbs possess Ruksha (dry), Tikta (bitter), and Kaphapittaghna properties.

Pharmacological Profiles of Component Drugs: The formulation is comprised of ten drugs primarily characterized by *Laghu* (light) and *Ruksha* (dry) properties, which effectively counteract the *Kleda* (moisture) inherent in *Dadru*. Amalaki, Bibhitaki, and Haritaki collectively function as *Tridoshaghna* agents, providing metabolic regulation, tissue

rejuvenation, and systemic *Anulomana* (proper movement of excretions). Aragvadh and Vatsaka offer *Pitta-Kapha* pacifying effects with mild laxative and gastrointestinal stabilizing actions, specifically targeting skin pathologies. The inclusion of Patha, Nimba, and Musta provides potent *Tikta-Katu* (bitter-pungent) properties that act as blood purifiers (*Rakta-shodhaka*) and antimicrobial agents, effectively addressing *Krumi* (fungal infection) and systemic toxicity. Saptaparna contributes critical *Kleda-shoshana* (moisture absorption) capabilities essential for resolving weeping or saturated lesions, while Madanaphala assists in Alleviating *Kapha-Vata* imbalances to reduce localized inflammation (*Shotha*) and abscess formation. Together, these ingredients work synergistically to provide a comprehensive *Apatarpana* (depletion) effect, neutralizing the pathogenic factors of *Dadru*.

Drug Preparation:

A. Preparation of Triphaladi Kashaya - Triphaladi Kashaya was freshly prepared and administered to the patients as per the standard classical method. A measured quantity of 6 g of the coarse drug was boiled in 100 ml of water and reduced to one-half of the initial volume, i.e., 50 ml, through controlled heating. The prepared Kashaya was then filtered and administered to the patients in freshly prepared form to ensure therapeutic efficacy and standardization of dosage.

B. Preparation of Triphaladi Udvartana - For Triphaladi Udvartana, all ten ingredients of Triphaladi Kashaya were taken in dry, finely powdered form. The powders were thoroughly mixed in uniform proportion to prepare a homogeneous Triphaladi Churna. This prepared Churna was used for Udvartana (therapeutic powder massage) as per the treatment protocol.

Observations and Results:

The demographic analysis revealed that the highest incidence of the disease was observed in the 31-40-year age group, accounting for 52.5% of the study population in both groups. The gender distribution was nearly equal, and the majority of subjects belonged to the middle socio-economic class. Dietary assessment showed that 60% of the participants followed a Vishamashana (irregular dietary) pattern, supporting the etiological significance of Ahara in the pathogenesis of Kushtha. Additionally, 45% of the subjects had a history of addictions such as tobacco consumption or excessive tea intake, which may contribute to Pitta dosha vitiation and aggravation of the disease process.

Statistical analysis reveals distinct therapeutic advantages for both delivery routes across the evaluated parameters. Group A (*Triphaladi Kwath*) demonstrated clinical superiority in systemic and inflammatory resolution, achieving a 79.8% reduction in *Raga* ($p < 0.001$) and a 65.4% improvement in *Pidika* ($p = 0.003$). It also proved

more effective in reducing the morphological features of the lesions, with a 47% decrease in the number of *Mandala* and a 42.3% reduction in their size. Consequently, Group A showed a significantly higher improvement in quality of life, reflected by a 44.3% reduction in DLQI scores ($p = 0.007$).

Conversely, Group B (*Triphaladi Udvartana*) was significantly more effective in managing localized pruritus, yielding a 90.8% improvement in *Kandu* compared to 64.6% in Group A ($p < 0.001$). Regarding physical lesional regression, both cohorts exhibited a comparable reduction in total Surface Area of approximately 9%, with no statistically significant difference observed between the internal and external interventions ($p = 0.569$).

Statistical evaluation of clinical symptoms demonstrated that both intervention groups exhibited highly significant improvement within the group, with p values less than 0.001. A marked reduction in the severity of clinical features was observed from Day 0 to Day 30 in both groups, indicating significant clinical efficacy of the respective treatment protocols over the study period.

Discussion:

The therapeutic framework of this study was established on the fundamental premise of Apatarpana Siddhant (depletion therapy). In Ayurvedic pathology, Dadru is identified as a Santarpana-uttha vyadhi (disease resulting from over-saturation), characterized by excessive Kleda

(morbid moisture/secretion) and the vitiation of Kapha and Pitta doshas. Therefore, the interventions were selected for their ability to dry, purify, and deplete these pathogenic factors.

Mechanism of Action: Triphaladi Kwath (Group A)

- The internal administration of Triphaladi Kwath targets the Abhyantar Marga (internal metabolic pathways), facilitating a systemic detoxifying effect. Herbs such as Nimb and Saptaparna are rich in Tikta (bitter) and Kashaya (astringent) Rasa, which function as potent Rakta-shodhaka (blood purifiers). This systemic reach explains why Group A demonstrated statistical superiority in mitigating Raga (erythema) and Pidika (papules). Since these symptoms are clinical manifestations of Pitta and Rakta vitiation, the internal decoction effectively neutralized Ama (metabolic toxins) at the cellular level, addressing the disease from its systemic origin.

Mechanism of Action: Triphaladi Udvartana (Group B)

- Udvartana represents a Bahir-parimarjana Chikitsa (external cleansing therapy). The mechanical friction generated during the rubbing of the dry powder induces local vasodilation and elevates skin temperature, which enhances the percutaneous absorption of active herbal alkaloids. The Ruksha (dry) property of the Churna exerts a direct hygroscopic effect, absorbing localized Kleda and stagnant Kapha at the lesion site. This localized mechanism correlates with the significant relief (90.8%) observed in Kandu (pruritus) within this group. As itching is primarily a Kapha-driven

symptom, local Udvartana serves as a direct and potent Kapha-nashaka intervention.

Comparative Analysis: The findings suggest a clear functional distinction between the two delivery routes. While Udvartana provides rapid and superior symptomatic relief for localized pruritus, it remains less effective in resolving deep-seated inflammatory markers such as Raga and Pidika. In contrast, Triphaladi Kwath provides a more comprehensive healing response by addressing the systemic Doshic imbalance. This holistic resolution is further evidenced by the higher improvement in the Dermatology Life Quality Index (DLQI) scores in Group A, indicating that systemic treatment more effectively restores the patient's overall well-being compared to localized symptomatic management alone.

Conclusion:

Both Triphaladi Kwath and Triphaladi Udvartana are safe and effective in managing Dadru (Tinea corporis). However, the internal administration of Triphaladi Kwath is superior for overall clinical management. While Udvartana is excellent for localized itching, systemic treatment via Kwath is more effective in reducing the total symptom burden and improving quality of life.

References:

1. Acharya YT, editor. *Charaka Samhita of Agnivesha*, elaborated by Charaka and redacted by Dridhabala. Chikitsasthana,

- Chapter 7. Varanasi: Chaukhamba Surbharati Prakashan; 2019. p. 405.
2. Tripathi B, editor. *Charaka Samhita of Agnivesha*, elaborated by Charaka and redacted by Dridhabala. Chikitsasthana, Chapter 7. Varanasi: Chaukhamba Surbharati Prakashan; p. 302.
 3. Tripathi B. *Charaka Samhita*. Chikitsasthana, Adhyaya 7, Verse 30. Varanasi: Chaukhambha Surbharati Prakashan; 2012. p. 306.
 4. Tripathi B. *Ashtanga Hridayam*. Chikitsasthana, Adhyaya 14, Verse 9. Delhi: Chaukhambha Sanskrit Pratisthan; 2017. p. 528.
 5. Karimkhani C, Dellavalle RP, Coffeng LE, et al. Global skin disease morbidity and mortality: an update from the Global Burden of Disease Study 2013. *JAMA Dermatol*. 2017;153(5):406-412.
 6. World Health Organization. *Management of common skin diseases in children in developing countries*. Geneva: WHO; 2005. (WHO/FCH/CAH/05.12).
 7. Urban, K., Chu, S., Scheufele, C., Giesey, R. L., Mehrmal, S., Uppal, P., & Delost, G. R. (2020). The global, regional, and national burden of fungal skin diseases in 195 countries and territories: A cross-sectional analysis from the Global Burden of Disease Study 2017. *JAAD international*, 2, 22–27. <https://doi.org/10.1016/j.jdin.2020.10.003>.
 8. Mahajan K. Dadru kushtha with reference to tinea (fungal/ringworm infection): a conceptual study. *Indian J Appl Res*. 2020;10(5):67.
 9. Dhayagude S, Wadkar VA, Chavan R, Kagal A. Clinicomycological study of tinea infection in and around Pune. *Int J Res Dermatol*. 2019;5:598-602.
 10. Acharya YT, editor. *Charaka Samhita of Agnivesha*, elaborated by Charaka and redacted by Dridhabala. Sutrasthana, Chapter 23. Varanasi: Chaukhamba Surbharati Prakashan; 2019. p. 122.
 11. Acharya YT, editor. *Charaka Samhita of Agnivesha*, elaborated by Charaka and redacted by Dridhabala. Sutrasthana, Chapter 23. Varanasi: Chaukhamba Surbharati Prakashan; 2019. p. 122.
 12. Acharya YT, editor. *Charaka Samhita of Agnivesha*, elaborated by Charaka and redacted by Dridhabala. Sutrasthana, Chapter 23. Varanasi: Chaukhamba Surbharati Prakashan; 2019. p. 123.

Bibliography:

1. Shukla, V., & Tripathi, R. D. (2012). *Charaka Samhita*. Chaukhamba Sanskrit Pratishthan, Delhi.

2. Shastri, A. D. (2007). *Sushruta Samhita (Ayurveda Tatva Sandipika)* (2nd ed.). Chaukhamba Sanskrit Sansthan.
3. Garde, G. K. (2008). *Sartha Vagbhat* (1st ed.). Anmol Prakashan.
4. Tripathi, B. (Ed.). (n.d.). *Ashtanga Hridaya: Nirmala Hindi Commentary*. Chaukhamba Sanskrit Pratishthan, Delhi.
5. Vaidya, V. (1986). *Madhava Nidana with Madhukosha Commentary and Extracts from Atankadarpana* (1st ed.). Chaukhamba Orientalia.
6. Vidyasagar, P. S. (1983). *Sharangadhara Samhita with Dipika and Gudhartha Dipika Commentary* (1st ed.). Krishnadas Academy.
7. Shastri, A. D. (1991). *Bhaishajya Ratnavali*. Chaukhamba Publications, Varanasi.
8. Tripathi, J. P. (Ed.). (1976). *Chakradatta (Bhavarthasandipani Hindi Commentary)* (4th ed.). Chaukhamba Sanskrit Series Office, Varanasi.
9. Shastri, L. (1999). *Yoga Ratnakara with Vidyotini Commentary* (7th ed.). Chaukhamba Sanskrit Sansthan, Varanasi.
10. Sharma, P. V. (1987). *Dravyaguna Vigyana* (2nd ed.). Chaukhamba Surbharati Academy, Varanasi.
11. Shashtri, B. (Ed.). (1997). *Yogaratanakara (Vidyotini Tika)* (6th ed.). Chaukhamba Sanskrit Sansthana.
12. Chunekar, K. C. (Ed.). (2010). *Bhavaprakasha Nighantu*. Chaukhamba Bharati Academy, Varanasi.
13. Ojha, Z. (Ed.). (2004). *Dhanvantari Nighantu (Hindi Commentary)*. Chaukhamba Surbharati Prakashan, Varanasi.
14. Manjhan, B. K. (2010). *Methods in Biostatistics* (7th ed.). Jaypee Brothers Medical Publishers.
15. Sarpotdar, S., & Bhor, S. (2006). *Research Methodology and Medical Statistics* (1st ed.). Manakarnika Publications.
16. Davidson, S. (2006). *Davidson's Principles and Practice of Medicine* (20th ed.). Churchill Livingstone, Elsevier.
17. Fauci, A. S., Braunwald, E., Kasper, D. L., Hauser, S. L., Longo, D. L., Jameson, J. L., & Loscalzo, J. (2005). *Harrison's Principles of Internal Medicine* (16th ed.). McGraw-Hill.
18. Pasricha, J. S., & Gupta, R. (n.d.). *Skin and Hair in Health and Disease*.
19. Bhutani, L. K. (n.d.). *A Colour Atlas of Dermatology*. All India Institute of Medical Sciences, New Delhi.
20. Baghel, M. S. (2005). *Researches in Ayurveda*. Mridu Ayurvedic Publications and Sales, Jamnagar.
21. Monier-Williams, M. (n.d.). *Sanskrit-English Dictionary*. Motilal Banarsidass, New Delhi.
22. Davidson, S. (2003). *Principles and Practice of Medicine*. Churchill Livingstone, Edinburgh.

23. Munjal, Y. P. (Ed.). (2015). *API Textbook of Medicine* (10th ed.). Jaypee Brothers Medical Publishers; Association of Physicians of India, Mumbai.
24. Sembulingam, K., & Sembulingam, P. (2006). *Essentials of Medical Physiology* (4th ed.). Jaypee Brothers Medical Publishers, New Delhi.
25. Venes, D. (Ed.). (1997). *Taber's Cyclopedic Medical Dictionary* (17th ed.). Jaypee Brothers, New Delhi.
26. Tripathi, K. D. (2013). *Essentials of Medical Pharmacology* (7th ed.). Jaypee Brothers Medical Publishers.