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Gandra Ramadevi
Centre for Pharmaceutical
Sciences, Institute of Science
and Technology, Jawaharlal
Nehru Technological
University Hyderabad,
Kukatpally, Hyderabad,
Telangana, India

Dr. G Krishna Mohan
Emeritus Professor, CPS,
UCEST, JNTU, Kukatpally,
Hyderabad, Telangana, India

Dr. K Laxmikantham
Emeritus Professor, CPS,
UCEST, JNTU, Kukatpally,
Hyderabad, Telangana, India

Corresponding Author:
Gandra Ramadevi
Centre for Pharmaceutical
Sciences, Institute of Science
and Technology, Jawaharlal
Nehru Technological
University Hyderabad,
Kukatpally, Hyderabad,
Telangana, India

A Clinical Study on the Efficacy of *Bruhath Danthapala Thaila* Externally in the Management of Psoriasis (Eka Kushta)

Gandra Ramadevi, G Krishna Mohan and K Laxmikantham

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Abstract

Psoriasis is a chronic autoimmune disorder characterized by persistent inflammation of the skin and joints, exerting a profound impact on physical health, psychological well-being, and social functioning. Its prevalence varies across populations and is influenced by hereditary predisposition as well as environmental triggers such as infections. Clinically, it most often appears as symmetrical erythematous plaques covered with silvery-white scales, predominantly affecting extensor regions. Although considerable progress has been made in understanding its genetic and immunological mechanisms, the disease remains complex and its etiology is not fully clarified. Conventional therapies, including corticosteroids, immunosuppressants, and biologic agents, provide symptomatic relief but are limited by side effects, high cost, and variable long-term outcomes, thereby increasing interest in complementary approaches. Ayurveda, with its longstanding use of medicinal plants possessing anti-inflammatory, antioxidant, and immunomodulatory properties, offers a holistic system of care that may complement modern medical strategies. The present clinical study was conducted to evaluate the role of *Bruhanth Dhanthapala Thailam* in the external management of psoriasis (Eka Kushta). The formulation, consisting of *Wrightia tinctoria*, *Psoralea corylifolia*, *Celastrus paniculatus*, and coconut oil, was administered over 60 days, and patient outcomes were assessed using erythema, induration, scaling, and area weightage as clinical parameters, supported by PASI scoring for overall severity. Preliminary observations indicate encouraging improvements in symptom relief and reduction of PASI scores, suggesting that the formulation may be effective in psoriasis management. The findings underscore the relevance of integrating Ayurvedic formulations with modern clinical evaluation to provide a safe, cost-effective, and patient-centered approach, contributing to more comprehensive and personalized strategies for the treatment of psoriasis.

Keywords: Psoriasis, Eka Kushta, *Bruhanth Dhanthapala Thailam*, *Wrightia tinctoria*, *Psoralea corylifolia*, *Celastrus paniculatus*, Ayurveda, PASI score

Introduction

Overview of Psoriasis

Psoriasis is a chronic, autoimmune, non-infectious skin disorder characterized by accelerated epidermal proliferation and abnormal keratinization. The normal turnover of basal epidermal cells, which typically takes 28-30 days, is reduced to 3-5 days, leading to the accumulation of immature keratinocytes in the stratum corneum. These cells form the characteristic silvery-white scales, often accompanied by itching and discomfort. The condition is sustained by lymphocyte activation and keratinocyte hyper proliferation, mediated through a T-cell-driven immune response that promotes excessive growth of both epidermal and vascular cells [1]. Clinically, psoriasis presents as well-defined, erythematous papules and plaques with micaceous scaling, most often on extensor surfaces. The condition affects 2-4% of the Western population, though prevalence varies with geography, ethnicity, and genetics [2]. Onset commonly occurs between 15 and 25 years, with about one-third of cases presenting before 20 years [3]. In India, prevalence ranges from 0.44% to 2.8%, with higher incidence in males and peak occurrence during the third and fourth decades [4].

Ayurvedic Perspective

In Ayurveda, psoriasis is correlated with Kustha Roga, a group of skin diseases described in detail in classical texts. Kustha results from improper diet and lifestyle (mithya ahara

and vihara) leading to vitiation of Tridosha (Vata, Pitta, Kapha) along with derangement of twak (skin), rakta (blood), mamsa (muscle), and ambu (lymph). It is further classified as Mahakushta (seven types) and Kshudrakushta (eleven types), with psoriasis resembling Kitibha Kushta, a chronic form involving all three doshas. Classical features include dryness, roughness, scaling, discoloration, itching, and oozing, reflecting Vata-Kapha predominance^[5, 6].

Modern Management of Psoriasis

Psoriasis is frequently associated with systemic comorbidities such as obesity, metabolic syndrome, diabetes, cardiovascular disease, psoriatic arthritis, depression, and certain malignancies, complicating management and increasing morbidity and mortality in moderate-to-severe disease^[7].

Modern therapeutic approaches are tailored to the individual based on their severity. Topical therapies, such as corticosteroids^[8], vitamin D analogues, retinoids, coal tar^[9], and calcineurin inhibitors^[10], are first-line agents for mild to moderate disease, although relapses are frequent. Phototherapy, including narrowband UVB, PUVA^[11], and excimer laser^[12], is effective in moderate psoriasis but requires repeated sessions and carries long-term risks. Systemic agents like methotrexate, cyclosporine, and acitretin^[13] remain standards but are limited by hepatotoxicity, nephrotoxicity, and teratogenicity. Newer agents such as apremilast^[14] and biologics targeting TNF- α , IL-12/23, and IL-17^[15] pathways offer greater efficacy, but high cost and infection risks limit widespread use.

Ayurvedic Management of Kitibha Kushta

In Ayurveda, the management of Kitibha Kushta (psoriasis) is holistic, targeting the root cause, dosha imbalance, and tissue restoration. It begins with Nidana Parivarjana, eliminating causative factors such as incompatible foods, heavy meals, alcohol, stress, and extreme climates to prevent accumulation of Ama (toxins). Shodhana (purificatory therapies), including Vamana, Virechana, Basti, and Raktamokshana, systematically remove vitiated doshas from the body. Shamana Chikitsa (pacification) employs internal bitter and astringent herbs alongside topical medicated oils and Ghrita to reduce inflammation, scaling, and itching while nourishing the skin. Rasayana (rejuvenation therapy) strengthens dhatus and immunity, supporting long-term skin health. Dietary and lifestyle regulation (Ahara-Vihara) with light, digestible foods, stress management, and environmental moderation further enhances outcomes^[16].

Rationale for Bruhanth Dhanthapala Thailam

Bruhanth Dhanthapala Thailam, a classical formulation mentioned in traditional texts, is prepared with Sweta Kutaja (*Wrightia tinctoria*), Bakuchi (*Psoralea corylifolia*), Jyotishmati (*Celastrus paniculatus*), and Kera Thaila (coconut oil) as the base. The oil is traditionally indicated in skin disorders and has been clinically used for conditions resembling psoriasis (*Eka Kushta*). Modern pharmacological studies on its ingredients demonstrate anti-psoriatic, anti-inflammatory, antioxidant, antimicrobial, and immunomodulatory activities, suggesting a rational basis for its efficacy^[16].

Therefore, the present clinical study was undertaken to evaluate the efficacy of *Bruhanth Dhanthapala Thailam* in the external management of *Eka Kushta* (psoriasis).

Literature Review

Bruhanth Dhanthapala Thailam is a classical Ayurvedic formulation prepared with four key ingredients *Wrightia tinctoria* (Sweta Kutaja), *Psoralea corylifolia* (Bakuchi), *Celastrus paniculatus* (Jyotishmati), and *Cocos nucifera* oil (*Kera Thaila*). Each ingredient has been studied for its diverse pharmacological properties, many of which are relevant to the management of psoriasis (*Eka Kushta*).

Key Ingredients of Bruhanth Dhanthapala Thailam *Wrightia tinctoria* (Sweta Kutaja)

Traditionally used in Ayurveda for skin diseases, *Wrightia tinctoria* leaves exhibit anti-psoriatic, anti-inflammatory, antibacterial, and wound-healing activities. Clinical studies have shown efficacy of *Wrightia tinctoria* oil in plaque psoriasis, improving erythema, scaling, and itching. Phytoconstituents like flavonoids, tryptanthrin, and β -amyryn contribute to immunomodulatory effects^[17].

Psoralea corylifolia (Bakuchi)

Bakuchi seeds contain psoralens (notably *psoralen* and *isopsoralen*) and *bakuchiol*, which are known for their photosensitizing, anti-inflammatory, antimicrobial, and immunomodulatory properties. *Bakuchi* is widely used in *Shwitra* (vitiligo) and *Kushta* (skin disorders) and has been studied in photochemotherapy for psoriasis^[18].

Celastrus paniculatus (Jyotishmati)

Seeds of *Celastrus paniculatus* yield oil rich in alkaloids and sesquiterpenes, showing neuroprotective, antioxidant, anti-inflammatory, and immunomodulatory properties. In medicated oils, Jyotishmati enhances the penetration of active phytoconstituents through the skin and supports tissue repair^[19].

Cocos nucifera (Kera Thaila)

Coconut oil, the base in *Thaila Kalpana*, acts as an emollient, moisturizer, and antimicrobial agent. Its medium-chain fatty acids, especially lauric acid, provide antibacterial activity and restore the skin barrier. Coconut oil also improves drug absorption when used as a vehicle in Ayurvedic formulations^[20].

Pharmacological Rationale

Collectively, the synergistic pharmacological actions of these herbs, when delivered in coconut oil as the base, provide anti-inflammatory, keratolytic, immunomodulatory, and barrier-restoring effects. This supports the rationale for the use of *Bruhanth Dhanthapala Thailam* in the external management of *Eka Kushta* (psoriasis).

Materials and Methods

Materials

Preparation of Bruhanth Dhanthapala Thailam

The medicated oil was prepared following classical Thaila Kalpana principles in the ratio 1:4:16 (Kalka: Sneha: Drava).

- **Kalka (paste):** *Psoralea corylifolia* and *Celastrus paniculatus* were cleaned, powdered, and triturated with water to form a fine paste.

- **Sneha (oil):** Coconut oil was taken in a thick-bottomed vessel and gently heated on low flame.
- **Drava dravya (decoction):** *Wrightia tinctoria* decoction was prepared separately and added to the mixture²¹.

Processing (Paka): The paste and decoction were combined with oil and heated with continuous stirring until Madhyama Paka Lakshana was observed clear oil, pleasant odor, absence of crackling sound, and non-sticky residue²¹, as shown in Figure 5: *Bruhanth Dhanthapala Thailam* during formulation in the vessel.

Table 1: Ingredients in *Bruhanth Dhanthapala Thailam* are

Botanical Name	Common Name	Family	Part used	Plant
<i>Wrightia tinctoria</i> (Swetha kutaja)	Pala indigo plant	Apocynaceae	Leaves	
<i>Psoralea corylifolia</i> Linn (Bakuchi)	Bakuchi	Fabaceae	Seeds	
<i>Celastrus paniculatus</i> (Jyothishmathi)	Climbing staff tree, black oil plant	Celastraceae	Seeds	
<i>Cocos nucifera</i> (Kera Thaila)	Coconut	Arecaceae	Endocarp	

Fig 1: *Wrightia tinctoria* showing white flowers. Image credit: Pravin Kawale, Flowers of India.

Fig 2: *Psoralea corylifolia* (Babchi) plant photographed at NIUM Herbal Garden. Image credit: NIUM Herbal Garden.

Fig 3: *Celastrus paniculatus* (Jyotishmati) with fruiting capsules. Image credit: Vinayaraj, Wikimedia Commons (CC BY-SA 4.0).

Fig 4: *Cocos nucifera* (Coconut palm) showing crown and fruit clusters. Image credit: Sanfy, Wikimedia Commons

(CC BY-SA 4.0).

Filtration & storage: The warm oil was filtered through muslin cloth and stored in sterile, airtight glass bottles, as shown in Figure 6: *Bruhanth Dhanthapala Thailam* packed in bottles.

Directions for use: The oil was applied externally to the affected areas, left for 30-60 minutes before bathing, and used twice daily during the study period²².



Fig 5: *Bruhanth Dhanthapala Thailam* during formulation in the vessel.



Fig 6: *Bruhanth Dhanthapala Thailam* packed in bottles.

Source of Data

A total of 34 patients clinically diagnosed with psoriasis were recruited from the OPD and IPD of Government Ayurvedic College and Hospital, Erragadda, Hyderabad (Telangana). Patient selection was based on predefined diagnostic, inclusion, and exclusion criteria, without restrictions on age, sex, or religion. Of these, four patients discontinued treatment, while 30 completed the trial^[21].

Data Collection

A structured proforma was used to document demographic information, medical history, clinical signs, and symptoms. Baseline evaluation included detailed clinical examination and Psoriasis Area and Severity Index (PASI) scoring^[22]. Follow-up evaluations were scheduled every 15 days (Day 0, 15, 30, 45, and 60).

Intervention

Bruhanth Danthapala Thailam was administered as external therapy. The medicated oil was applied twice daily (morning and evening) to the affected areas for 60 consecutive days. The quantity applied was adjusted according to the extent of psoriatic involvement^[21].

Assessment Schedule

Patients were assessed at baseline and subsequently on Days 15, 30, 45, and 60. At each visit, erythema, induration, scaling, and extent of involvement were evaluated to update PASI scores^[22].

Study Design

This was a prospective, open-label, single-center clinical trial. Patients aged 20-60 years, presenting with clinical features of *Eka kushtha* (correlated with psoriasis), were included after obtaining informed consent^[21].

Diagnostic Criteria

Diagnosis was based on Ayurvedic features of *Eka kushtha* (dry, scaly, discolored patches) and confirmed with modern diagnostic signs such as:

- Auspitz sign (pinpoint bleeding after scale removal),
- Candle-grease sign (glossy appearance on scale removal), and
- Koebner phenomenon (appearance of lesions at trauma sites)^[21].

Inclusion Criteria

- Age between 20 and 60 years.
- Patients with clinically diagnosed psoriasis.
- Recent-onset and chronic cases (<1 year duration)^[21].

Exclusion Criteria

- Age <20 or >60 years.
- Psoriasis is associated with systemic comorbidities (diabetes, obesity, arthritis, cardiovascular or liver disease).
- Pregnant or lactating women.
- Patients with autoimmune disorders, long-term medication use, or other dermatological conditions (eczema, vitiligo)^[21].

Assessment Parameters

Subjective (Patient-reported)

- Itching (0-4 scale),

- Burning sensation,
- Pain (fissures),
- Dryness (Rookshata),
- Tightness of skin,
- Scaling sensation,
- Impact on daily life (sleep, work, social functioning)^[22].

Objective (Clinician-assessed)

PASI scoring system:

- Erythema (E), Induration (I), and Scaling (S), each graded 0-4.
- Area Score (AS) based on % body involvement.
- Final PASI = (E+I+S) × AS × Regional Weighting Factor^[23].

Ethical Considerations

The study adhered to institutional ethical guidelines. Written informed consent was obtained from all patients before enrollment.

Severity Scoring of Symptoms

The severity of psoriasis within each body region is assessed based on three key clinical features:

- **Erythema (E):** Degree of redness.
- **Induration (I):** Extent of skin thickening.
- **Scaling (S):** Level of flakiness and dry skin accumulation.

Each parameter is scored on a 0-4 scale

- 0 = None
- 1 = Mild
- 2 = Moderate
- 3 = Marked
- 4 = Very Severe

PASI Formula

The PASI score for each region is calculated as:

PASI (Region) = (E + I + S) × Area Score × Weighting Factor

Where:

- E = Erythema Score
- I = Induration Score
- S = Scaling Score
- Area Score = Degree of surface area affected
- Weighting Factor = Based on the body region

The total PASI score is the sum of the scores from all four regions, providing a final number ranging from 0 (no disease) to 72 (maximum severity)^[23].

Area Score (AS): Represents the percentage of the body region affected, converted into a score from 0 to 6, as according to the criteria summarized in Table 2:

Table 2: Area Score (AS) for Body Regions

Area Involvement (%)	Area Score (AS)
0	0
<10%	1
10-29%	2
30-49%	3
50-69%	4
70-89%	5
90-100%	6

Body Region Division and Weightage

To account for varying surface area coverage, the body is anatomically divided into four regions, each assigned a specific weighting factor based on its approximate percentage of the total body surface:

- **Head and Neck:** 10% → Weight = 0.1
- **Upper Limbs:** 20% → Weight = 0.2
- **Trunk (front and back):** 30% → Weight = 0.3
- **Lower Limbs:** 40% → Weight = 0.4

Each body region head (10%), upper limbs (20%), trunk (30%), and lower limbs (40%) was scored separately^[23].

Observation

Distribution of Patients According to Different Age Groups

In this clinical study, 34 patients diagnosed with psoriasis were enrolled, of whom 30 completed the study. Observations were recorded before, during, and after the treatment period. The majority of patients (43.3%) were aged 41-50 years, followed by 31-40 years (26.7%) and 20-30 years (13.3%), indicating a higher prevalence in middle-aged adults, as shown in (Table 3).

Table 3: Distribution of Patients According to Different Age Groups

SI no	Age in years	No of Patients	Percentage
1.	0-20	-	-
2.	20-30	04	13.33%
3.	31-40	08	26.66%
4.	41-50	13	43.33%
5.	51-60	05	16.66%

Distribution of Patients According to Gender:

Among the 30 patients who completed the study, 17 (56.7%) were male and 13 (43.3%) were female, indicating a slight male predominance in psoriasis, consistent with observations from this clinical trial evaluating *Bruhanth Dhanthapala Thailam*, as shown in Table 4.

Table 4: Distribution of Patients According to Gender

SI. No	Sex	No of Patients	Percentage
1.	Male	17	56.66%
2.	Female	13	43.33%

Distribution of Patients According to Diet

In the present clinical study, 25 patients (83.34%) were non-vegetarians, and 5 patients (16.66%) were vegetarians. This indicates a predominance of non-vegetarian dietary habits among the patients, as shown in Table 5.

Table 5: Distribution of Patients According to Diet

SI. No	Dietary Habits	No of Patients	Percentage
1.	Pure Vegetarians	05	16.66%
2.	Mixed	25	83.34%

Results

Clinical Study Design and Assessment Parameters

A single-blind clinical trial was conducted to evaluate the

efficacy of *Bruhanth Dhanthapala Thailam* in the external management of psoriasis. Patients clinically diagnosed with psoriasis were instructed to apply the trial formulation externally over affected areas twice daily for a period of 60 days.

Clinical assessments were performed at regular intervals, focusing on the principal parameters of Erythema, Induration, Scaling, and Area of involvement. These parameters were systematically evaluated and combined using the Psoriasis Area and Severity Index (PASI) to quantify disease severity and monitor therapeutic response over time.

To determine the efficacy of the intervention, statistical analysis was performed using the paired t-test, comparing values recorded before treatment (BT) with those after treatment (AT). This method allowed assessment of the significance of changes in clinical signs and severity throughout the study period.

PASI Score Assessment Before and After Treatment

The PASI score for each patient was calculated based on the assessment of:

- Erythema (E) - degree of redness
- Induration (I) - level of skin thickening
- Scaling (S) - extent of flakiness and dry skin build-up
- Area Score (AS) - percentage of each body region affected
- Area Weight (AW) - proportion of total body surface for each region (head/neck, upper limbs, trunk, lower limbs)

The cumulative regional PASI scores were combined to yield the total PASI score for each patient, allowing evaluation of treatment outcomes over the 60-day study period.

Overall PASI Score Reduction

The clinical efficacy of *Bruhanth Dhanthapala Thailam* in the external management of psoriasis was evaluated using the Psoriasis Area and Severity Index (PASI). The mean PASI score of 30 patients showed a marked reduction from 5.14 at baseline (BT) to 2.33 after 60 days of treatment (AT). This represents an approximate 54.6% improvement in overall disease severity, demonstrating the beneficial effect of the formulation in reducing erythema, induration, scaling, and area involvement, as shown in Table 6.

Table 6: Mean PASI Scores of 30 Patients

Timepoint	Mean PASI
Baseline (BT)	5.14
After Treatment (AT, Day 60)	2.33

Overall statistical analysis of the parameters of the clinical study

The results indicate that regular application of *Bruhanth Dhanthapala Thailam* over the treatment period significantly alleviated the clinical symptoms of psoriasis, improving both the objective signs and overall skin condition of the patients, as shown in Table 7.

Table 7: Overall Statistical Analysis of Parameters of the Clinical Study

Parameter	MD	SD	SEM	95% CI		t-value	DF	P value
				LL	UL			
Erythema	1.233333	0.56832	0.103761	1.021119	1.445548	11.886323	29	P<0.0001
Induration	1.166667	0.647719	0.118257	0.924831	1.445548	9.865534305	29	P<0.0001
Scaling	0.733333	0.52083	0.09509	0.538874	0.927793	7.711976159	29	P<0.0001
AS	0.466667	0.571346	0.104313	0.253346	0.679987	4.473710374	29	P<0.0001
PASI Score	2.743333	1.690681	0.308675	2.112023	3.374644	8.8874573	29	P<0.0001

Summary of Statistical Analysis

The clinical efficacy of *Bruhanth Dhanthapala Thailam* in patients with psoriasis was evaluated using PASI and its individual components: Erythema, Induration, Scaling, and Area Score (AS). All parameters showed a significant reduction after 60 days of treatment. The mean differences for Erythema, Induration, Scaling, AS, and overall PASI were 1.23, 1.17, 0.73, 0.47, and 2.74, respectively, with all

p-values <0.0001, indicating highly significant improvement. These results demonstrate that the external application of the formulation effectively reduces both the severity of clinical signs and the extent of skin involvement.

Overall Clinical Response

The overall response based on percentage reduction in PASI scores is summarized below Table 8:

Table 8: Overall Clinical Response of Psoriasis Reduction

Result	Reduction in PASI Score	No. of Patients	Percentage
Very Good Response	>75%	1	3%
Good Response	51-75%	16	53%
Moderate Response	26-50%	12	40%
Mild Response	Up to 25%	1	3%

The above table illustrates the overall clinical response based on the percentage reduction in PASI scores from baseline to the end of the 60-day treatment. Among the 30 participants, 1 patient (3.3%) achieved a very good response (>75% improvement), while 16 patients (53.3%) demonstrated a good response (51-75% reduction). Moderate improvement (26-50%) was observed in 12 patients (40%), and only 1 patient (3.3%) exhibited a mild

response ($\leq 25\%$). These results indicate that the majority of patients experienced substantial symptom improvement, highlighting the clinical efficacy of *Bruhanth Dhanthapala Thailam* in the external management of psoriasis, as shown in graph.

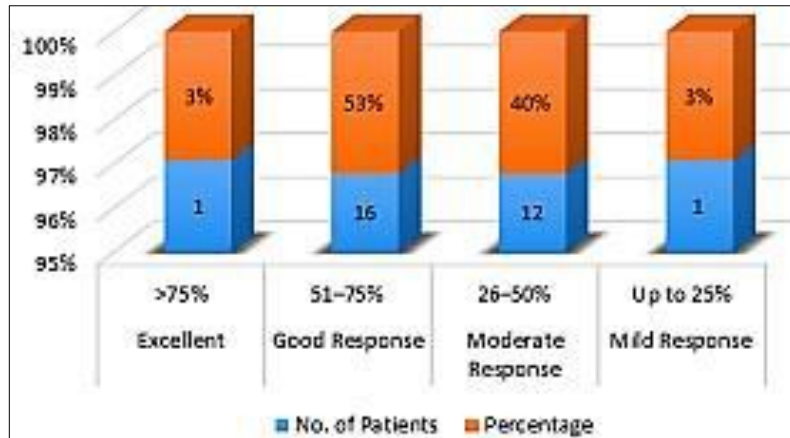
Graphical Representation of Overall Effect of PASI Score**Graph 1:** Overall Effect of PASI Score**Psoriasis patients' Before Treatment (BT) and After Treatment (AT)****Fig 7:** Patient 1 Before Treatment (BT) and After Treatment (AT)



Fig 8: Patient 1 Before Treatment (BT) and After Treatment (AT)

Discussion

The present clinical study assessed the efficacy of *Bruhanth Dhanthapala Thailam* in the external management of *Eka Kushta* (psoriasis), a chronic relapsing skin disorder characterized by scaling, dryness, erythema, and induration [24]. Modern therapies often provide only temporary relief with adverse effects, whereas Ayurveda offers safer, holistic approaches [25]. The formulation under study combined *Sweta Kutaja* (*Wrightia tinctoria*), *Bakuchi* (*Psoralea corylifolia*), *Jyotishmati* (*Celastrus paniculatus*), and *Kera Thailam* (Coconut oil). These ingredients, known for their *Kusthaghna*, anti-inflammatory, immunomodulatory, antioxidant, and skin-healing properties, acted synergistically to balance *Kapha* and *Vata* doshas while improving local skin health [25].

Over a 60-day outpatient trial, patients were evaluated through PASI scores and subjective parameters. A statistically significant reduction ($p < 0.001$) was observed, with 30-60% improvement in scaling, erythema, and skin thickness, and no adverse effects reported. The results are consistent with previous studies on *Wrightia tinctoria* and *Bakuchi*-based formulations, with *Jyotishmati* and *Kera Thailam* [26] enhancing absorption and repair. Thus, *Bruhanth Dhanthapala Thailam* proved to be a safe, affordable, and effective therapy for psoriasis, validating classical Ayurvedic claims and offering a practical alternative to conventional management [27].

In summary, the clinical study demonstrates that *Bruhanth Dhanthapala Thailam* significantly reduces both objective PASI scores and subjective symptoms in patients with *Eka Kushta*. The therapeutic response observed, ranging from 30-60% improvement, highlights the potential of this formulation in early and moderate cases. The absence of adverse effects underscores its safety and tolerability, distinguishing it from many modern dermatological treatments that are often associated with systemic toxicity or dependency.

Conclusion

The overall conclusion of the present study is that *Bruhanth Dhanthapala Thailam* is a safe, affordable, and effective external therapy for psoriasis. Its efficacy can be attributed to the synergistic actions of its ingredients, which combine anti-inflammatory, immunomodulatory, antimicrobial, and reparative properties in a manner consistent with Ayurvedic pharmacology. The successful outcomes of this single-centered study not only reinforce the classical Ayurvedic claims but also pave the way for further large-scale, multicentric clinical trials. Such studies may strengthen the

integration of Ayurveda into mainstream dermatological care, offering patients holistic and sustainable solutions for chronic skin conditions like psoriasis.

Conflict of Interest

The authors have no conflicts of interest regarding this investigation.

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References

1. Gupta R. Textbook of Dermatology. 1st ed. New Delhi: Jaypee Brothers Medical Publishers; 2002. p.158-61.
2. Parisi R, Symmons DP, Griffiths CE, Ashcroft DM; IMPACT project team. Global epidemiology of psoriasis: a systematic review of incidence and prevalence. *J Invest Dermatol*. 2013 Feb;133(2):377-85.
3. Kupetsky EA, Keller M. Psoriasis vulgaris: an evidence-based guide for primary care. *J Am Board Fam Med*. 2013 Nov-Dec;26(6):787-801. PMID:24204077.
4. Dogra S, Yadav S. Psoriasis in India: prevalence and pattern. *Indian J Dermatol Venereol Leprol*. 2010;76(6):595-601.
5. Agnivesha, Charaka, Dridhabala. Charaka Samhita. Vidyotini Hindi Commentary by Kashinath Sastri and Gorakhnath Chaturvedi. Varanasi: Chaukhambha Bharati Academy; Reprint ed.
6. Sushruta. Sushruta Samhita. Ayurveda Tatva Sandeepika Hindi Commentary by Priyavrat Sharma. Varanasi: Chaukhamba Sanskrit Pratisthan; Sutrashtana 33/4-5.
7. Takeshita J, Grewal S, Langan SM, *et al*. Psoriasis and comorbid diseases: epidemiology. *J Am Acad Dermatol*. 2017;76(3):377-90.
8. Elmets CA, Korman NJ, Prater EF, *et al*. Joint AAD-NPF guidelines of care for the management and treatment of psoriasis with topical therapy and alternative medicine modalities for psoriasis severity measures. *J Am Acad Dermatol*. 2021;84(2):432-70. doi:10.1016/j.jaad.2020.07.087.

9. Canadian Psoriasis Guidelines Committee. Canadian guidelines for the management of plaque psoriasis. Ottawa: Canadian Dermatology Association; 2009.
10. Koo J, Lebwohl M. Duration of remission of psoriasis therapies. *J Am Acad Dermatol*. 1999;41:51-9. doi:10.1016/s0190-9622(99)70406-8.
11. Marsland AM, Griffiths CE. The macrolide immunosuppressants in dermatology: mechanisms of action. *Eur J Dermatol*. 2002;12:618-22.
12. Kurz B, Berneburg M, Bäuml W, Karrer S. Phototherapy: theory and practice. *J Dtsch Dermatol Ges*. 2023;21(8):882-97. doi:10.1111/ddg.15126.
13. Emmanuel T, Petersen A, Houborg HI, *et al*. Climatotherapy at the Dead Sea for psoriasis is a highly effective anti-inflammatory treatment in the short term: an immunohistochemical study. *Exp Dermatol*. 2022;31(8):1136-44. doi:10.1111/exd.14549.
14. Menter A, Gelfand JM, Connor C, *et al*. Joint American Academy of Dermatology-National Psoriasis Foundation guidelines of care for the management of psoriasis with systemic nonbiologic therapies. *J Am Acad Dermatol*. 2020;82(6):1445-86. doi:10.1016/j.jaad.2020.02.044.
15. Kamata M, Tada Y. Efficacy and safety of biologics for psoriasis and psoriatic arthritis and their impact on comorbidities: a literature review. *Int J Mol Sci*. 2020;21(5):1690. doi:10.3390/ijms21051690.
16. Sushruta. *Susruta Samhita*. English translation by Murty DR KRS. 4th ed. Varanasi: Krishnadas Academy; 2000. p.39-40.
17. Sangeetha S, *et al*. An updated review on *Wrightia tinctoria* (Roxb.) R Br. *J Pharm Res Int*. 2021;33(56A):234-44. doi:10.9734/jpri/2021/v33i56A33906.
18. Chen L, *et al*. *Psoralea corylifolia* L.: a comprehensive review. *Chin Med*. 2023;18:4. doi:10.1186/s13020-022-00704-6.
19. Nagpal K, *et al*. Phytochemistry and pharmacological activities of *Celastrus paniculatus* Willd. *Phytother Res*. 2022;36(5):1930-51. doi:10.1002/ptr.7424.
20. Dubey R, *et al*. A review on chemical composition and pharmacological properties of *Cocos nucifera* L. oil and water. *Ann Plant Sci*. 2019;8(8):3591-6. doi:10.21746/aps.2019.8.8.2.
21. Sharangadhara. *Sharangadhara Samhita*, Madhyama Khanda, Taila Kalpana Adhyaya. Commentary by Parasuram Shastri Vidyasagar. Varanasi: Chaukhamba Orientalia; 2002.
22. Bolla R, Kondapalli NB, Kumar S, *et al*. Successful Ayurvedic management of psoriasis with Bruhath Dhanthapala Tailam: a case report. *Int J Ayur Pharm Chem*. 2023;14(2):107-12.
23. Fredriksson T, Pettersson U. Oral treatment of pustulosis palmo-plantaris with a new retinoid, Ro 10-9359. *Dermatologica*. 1979;158:60-4. doi:10.1159/000250744.
24. Davidson's Principles and Practice of Medicine. 19th ed. Edinburgh: Churchill Livingstone; 2002. p.1075.
25. Acharya Agnivesha. *Charaka Samhita* (Chikitsasthana, Ch.7). Edited by Vidyadhar Shukla, Ravi Dutt Tripathi. Delhi: Chaukhamba Sanskrit Pratishthan; Reprint 2012. p.181-4.
26. Kuppurajan K, Rajagopalan SS, Sitaraman R, Jayaraman M. Clinical trial of *Wrightia tinctoria* in psoriasis. *J Res Indian Med*. 1979;14(2):1-4.
27. Acharya Vagbhata. *Ashtanga Samgraha*, Nidana Sthana, Ch.14. Edited by Ranjit Rai Desai. Varanasi: Chaukhamba Sanskrit Samsthan; 2008.