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# Aditya Paka Samskarita Stree Kutaja Taila in the Management of Psoriasis-Conceptual Study.

**Author:**

**Dr Bishnupriya Mohanty.**

MD, PhD
Professor & Head
Department of Sanskrit Samhita and Siddhanta

**Co-Author:**

1. **Aarya Shete.**
IV B.A.M.S. Student.

2. **Prof(Dr) Sangram Keshari Das.**
Professor & Head, Dept. of Dravyaguna vijnana, Gomantak Ayurveda Mahavidyalaya & Research Centre,
At/Po- Shiroda, Dist- North Goa, Goa, India-403103

## Abstract:

This study examines the effectiveness of Stree Kutaja (Wrightia tinctoria)siddha Narikela Taila in treating psoriasis, enhanced by Adithya Paka Samskara. Stree Kutaja is valued in Ayurvedic medicine for its potent anti-inflammatory, antimicrobial, and skin-regenerating properties, making it particularly beneficial for skin disorders ,Psoriasis, a chronic immune-mediated inflammatory condition affecting 0.44–2.8% of the Indian population, is more prevalent in males and presents various forms such as plaque and guttate psoriasis. In Ayurveda, skin disorders are grouped under "Kushtha," with a multimodal treatment approach.

**Key words:** Stree Kutaja, Holarrhena antidysenterica, *Adithyapaka*, Wrightia tinctoria, Psoriasis,

## Introduction:

Psoriasis is a chronic, immune-mediated inflammatory condition that predominantly affects the skin and joints. The condition is notably more common in males, who are affected at nearly twice the rate of females. Psoriasis can manifest on various body areas, including the scalp, face, trunk, limbs, palms, and soles. In people with psoriasis, the immune system doesn’t work properly, causing inflammatory cells to build up in the dermis, which is the middle layer of the skin. The condition also makes skin cells grow faster in the epidermis, the outer layer of the skin. Normally, skin cells grow and fall off in about a month. But in psoriasis, this happens in just a few days. Instead of falling off, the skin cells pile up, leading to symptoms like raised patches, scales, swelling, and redness or discoloration.

Common clinical forms include plaque psoriasis (psoriasis vulgaris), inverse psoriasis, guttate psoriasis, pustular psoriasis, and erythrodermic psoriasis.

The persistent and visible nature of psoriasis often leads to significant psychological and social challenges for patients, affecting their daily activities and social interactions. In Ayurvedic medicine, skin disorders are categorized under the term *"Kushtha,"* with various formulations used effectively for treatment. In Dosha Dushya Samurchhana of Kushta Vyaadhiwe see *Agni Vyapara Vikruti* vitiating *Tridoshaja* predominantly *Pitta Kapha* Further the Dushti of R*akta* and R*asa Dhatu* leading to D*ravashaithailyta* which is represented by symptoms such as *Strava* (discharge), *Daha* (burning), *Kina Khara Sparsham* (rough on touch), *Parusham (*Dryness), *Ruksha Pidika* (skin eruption) and Kandu (itching).

Given the complex pathophysiology and the chronic, relapsing nature of psoriasis, a multimodal treatment approach is essential. Although the exact cause of psoriasis is unknown, doctors consider it an immune-mediated inflammatory disease. The oil extracted from fresh leaves of Wrightia tinctoria has demonstrated remarkable analgesic, anti-inflammatory, and antipyretic activities, establishing its effectiveness in treating psoriasis. Additionally, the leaves are rich in Flavonoids, Glycoflavones—such as iso-orientin—and phenolic acids. Ethanolic extracts of the leaves have shown significant wound-healing activity, making the plant an important resource in traditional medicine.

Stree Kutaja (Wrightia tinctoria R.Br) is a member of the Apocynaceae family, characterized by its simple and opposite leaves. Phytochemical analyses reveal that the bark contains compounds such as lupeol, stigmasterol, and campesterol. Pharmacognostically, the plant is recognized for its diverse health benefits, including antipsoriatic, antihelminthic, antidiabetic, and wound-healing properties. Its *Krmighan* (appetizing),*Grahi*,*Dipana* {Anti-diabetic ,Anti-diarrhoeal ,Anti-inflammatory, Anti-oxidant, Antiurolithic, Anti-diuretic ,Antimicrobial, Anthelmintic Anti-mutagenic, Anti-hypertensive}. According to Ayurvedic texts, particularly the Raja Nighantu, Stri Kutaja is described as having *Katu, Kashya, Tikta Rasa, Sheeta Virya, Laghu, Sukshma* along with notable *Atisarghna, Kaphapittaghna* properties that further enhance its therapeutic profile.

Wrightia tinctoria, commonly referred to as Shweta Kutaja, is renowned for its rich array of bioactive compounds, including triterpenoids, cycloartanes, cycloartenone, cycloeucalenol, alpha- and beta-amyrin, beta-sitosterol, ursolic acid, and oleanolic acid. These constituents are pivotal to its therapeutic efficacy, particularly in exhibiting anti-inflammatory, antimicrobial, and antipsoriatic activities. Wrightia tinctoria also showcases significant antioxidant and antimicrobial properties, which play a critical role in managing psoriasis by alleviating oxidative stress and preventing secondary infections. The plant's rich chemical composition includes lipids, saponins, tannins, alkaloids, phenols, steroids, and flavonoids, all of which contribute to its overall health benefits.

In Ayurvedic literature, decoctions and poultices derived from the bark are commonly employed for wound cleansing and management. The triterpenoids present in wrightia tinctoria are known to enhance collagen synthesis, which is crucial for effective wound healing. Furthermore, the anti-inflammatory properties of the plant are supported by studies on petroleum ether and methanolic extracts shown the ability to inhibit inflammatory responses. In tests involving cotton pellet-induced granuloma, these extracts effectively suppressed the proliferative phase of inflammation, likely attributed to their flavonoid content.

Moreover, the methanolic extract of Wrightia tinctoria has been found to contain various alkaloids and flavonoids. Advanced analytical techniques, including UV spectroscopy, TPLC, and HPLC, have identified indole derivatives such as isatin and indurubine, both of which exhibit promising antiviral activities. The methanolic, ethyl acetate, and acetone extracts of the bark exhibit antinociceptive activity in acetic acid-induced writhing tests in mice, comparable to acetylsalicylic acid, indicating peripheral analgesic action.

Wrightia tinctoria also shows antibacterial and antifungal activities. Leaf extracts inhibit the growth of Klebsiella pneumoniae and Escherichia coli, while water extracts of air-dried leaves possess antibacterial and

antifungal properties. Chloroform extracts of the leaves are active against dermatophytes, non-dermatophytes, and yeasts. Methanolic and petroleum ether extracts exhibit both antibacterial and antifungal activities.

Sneha Kalpana is a key pharmaceutical preparation widely used in Ayurveda for various skin disorders. This technique plays a crucial role in achieving the solubility of both fat- and water-soluble extracts within a lipid medium through processes such as Agni Paka and Adithya Paka. Adithya Paka specifically involves the preparation of Taila yoga by exposing it to sunlight, which enhances its therapeutic benefits. However, the references to the Adithya Paka procedure are sparse and scattered across classical texts, highlighting the need for further research and standardization to optimize its application in Ayurvedic formulations.

**Procedure**

Aditya Paka Sneha is primarily used externally for various skin disorders, as it effectively absorbs ultraviolet (UV) rays from the sun. The sun's ultraviolet rays consist of UVA and UVB rays, with UVB rays being particularly beneficial for treating skin conditions due to their deeper penetration, which promotes rapid skin shedding and regeneration. This action helps reduce skin inflammation.

Several classical texts, including Bharata Bhaishajya Ratnakara, Gada Nigraha, Vangasena, Chakradatta, Sahasrayoga, Sharangdhara, and Bhaishajya Ratnavali, reference the therapeutic use of Aditya Paka Sneha, highlighting its significance in traditional medicine for skin health**.**

- Fresh leaves of **Wrightia tinctoria** were collected and finely chopped into small pieces.
- A stainless steel vessel was prepared by pouring in fresh coconut oil.
- The chopped leaves were thoroughly mixed into the coconut oil to ensure even distribution.
- The vessel was then placed in direct sunlight for 8 hours each day, with occasional stirring to enhance infusion.
- This process was continued for a total of 7 days, during which daily observations were made to monitor any changes in the color and aroma of the oil.
- On the 8th day, the infused oil was filtered using a clean cloth to separate the solid leaf material and was subsequently stored in an airtight container for preservation.
- NOTE:-In preparation of Adithya Paka Stree Kutaja Taila, a Kalka Dravya consisting of Narikela Taila and Stree Kutaja Patra is utilized in a ratio of 2:1 (coconut oil to Stree Kutaja Patra).

**Results**

The Stree Kutaja taila must be observed daily over the course of 7 days, documenting any noticeable changes in color, scent, consistency, and any other relevant findings.

**Colour of Taila (Coconut Oil):**The coconut oil changed from clear to dark maroon with purple tinges, ultimately appearing dark purple.

**Odour of Taila:** A pungent odour.

## DISCUSSION:

Wrightia tinctoria, or Stree Kutaja, renowned for its diverse phytochemical composition and therapeutic benefits, Particularly in the treatment of psoriasis and other skin disorders. Its rich array of constituents—including lipids, saponins, tannins, alkaloids, phenols, steroids, and flavonoids—confers significant immune-modulatory, antioxidant, and antimicrobial properties. The methanolic, ethyl acetate, and acetone extracts exhibits action of peripheral analgesic. Petroleum ether and methanolic extracts shown the ability to inhibit inflammatory responses

*It hasKatu, Kashaya, Tikta Rasa, Sheeta Veerya, Kaphapittahara, Kushtaghna, Krimighna property.* Due to *Laghu, Rooksha*Guna it does Deepana and Pachana.

Additionally, the analgesic and anti-inflammatory effects of oil derived from its leaves, coupled with its proven wound-healing capabilities. Use of **Adithya Paka Samskara** highlights its therapeutic potential. The traditional use of coconut in skin care further complements Wrightia tinctoria's effectiveness, emphasizing its longstanding role in Ayurveda for treating various skin ailments.

## CONCLUSION:

The Stree Kutaja Taila is a remarkable formulation derived from **Wrightia tinctoria**, prepared using the **Adithya Paka Samskara** method with **Keram/Narikela Taila** as its base. This combination enhances the properties and potency (Guna and Veerya) of the oil, demonstrating effective external action against psoriasis. Numerous research studies have validated its efficacy, showcasing promising results in treating this condition.

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