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Research Article

PHARMACEUTICAL STANDARDIZATION AND ANALYTICAL ASSESSMENT OF *SHUNTHYADI TAILAM*: A COMPREHENSIVE STUDY

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ABSTRACT

Shunthyadi tailam, a classical Ayurvedic formulation as *Nasya* therapy mentioned in *Ashtang hrudaya* for therapeutic use in *Bhrushakshava. Bhrushakshava* can be compared to the acute phase of allergic rhinitis. This study focuses on its pharmaceutical preparation and analytical standardization, adhering to the guidelines of the Ayurvedic Pharmacopoeia of India. The formulation was subjected to organoleptic and physico-chemical evaluations to establish benchmark standards. Key parameters such as acid value, saponification value, iodine value, specific gravity and refractive index were analyzed. These findings provide a scientific foundation for future research and ensure the quality and consistency of *Shunthyadi tailam* in therapeutic applications.

INTRODUCTION

Sneha Kalpana can be defined as a pharmaceutical process to prepare oleaginous medicaments from the substances like *Kalka, Kwath* or *Drava dravya* taken in a specific proportion and by subjecting them to unique heating pattern and duration to fulfill certain pharmaceutical parameters, according to need of therapeutics[1].

Shunthyadi tailam as *Nasya* therapy mentioned in *Ashtang Hrudaya* for therapeutic use in *Bhrushakshava*[2]. *Bhrushakshava*[3] is compared to the acute phase of allergic rhinitis symptoms, and the *Dosha dushti* offers a treatment plan to alleviate the acute symptoms. *Shunthyadi tailam* is *Ushna, Snigdha, Katu rasa, Srotoshodhak, Abhishyandahara, Shothahara, Vatakaphagna* which helps in reliving the symptoms of *Bhrushakshava*.

Pharmaceutical standardization of *Shunthyadi taila* is the process of establishing a set of parameters to ensure the quality, safety, efficacy and reproducibility of the Ayurvedic formulation. These parameters include organoleptic parameters, acid value, saponification value, iodine value, specific gravity and refractive index.

This study aims to evaluate the pharmaceutical and analytical profile of *Shunthyadi tailam* to ensure a consistent, standardized formulation that meets therapeutic standards.

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AIMS AND OBJECTIVES

1. Preparation of *Shunthyadi tailam* as per scientific concepts mentioned in classical texts of *Bhaishajya kalpana.*
2. Study the prepared drug for organoleptic and physicochemical parameters.

MATERIALS AND METHODS

In this topic following studies are included.

Pharmaceutical Study

Collection of raw materials

Raw materials were collected from authorized market according to their description mentioned in the texts, further authentified by the experts.

Preparation of *Shunthyadi tailam*

Preparation of *Shunthyadi tailam* was carried out as per the reference of *Ashtang hrudaya.*

Drug review

***Pippali*[4]**

Gana- Kasahar, Hikkanigrahana, Shirovirechan, Vaman, Truptighna, Dipaniya, Shulaprashamana (Cha.) Pippalyadi, Urdhvabhagahar, Shirovirechana (Su.).

Family - Piperaceae.

Latin Name- *Piper longum*

Properties and Action

Rasa: Katu, Tikta Virya: Anushna Vipaka: Madhura Guna: Snigdha, Laghu, Tikshna

Karma: Vatahara, Kaphahara, Dipana, Ruchya, Rasayana, Hrudya, Vrushya, Tridoshahara, Rechana.

Therapeutic uses *Shwasa, Kasa, Pliharoga, Gulma, Jwara, Prameha, Arsha, Kshaya, Udara roga, Hikka, Trushna, Krumi, Kushtha, Shula, Amavata, Amadosha.*

Dose: 1-3 gm

Chemical composition essential oils and alkaloids, also having antiasthmatic activity [5], anti-inflammatory[6], activity, antioxidant activity[7], immunomodulatory activity [8].

Important formulations *Gudapippali, Amrutarishta, Kumaryasava, Chyavanprasha Avaleha, Kaishora Guggulu.*

***Sunthi*[9]**

Sunthi consists of dried rhizome of *Zingiber officinalis* widely cultivated in India, rhizomes dug in January-February, buds and roots removed, soaked overnight in water, decorticated and sometimes treated with lime water and dried.

Gana- Truptighna, Arshoghna, Dipaniya, Shulaprashamana, Trushnanigrahana (Cha.) Pippalyadi, Trikatu (Su) Panchakola, Shadushana (B.P.)

Family – Zinziberaceae

Latin Name- *Zingibar officinale*

Properties and action

Rasa: Katu Virya: Ushna Vipaka: Madhura Guna: Laghu, Snigdha

Karma: Dipana, Pachana, Anulomana, Amadoshahar, Vatakapha paha, Hrudya.

Therapeutic Uses *Agnimandya, Adhmana, Pandu, Shwasa, Udararoga, Amavata.*

Dose: 1-2gm of the drug in powder form.

Chemical composition essential oils, pungent constituents (gingerol and shogaol), resinous matter and starch. Also having anti-inflammatory activity.[10]

Important formulations *Soubhagya shunthi paka, Trikatu churna, Vaishvanara churna.*

***Kushtha*[11]**

Gana– Shukrashodhan, Lekhaniya, Aasthapanopaga (Cha.) Ealadi (Su.)

Family – Compositeae

Latin name – *Sassurea lappa*

Properties and Action *Rasa: Katu, Tikta Virya: Ushna Vipaka: Katu Guna: Laghu, Tikshna, Snigdha.*

Karma: Kaphavataghna, Shukrala, Raktashodhaka, Varnya.

Therapeutic uses *Vatarakta, Visarpa, Kushtha, Kasa, Shwasa.*

Dose: 250mg to 1gm of the drug in powder form.

Chemical constituents essential oil, alkaloid (Saussurine) and bitter resin. Also having anti-inflammatory activity, smooth muscle relaxant activity.[12]

Important formulations *Kushthadi Churna, Kushthadi taila, Kottamchukkadi taila.*

***Vidanga*[13]**

Gana- Krumighna, Kushthaghna, Truptighna, Shirovirechana (Cha) Surasadi, Pippalyadi (Su), Trimada (B.P.).

Family – Myrsinaceae

Latin name – *Embelia ribes*

Chemical Constituents– Benzoquinones, Alkaloid (Christembine), Tannin and essential oil. Properties and Action *Rasa: Katu Virya: Ushna Vipaka: Katu Guna: Laghu, Ruksha, Tikshna Karma: Kruminashana, Dipana, Anulomana, Vatakaphapaha.*

Therapeutic uses *Krumiroga, Adhmana, Shula, Udararoga.*

Dose: 1-3 gm of the drug in powder form.

Important formulations: *Vidangarishta, Vidangadi Lauha, Vidangadi Churna.*

***Draksha*[14]**

Gana – Snehopaga, Virechanopaga, Kasahara, Jwarahara (Cha.) Kakolyadi, Parushakadi (Su.)

Family - Vitaceae

Latin Name- *Vitis vinifera*

Chemical constituents Malic, Tartaric and Oxalic Acids, Carbohydrates and Tannins.

Properties and Action *Rasa: Madhura Virya: Shita Vipaka: Madhura Guna: Guru, Sara, Snigdha.*

Karma: Bruhan, Chakshushya, Vrushya, Vatapittahar, Svarya.

Therapeutic uses *Trushna, Jwara, Kasa, Shwasa, Daha, Shosha, Kamala, Raktapitta, Kshata-kshina, Vibandha, Arsha, Agnimandya, Pandu, Udavarta, Asyashosha, Vatarakta.*

Dose 5-10 gm of the drug

Important Formulations *Drakshasava, Draksharishta, Drakshavaleha, Drakshadi kvatha, Eladi gutika.*

***Shunthyadi taila* Preparation[15]**

Reference: *A.H.*

Type of Procedure: *Sneha siddhividhi*

Ingredients:

Sneha Dravya Til Taila-20 parts -1000gm

Kalka Dravya

1. *Shunti*- 1part - 50 gm
2. *Kushtha*- 1 part -50 gm
3. *Pippali*- 1part -50 gm
4. *Vidanga*- 1part -50 gm
5. *Draksha*- 1part -50 gm

Drava dravya Water- 80 parts -4Litres

Method of Preparation: The fine powders of all *Kalka dravya* were taken in a *Khalvayantra* and triturated with little quantity of water to obtain needed quantity of *Kalka*. Now the *Til taila* was taken in a clean wide mouthed vessel placed over mild fire (*Mandagni*). To it above mentioned prepared *Kalka* and specified quantity of water were added and the process of boiling was continued with frequent stirring. As soon as all the *Sneha siddhi lakshana* were attained, the hot *Taila* was filtered into a clean stainless steel vessel. When cool on its own, it was stored in appropriate airtight glass container for further therapeutic use.

Photographs showing Pharmaceutical study of *Shunthyadi tailam*

Fig.1-Ingredients of *Shunthyadi Tailam*

Fig.2- Addition of Ingredients in *Tila Tailam*

Fig.3-*Mandagni*

Fig.4- During *Sneha Paka*

Fig.4- *Sneha Siddhi*

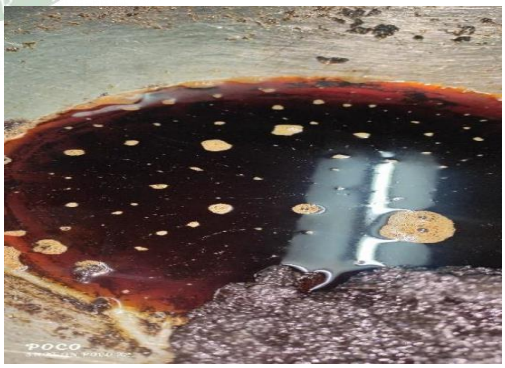

Fig.5- Finished product *Shunthyadi Tailam*

Analytical Study[16]

In this study Ayurvedic and modern parameters regarding *Shunthyadi tailam* are studied.

The prepared *Shunthyadi tailam* was evaluated based on organoleptic parameters. Modern parameters such as refractive index at 40°C, Acid value, saponification value, iodine value, peroxide value and specific gravity of *Shunthyadi Tailam* were studied.

OBSERVATIONS AND RESULTS

Pharmaceutical Study

Showing time required for pharmaceutical procedure

1st day of *Snehapak* 3 hrs

2nd day of *Snehapak* 3 hrs

3rd day of *Snehapak* 2:30 hrs

Total duration 8:30 hrs.

Table 1: Obtained yield of *Shunthyadi tailam*

Initial weight of *Til tailam*	1000gm
Obtained weight of *Shunthyadi tailam*	770gm
Weight loss	230gm

Table 2: Organoleptic characters of *Shunthyadi tailam*

Organoleptic Characters	***Shunthyadi tailam***
Colour	Brown coloured oil
Odour	Pleasant aromatic
Taste	Not tasted
Sound	No crackling sound when *varti* subjected to ignition
Touch	Smooth

Drug Standardization

Table 3: Physico-chemical parameters of *Shunthyadi tailam*

Test	**Result**
Description	Brown coloured oil with, pleasant aroma
Refractive index at 40 D.C.	1.522
Acid Value	1.74
Saponification Value	191.66
Iodine Value	110
Peroxide Value	2.85
Wt/ml	0.916

DISCUSSION

Shunthyadi tailam was prepared as per the reference of *Ashtang hruday Nasagata roga*. The ingredients of *Shunthyadi tailam* major drug possess *Katu rasa, Ushna veerya, Laghu, Snigdha guna* and *Madhur vipak, Til tailam* having *Guna vatakapha shaman*, because of *Teekshna* and *Sukshma guna*, the medicine will penetrate into minute channels does *Strotoshodhan*. By the above properties the *Nasya* drugs removes the obstruction and facilitate the drainage of discharge. It will also act as *Balya, Brimhana, Rasayana* by nourishing *Dhatus* and enhances immunity. This immune modulation will reduce the inflammatory process in nasal cavity and sinuses. Majority of ingredients possess anti-inflammatory activity which also prevents the inflammatory process. The chronicity of the disease indicates aggravation of *Vata dosha*, so oil preparation may be the best form for condition like *Bhrushakshava* i.e., allergic rhinitis. The study successfully established a standard preparation method and analytical profile for *Shunthyadi tailam*. The organoleptic and physico-chemical evaluations confirmed the oil's suitability for clinical use. By the result of this study demonstrate that *Shunthyadi tailam* can be prepared consistently, ensuring a reliable product for therapeutic use.

CONCLUSION

Standardization of *Shunthyadi tailam* through pharmaceutical and analytical analysis established it as a consistent, stable and effective formulation for *nasya* therapy. By adhering to the Standard Operating Procedures outlined in the Ayurvedic Formulary of India, the formulation's physico-chemical parameters such as acid value, iodine value, saponification value and peroxide value were defined ensuring its stability and efficacy for therapeutic applications. These findings pave the way for expanded use in Ayurvedic respiratory health practices. Future studies could explore its clinical effectiveness further.

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