WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.453
Volume 13, Issue 16, 1224-1232. Research Article ISSN 2277–7105

PHARMACEUTICO-ANALYTICAL STUDY OF ARAGWADHADI TAILA

Dr. Jayashree Kolhe[1]*, Dr. Vandana Pendse[2] and Dr. Nishant Ingle[3]

[1]Assistant Professor, Department of Agadtantra, Ashvin Rural Ayurved College, Manchi Hill, Sangamner, Maharashtra.

[2]Ex Professor and HOD, Department of Rasashastra and BK, Ashvin Rural Ayurved College, Manchi Hill, Sangamner, Maharashtra.

[3]Assistant Professor, Department of Rasashastra and BK, Ashvin Rural Ayurved College, Manchi Hill, Sangamner, Maharashtra.

Article Received on
02 July 2024,

Revised on 23 July 2024,
Accepted on 13 August 2024

DOI: 10.20959/wjpr202416-33645

***Corresponding Author**
Dr. Jayashree Kolhe
Assistant Professor,
Department of Agadtantra,
Ashvin Rural Ayurved
College, Manchi Hill,
Sangamner, Maharashtra.

ABSTRACT

Introduction: Ayurveda, a traditional Indian medicine, uses natural elements for overall well-being. Rasashastra, a branch focusing on minerals and metals, plays a key role. Ayurvedic formulations are categorized and processed in specific ways to maximize effectiveness. Two crucial methods are Panchavidha Kashaya Kalpana and Sneha Kalpana. With rising skin problems like vitiligo, no work was done on Aragwadhadi Taila so this pharmaceutico-analitical study explores the potential of Aragwadhadi Taila, unique oil containing both metal and herbal ingredients, for treating vitiligo. **Aim of the study**: - To Study ‘‘Pharmaceutico-Analitical Study of Aragwadhadi Tail’’

Objectives

1) To find out the classical reference of Aragwdhadi tailam from Samhita’s
2) To prepare Aragwadhadi tailam as per classical reference.
3) To analyze Aragwadhadi tailam using physico- chemical and Analytical parameters.

Methodology:- Aragwadhadi taila was prepared as per Chakradatta and pharmaceutico-analytical study was done. **Observations and Result:-** Tila Taila transformed from yellow to reddish brown after Murchchana, and the final Aragwadhadi Taila became greenish yellow. Aragwadhadi Taila exhibited a slightly acidic pH (3.59), low moisture content (0.223% loss on drying), a specific gravity of 0.9332 gm/ml indicating moderate density, a refractive index

of 1.4754, a high saponification value of 130.90 suggesting good absorption, a low acid value of 1.329, and an iodine value of 64.9 indicating moderate unsaturation. **Conclusion:** The Aragwadhadi Taila displayed a greenish-yellow color and characteristic odor. Murchana improves drug solubility in the oil, imparts specific properties, and potentially increases the efficacy of the final medicated oil.

KEYWORDS: Til taila, Murchana, Aragwadhadi Taila, Vitiligo.

INTRODUCTION

Ayurveda, the ancient Indian medical science, emphasizes achieving health and well-being for fulfilling the fourfold aims of human life. This system utilizes various natural resources, including herbs, minerals, and metals, for therapeutic purposes.[1] Rasashastra, the branch of ayurveda focusing on metals and minerals, plays a vital role in this approach. Traditionally, Ayurvedic formulations are categorized into Rasaushadhi (metals and minerals) and Kashthaushadhi (plant-based drugs).[2] These undergo specific processing techniques known as sanskara to enhance their therapeutic efficacy and shelf life. Panchavidha Kashaya Kalpana, a revolutionary concept by Acharya Agnivesha, transformed how herbal remedies were utilized. This method involves five fundamentals' preparations - Swarasa (Juice), Kalka (Paste), Kashaya (Decoction), Hima (cold infusion), and Phanta (hot infusion) - serving as the foundation for numerous other formulations.[3,4]

Sneha Kalpana is another crucial processing method in Ayurveda, employing oils and ghee as bases for medicated preparations. This process enhances the therapeutic properties of the ingredients and mitigates their harshness.[5] The current environmental and lifestyle changes, including pollution, dietary habits, and stress, have been linked to an increased prevalence of skin disorders like vitiligo, an autoimmune condition causing white patches on the skin.[6] Acharya Charaka, emphasized the influence of geographical location, season, and dietary habits on disease manifestation. These factors can lead to imbalances in the doshas (bodily humors) and affect the formation of Rasa dhatu (plasma tissue), ultimately impacting the skin's health.[7] Vitiligo is compared with Shwitra which is one type of Kushtha depending upon similarity in symptoms.[8]

Given the growing focus on safe and effective management of vitiligo, this study explores the potential of Aragwadhadi Taila,[9,10] a unique Ayurvedic formulation, in treating this condition. This oil combines Rasa dravyas and Bhaishajya dravyas, making it a subject of

interest for further investigation. Our research aims for Pharmaceutico-Analitical Study of Aragwadhadi Taila.

AIMS AND OBJECTIVES

Aim: To Study "Pharmaceutico-Analitical Study of Aragwadhadi Tail''

Objectives

1) To find out the classical reference of Aragwdhadi tailam from other Samhita's
2) To prepare Aragwadhadi tailam as per classical reference.
3) To analyze Aragwadhadi tailam using physical and chemical-Analytical parameter

METHODOLOGY

It is divided majorly in two parts

a. Aragwadhadi taila preparation includes

I. Tila Taila Murcchana

II. Haratala Shodhana

III. Manashila Shodhana

IV. Preperation Of Aragwadhadi Tail

b. Analytical Study

a. Aragwadhadi taila

I. Tila Taila Murcchana[11] - Drugs were taken as shown in table no 1

Table no. 1: Til Tail Murcchana Ingredients.

Sr No.	Sanskrit Name	Latin Name/English Name	Part Used
1.	Manjishtha	Rubica Cordifolia	Mula
2.	Haridra	Curcuma Longa	Kanda
3.	Lodhra	Symplocos racemose	Tvak
5.	Nagarmotha	Cyperus Rotundus	Kanda
6.	Nalika	Cinnmomum Tamala	Mula, Patra
7.	Amalaki	Embelica Officinalis	Phala
8.	Haritaki	Terminalia Chebula	Phala
9.	Bibhitaki	Terminalia Bellirica	Phala
10.	Ketaki	Pandanus odorotissimus	Pushpa
11.	Vatankur	Ficus bengalenisis	Vatapraroha
12	Hrivera	Coleus vettveroides	
13.	Jal	Water	
14.	Tila Taila	Sesame oil	

First, choornas were mixed with water to form a kalka. Then, the oil was gently heated to remove moisture. Once cool, the kalka was added to the oil. The mixture was heated again until the kalka turned light brown. Water was then added, and the entire concoction was simmered with continuous stirring until it reached the sneha siddhi consistency. Finally, the oil was filtered while warm to obtain the finished Murchchita Taila.[12]

Tila Taila **Murchhit taila**

II. Haratala Shodhana

To purify the haratal, coarse pieces were wrapped in a pottali and swedana for three hours (one yama) using a dolayantra. Kushamand swaras were used as the medium for this process. Finally, the haratal was dried and stored in an airtight container to obtain shudha haratal.[13]

III. Manashila Shodhana

Coarsely crushed, impure manahshila was wrapped in a pottali and suspended inside a dolayantra. Bhringaraj swaras were used as the medium for a swedana purification process lasting twelve hours (four yama). Afterwards, the manashila was washed with warm water, meticulously dried, and stored in a suitable container as shuddha manashila.[14]

IV. Preperation Of Aragwadhadi Taila[9,10]

Table no. 2: Contents of the Aragwadhadi Taila.

Sr no	Aragwadhadi taila ingedients	Latin /English name	Quantity
1	Aragvadha patra	Cassia Fistula	70 gm
2	Dhataki Pushpa	Woodfordia Fruticosa	70 gm
3	Kushtha	Sassurea Lappa	70 gm
4	Hartala	Arsenic trisulphide	70 gm
5	Manashila	Arsenic disulphide	70 gm
6	Haridra	Curcuma Longa	70 gm
7	Daruharidra	Berberis Aristata	70 gm

Murcchit Til tail

Kalka dravya

Aragwadadhi Taila

To prepare Aragwadhadi Taila, the coarsely powdered Kwath Dravya ingredients were mixed with sixteen parts of water. This mixture was then heated and reduced to one-fourth its original volume. Finally, it was filtered using a muslin cloth to obtain the Aragwadhadi Taila Dravya Kwath. Separately, the Kalka Dravya ingredients were finely powdered and ground with water into a smooth paste using a wet grinder. The Murchhita Taila was gently heated in a stainless-steel vessel. Then, the Kalka paste was gradually added while continuously stirring the mixture. The Aragwadhadi Taila Dravya Kwath was also incorporated during this process. The mixture was heated with constant stirring for an initial period, maintaining a temperature between 50°C to 90°C. After resting overnight, it was reheated the next day until the desired characteristics of Sneha Siddhi were achieved. Finally, the medicated oil was filtered while hot through a muslin cloth and allowed to cool for packing.[10]

b. Analytical Study

Sneha siddhi lakshana (confirmatory tests)[15]

Phen Pariksha: Continuous bubbling in oil indicates the sneha siddha lakshanas.

Varti Pariksha: Kalka from the medicated oil is taken out and varti is formed this indicated sneha siddha lakshanas.

Agni Pariksha: No crackling sound is heard when a small amount of Varti is exposed to a flame. This indicates the absence of moisture in the final product.

Gandha Pariksha: The medicated oil possesses the characteristic aroma of the herbal ingredients used in its preparation.

Physiochemical analysis of end product: - as shown in result.

OBSERVATION AND RESULT

The Aragwadhadi tail was prepared according to the text of Chakradatta. Observations and results of every step of research are as follows:-

A) Observation and results in the process of shodhana.

B) Observation and results in the process of tail Murchana.

C) Observation and results in the preparation of Aragwadhadi Tail.

A) Observation and results in the process of shodhana

Hartala shodhana - The Ashuddha hartal was lemon yellow with an opaque streak, but after purification with kushmanda swaras, it became brighter, softer, and changed to a yellowish red color. The kushmanda swaras itself darkened to a deep yellow color during the 2-day process. This shodhana process resulted in a 10gm weight loss, leaving behind 240gm of the purified Shuddha hartala.

Manashila Shodhana- The Ashuddha Manashila was reddish-yellow in color. After a 2-day purification process using Bhringaraj swaras, it transformed into a reddish-brown, smooth powder (shlakshna churna), with a weight loss of 12 grams, yielding 238 grams of purified Manashila.

B) Observation and results in the process of taila Murchana

During processing, foam appeared on the Tila Taila, and its color deepened to a reddish hue. The completion of the process Sneha Siddhi was indicated by Fenodbhava and the absence of crackling when a paste (Kalkawarti) made from the mixture was exposed to fire. The final Murchchita Taila has a dark red color, a liquid oily consistency, and a characteristic oily odor. It has an oily and slightly astringent taste. The process resulted in a yield of 1800 ml of oil from an initial quantity of 2000 ml Til Taila, with a total loss of 200 ml.

C) Observation and results in the preparation of Aragwadhadi Taila

During the Aragwadhadi Taila Paka, a "chat" bubbling sound was heard, and greenish yellow oil was obtained at the end. The Paka Siddhi was confirmed by the presence of Phenodgama and the formation of a varti when the sneha kalka was pressed between fingers. Additionally, no sound occurred when the prepared varti was exposed to a flame.

The preparation yielded 1650 ml of Aragwadhadi Taila using 450gm of Kalka Dravya, 8 liters of water, and 1800 ml of Murchchita Tila Taila. This resulted in a total loss of 150 ml during the process.

Table no. 3: Result of Aragwadhadi Taila.

SR.NO	Parameter	Results
1.	Description	Faint Greenish yellow Colour; Odour Faint; Feel oily.
2.	Moisture content @ 110^0c	0.223%
3.	pH	3.59
4.	Acid Value	1.329
5.	Iodine Value	64.9
6.	Saponification Value	130.90
7.	Refractive Index	1.4754
8.	Sp.Gravity	0.9332 Gm/Ml

DISCUSSION

Information gathered on Tila Taila, Murchana process, and Aragwadhadi Taila ingredients from Ayurvedic texts, modern science sources, and online resources. Murchana performed on Tila Taila before preparing Aragwadhadi Taila, following both classical Ayurvedic texts and modern standards (API) to enhance oil properties. Aragwadhadi Taila preparation followed classical references. Initial crackling and frothing during Aragwadhadi Taila preparation suggest moisture in the Kalka. Continuous stirring is crucial to avoid sticking. Gentle heat used to minimize loss of active ingredients.

Organoleptic characters of Aragwadhadi taila

Tila Taila transformed from yellow to reddish brown after Murchchana and the final Aragwadhadi Taila became greenish yellow. Tila tail had Aamgandha after murchana it was Characteristics oily odour which changes to Manshila gandha when final Aragwadhadi taila is prepared. After the murcchna the oil becames thiner.

Physiochemical parameters

Aragwadhadi Taila exhibited a slightly acidic pH (3.59), low moisture content (0.223% loss on drying), a specific gravity of 0.9332 gm/ml indicating moderate density, a refractive index of 1.4754, a high saponification value of 130.90 suggesting good absorption, a low acid value of 1.329, and an iodine value of 64.9 indicating moderate unsaturation.

CONCLUSION

This research successfully conducted a pharmaceutical analysis of Aragwadhadi Taila, prepared using the method described in Chakradatta. The Aragwadhadi Taila displayed a greenish-yellow color and characteristic odor. Murchana improves drug solubility in the oil, imparts specific properties, and potentially increases the efficacy of the final medicated oil.

The preparation of 2 liters of Aragwadhadi Taila took 3 days at a temperature range of 60-80°C. The research suggests Murchana concept enhances the final product's smell, odor, and stability. Additionally, the oil absorbs active principles from the Murchana Dravyas, potentially leading to a more effective Aragwadhadi Taila.

The analysis revealed that the physiochemical parameters of the prepared oil fall within the acceptable limits mentioned in Ayurvedic literature. This research contributes a valuable step towards the pharmaceutical standardization of Aragwadhadi Taila. The unique preparation holds promise for its therapeutic potential in managing Shwetkushta. Finally, the data obtained can serve as a reference point for future research on this medicated oil.

REFERENCES

1. Uttam Vaidya Pammi Satyanarayana Sastry, Lohasarvasvam of suresvara, Chaukhamba Sanskrit series of office, Varanasi, first edition, 2005; 1-2.
2. Dr. K. Rama Chandra Reddy, Textbook of Rasashastra, Chaukhamba Sanskrit Bhavan Varanasi, First Edition, 2007; 1-2.
3. Dr. Shobha. G. Hiremath, Textbook of bhaishajya kalpana, IBH Prakashan, Seventh edition, 2015; 13-14.
4. Vd Y. G. Joshi, Charaka Samhita -1, vaidhyamitra prakashan, 7th edition, 2015; 65.
5. Pankaj Raj, Ijppr, Standardizing of technique of sneha kalpana-A critical review, Human, 2015; 3(4): 264-270.
6. AL-smadi K, Imran M, Leite-Silva VR, Mohammed Y. Vitiligo: A Review of Aetiology, Pathogenesis, Treatment, and Psychosocial Impact. *Cosmetics*, 2023; 10(3): 84.

https://doi.org/10.3390/cosmetics10030084

7. Anna Moreshvara kunte, Krishna shastrynavare (editor). AstangaHrudaya of Vagbhata, Nidhanastana. Chapter 14, verses no 4. Varanasi: Choukhamba Samskruta samsthana, 2010; 524.
8. Dr Dhanwanti Mulani, Review article on Shwitra-Vitiligo an autoimmune disorder, International Journal of Novel Research and Development, 9(2): b645-b651.
9. Dr Indradev tripathi, Chakradatta, Chaukhamba bhavan Varanasi, Edition 2011, Chapter-50, 50/122, 289.
10. Kaviraj Govind das Sen, Bhaishajya Ratnavali (Hindi), edited with siddhiprada Hindi commentary, Prof. Siddhi nandan Mishra, Chaukhamba Surbharati Prakashan, Varanasi, edition 2013, chapter 64, 54/269, 887.
11. Kaviraj Govind das Sen, Bhaishajya Ratnavali (Hindi),edited with siddhiprada Hindi commentary, Prof. Siddhi nandan Mishra, Chaukhamba Surbharati Prakashan, Varanasi, edition 2013, chapter 64, 54/269, 206.
12. API, Part 2nd (Formulations), Vol-1, first Edition, The Controller Publication civil lines delhi, 259.
13. VD Indradev Tripathi, Rasa Ratna Samucchaya, Chaukhamba Sanskrit Sansthan, Varanasi, 3/74, 33.
14. P Kashinath shastrina, Rasatarangini, 11th Edition, Motilal banarasidas Delhi, reprint 2004, 11/115-116, 263.
15. Dr Bramhanand Tripathi, Sharangdhar Samhita, Chaukhamba surbharti prakashan, Varanasi, re print 2001, madhyam khanda-9/17, 221.