ISSN: 2322 - 0902 (P)
ISSN: 2322 - 0910 (O)

International Journal of Ayurveda and Pharma Research

Research Article

PHARMACEUTICAL STUDY OF *ARKAMANASHILADI TAILAM*

Mrudula Divakaran[1]*, K L Virupaksha Gupta[2], Saravanan B[3]

*[1]II Year PG Scholar, [2]HOD & Professor, [3]Associate Professor, Department of Rasa Shastra and Bhaishajya Kalpana, Sri Jayendra Saraswathi Ayurveda College and Hospital, Nazarathpet, Chennai, Tamilnadu, India.

Article info

Article History:
Received: 21-10-2021
Revised: 24-11-2021
Accepted: 06-12-2021

KEYWORDS:
Arkamanashiladi Tailam, *Kandughna*, Skin diseases, *Sneha kalpana,* Analytical parameters.

ABSTRACT

Superficial skin infections are very common in present day clinical practise. Contemporary physicians find it difficult to treat these dermatological manifestations due to long treatment duration, development of resistance and adverse drug events. Description about skin diseases are seen in Ayurveda classics like Charaka and Sushrutha under the heading of *Kushta* (skin diseases). *Kandu* (itching) is one of the primary symptoms in most of the *Kshudra Kushtas*. Chakradatta described a herbo mineral preparation named as *Arkamanashiladi Tailam* which acts as *Kandughna* (reduces itching) and *Pamakushtahara* (eradicates skin diseases). This formulation contains *Arkapatra swarasa* (juice of *Calotropis gigantea)*, *Shoditha Manashila* (Realgar), *Nisa kalka* (paste of turmeric) and *Sarshapa Tailam* (Mustard oil). Preparation of *Arkamanashiladi Tailam* carried out according to general method of preparation of *Sneha kalpana* after the purification of *Manashila*. After considering all *Pakasiddhi lakshnas* like *Phenodgama* (appearance of froth), *Shabdahina* (absence of sound) etc. final product obtained which is dark brown in colour and stench smell. As there is no Analytical study reports available for *Arkamanashiladi tailam* to ensure its quality. Hence, in this present study different analytical parameters including Organoleptic characters, pH, specific gravity, refractive index, saponification value, iodine value, acid value and moisture content has been evaluated as per Ayurvedic pharmacopoeia of India. All the parameters were found to be within the reference standards and these can be used for further studies on *Arkamanashiladi tailam* standardization.

INTRODUCTION

Arkamanashiladi Tailam is an oil-based preparation prepared according to the principles of *Sneha Kalpana*. *Sneha kalpana* is a unique formulation explained in Ayurvedic literature. Acharya Sharangadhara has given detailed description regarding *Sneha kalpana* in *Madhyama khanda*, which includes both *Taila kalpana* and *Ghritha kalpana*[1]. Medicated oils have been indicated in wide range of skin pathologies. Oils which are prepared as per shastric references have unique properties which acts as per *Dosha* dominance due to the specific active chemical constituents helps in reaching the specific dermal layer and helps in better absorption and restore homeostasis.

Access this article online	
Quick Response Code	
	https://doi.org/10.47070/ijapr.v9i11.2114
	Published by Mahadev Publications (Regd.) publication licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0)

Taila preparations were used in the treatment of skin diseases depending upon the condition and *Dosha* predominance. *Arkamanashiladi Tailam* is one such excellent formulation described in *Kushtachikitsa* by *Chakradatta* [2] and *Bhaishajya Ratnavali*. It is also named as *Nisamanashiladi Tailam*. Ingredients are *Arkapatra swarasa* (*Drava dravya*), *Katu Tailam/ Sarshapa Tailam* (*Sneha dravya, Shoditha Manashila* and *Nisa/Haridra (Kalkadravya*). *Arkamanashiladi Tailam* can be a potent formulation in the management of superficial skin diseases. In the present study *Arkamanashiladi Tailam* was prepared according to the general method of preparation of *Taila* (1:4:16-*Kalka*: *sneha*: *Dravadravya*) after the proper *Shodhana* of *Manashila* described in *Rasaratnasamuchaya*[3]

Table 1: Description of Ingredients

Drugs	Botanical/ English name	Characteristics	Properties	*Doshakarma*	*Rogaghnata*
Arka [4]	*Calotropis gigantea*	Leaves are light green colour, 3.8-10 cm long, obovate-oblong or elliptic-oblong, Sessile or sub-sessile, acute, thick with fine cottony tomentum. **Constituents**- Glycosides (calotropin, uscharin, calotoxin)	*Katu, Tikta Rasa, Laghu, Snigdha, Sara Guna, Ushna Veerya* and *Katuvipaka*	*Kaphavatashamaka, Bhedana, Virechanopaga, Rechana, Kushtaghna, Kandughna* etc.	*Kushta* (skin disorders), *Kshudraroga, Visha* (poisoning), *Gulma* (Phantom tumor), *Krimi* (Infections), *Raktavikara* (blood disorder), *Agnimandhya* (weak digestive fire) etc.
Sarshapa[5]	*Brassica campestris*	Seeds are small, slightly oblong, pale/reddish brown colour, Taste is bitter	*Tiktha* and *Katu rasa, Guna-Teekshna, Snigdha, Veerya is Ushna, Katu vipaka*	*Kapha vatahara, And Pithakara*	*Kanduhara* (itching) *Kushtaghna* (skin disorders), *Krimighna* etc.
Haridra[6]	*Curcuma longa*	Rhizomes -ovate, oblong/ pyriform or cylindrical, externally yellowish to yellowish brown with root scars, fractured surface orange to reddish brown **Constituents**- Essential oil, Curcumin	*Katu,Tiktha rasa, Rukshaguna*	*Kaphapitha shamaka*	*Twak dosha* (skin diseases), *Raktha dosha* (blood disorder), *Vrana* (wound), *Pandu* (anemia), *Prameha* (diabetes) etc.
Manashila[7]	Realgar, AS_2S_2 Arsenic disulphide	Possess radiance of *Rakta kamala* (red lotus), heavy, lustruous	*Katu, Tiktha rasa, Snigdha, Ushna, Guru guna, Lekhana karma*	*Kaphavatahara*	*Kandu* (itching), *Bhutaghna, Agnimandhya* (weak digestive fire).

Material and Methods:

Material and methods includes following procedures

a) Pharmaceutical study of *Arkamanashiladi tailam*
   - *Shodhana* of *Manashila*
   - Preparation of *Arkamanashiladi tailam*

b) Analytical study of *Arkamanashiladi tailam*

Pharmaceutical study

Collection of Raw materials and Quality evaluation- *Haridra, Katu Tailam, Manashila* were obtained from local market of Chennai. Fresh leaves of *Arka* were collected from herbal garden of SJSACH Ayurveda College, Chennai.

Ingredients were authenticated in Department of Dravyaguna, SJS Ayurveda College and Hospital, Chennai. Procedures were carried out in SJS Ayurveda college, Chennai, Tamilnadu, India.

***Shodhana* of *Manashila* (Realgar)**

Requirements: *Khalva yantra*, Spatula, Vessel, Air tight container, Cotton cloth

Ingredients: *Ashudha Manashila* -150 gm

Ardrakaswarasa -Q.S

Procedure

For Preparation of *Ardraka swarasa*, *Ardraka* (fresh ginger) was obtained from local market of Chennai. *Swarasa* was obtained by squeezing method. The ginger was properly cleaned and made in to small pieces. Then with the help of *Khalva yantra* crushed and made in to *Kalka* (paste). The *Kalka* was squeezed and filtered through white cotton cloth.

Manashila was purified by *Bhavana* (trituration method) with the media of *Ardraka swarasa* (fresh ginger juice). Raw *Manashila* was powdered and added with sufficient quantity of *Ardraka swarasa* till it gets completely immersed. *Bhavana* (trituration) is continued till the mixture dries which is repeated for seven consecutive times. After completion of *Bhavana*, the contents were kept for drying in normal room temperature. Then it was powdered properly and stored in air tight glass jar.

Results and Observation of *Manashila shodana*

Table 2: Findings during *Manashila shodhana*

Bhavana	***Ardrakaswarasa* quantity**	**Total Duration**	**Findings**
1	80 ml	3 hr 30 min.	Slight colour changes noticed
2	78 ml	3 hr20 min.	slight colour changes noticed
3	75 ml	3 hr 15 min.	*Manashila* became like a bolus
4	72 ml	3 hr 10 min.	*Manashila* became softer
5	70 ml	3-hour 5 min.	*Manashila* became softer
6	68 ml	2 hr 55 min	*Manashila* became completely soft
7	65 ml	2 hr 50 min.	Colour changes noticed and *Manashila* became softer

- For *Shodhana* of 150gm of *Manashila* an average of 72.5ml of *Ardraka swarasa* was required for every *Bhavana*. For each *Bhavana* approximately 150gm of *Ardraka* was used to obtain the juice.
- For first *Bhavana* the quantity of *Ardrakaswarasa* was required more than the subsequent *Bhavanas.*
- For each *Bhavana,* trituration was done approximately for 3 hours. There was increase in weight 6g of *Shuddha Manashila* in the end.
- The colour of *Ashuddha Manashila* was bright orange, which was changed after every *Bhavana.*
- At the end of trituration, *Manashila* became softer and smell of *Ardraka swarasa* was observed in the compound.

Preparation of *Arkamanashiladi Tailam*

Table 3: List of ingredients for the preparation of *Arkamanashiladi Tailam*

Ingredients	**Scientific name/ English name**	**Quantity**
Arkapatra swarasa	Fresh leaf juice of *Calotropis gigantea* Linn.	4 ltr
Shoditha Manashila	Realgar (As_2S_2)	125 g
Haridra	Turmeric (*Curcuma longa* Linn.)	125 g
Katu Tailam	Mustard oil (*Brassica campestris* Linn.)	1ltr

Collected *Arkapatra* were washed properly and *Swarasa* was extracted by crushing and squeezing process. Turmeric powder and purified realgar were taken in a well cleaned vessel; paste is made by mixing sufficient quantity of leaf Juice of *Arka*. Standard procedure was adopted in the *preparation* of *Arkamanashiladi Tailam*. In a stainless-steel vessel, specified quantity of *Katu Tailam* was taken and subjected to moderate heat. Then mixture of *Haridra kalka*, *Shoditha Manashila kalka* (250gm) and 4 litres of *Arkapatra swarasa* were added to it. The mixture was stirred continuously. Heating was carried out till the *Snehasiddhi lakshana* appeared like *Vartivat kalka* (formation of wick when rolled in between fingers),

Shabdahinata (absence of cracking sound), *Phenodgama* (appearance of froth), and *Gandha-varna-rasotpathi* (organoleptic properties like smell, colour and taste of ingredients). Then the vessel was taken out from the stove and kept it for self-cooling. Contents were filtered through a double layered clean cotton cloth. The process was completed in three days.

OBSERVATION AND RESULTS

Sarshapa Taila was heated until fuming stage then heat was reduced. During heating, due to its pungent vapours burning sensation of eyes was observed. After that bolus of *Kalka* was added. After proper mixing of *Kalka* 4000 ml of *Arkapatra swarasa* is added and again the heating process continued with moderate heat. After 10 minutes of heating, bubbles were observed with specific odour of *Arkapatra swarasa.* After 45 minutes of heating contents were becoming brown colour with yellow tint in the upper layer. Initially *Kalka* of *Manashila* settled down on the bottom of vessel and *Haridra kalka* was floating above. Every one hour temperature noted with the help of pyrometer. First and Second day temperature stayed around 90°C (noted in between 87-90°C). On third day, temperature started increasing gradually with decreasing bubble formation. At the end of procedure temperature reached to 130°C and colour observed as dark brown and the odour was stench due to the ingredients present in *Arkamanashiladi Tailam* like *Arkapatra swarasa* and *Sarshapa Tailam*. End stage process of oil needs constant monitoring to avoid stickiness and charring of Kalka. 600ml of final oil was obtained. There is a 40% loss of *Taila* observed in the final product.

Table 4: Organoleptic parameters of *Arkamanashiladi Tailam*

S. No.	Parameters	Results
1.	Colour	Dark brownish
2.	Odour	Stench smell
3.	Appearance	Viscous liquid
4.	Touch	Unctuous
5.	Taste	Pungent

Table 5: Physico-Chemical analysis of *Arkamanashiladi tailam*

S.No.	Parameters	Results
1.	pH	5±0.4
2.	Specific gravity	0.937 g/ml
3.	Refractive index	1.4702
4.	Moisture content	0 %
5.	Acid value	3.312
6.	Iodine value	37.88
7.	Saponification value	174.36

DISCUSSION

Superficial Skin infections are very common in clinical practice. Contemporary physicians find it difficult to treat terminate dermatological manifestations. The probable reasons attributed are long treatment duration, development of resistance and adverse drug reactions. Surging prices of raw materials and global economic instability may be few contributing factors.

Ayurveda mentioned different time-tested formulations which are indicated in skin disease. Among those, *Arkamanashiladi Tailam* is an excellent and formulation. Hence this formulation is selected for the study. All the drugs used in the formulation of *Arkamanashiladi Tailam* have similar *Rasa panchaka* like *Katu, Tiktha rasa, Ushna veerya, Katu vipaka*, *Kandughna* and indicated in *Twak vikaras*. Contents of the compound formulation have properties like anti itching and acts in wide range of skin diseases. As per available textual references, *Arkamanashiladi Tailam* is effective in broad spectrum skin conditions. Curcumin which is extracted from turmeric is effective in Psoriasis, Dermatitis, Wound care etc. skin conditions. Calotropis species (*Arka*) are useful in dermal fungal infections and Mustard oil is useful in treatment of Seborrheic Dermatitis.

The main reference, *Chakradatta* has not specified about quantity of ingredients as well as method of preparation of *Taila*. So, Preparation of *Arkamanashiladi Tailam* carried out according to general method of preparation of *Sneha kalpana* mentioned by *Sharangadhara samhitha, Madhyama khanda,* 9th chapter (i.e., *Sneha kalpana*). Pharmaceutical study of *Arkamanashiladi Tailam* carried out in two steps. *Manashila shodhana* was carried out as per the reference of *Rasaratna samucchaya*. *Shodhana* procedure done for seven days with *Bhavana* of *Ardraka Swarasa*. At the end of purification *Manashila* became softer and brighter. Extraction of *Arkapatra swarasa* is done with the help of grinder. Four litres of *Arkapatra swarasa* is obtained.

The volume of the end product for 1000 ml *Taila* with 250gm *Kalka* was 600ml. There is a 40% loss of *Taila* is due to absorption of *Taila* by the *kalka* which was not recoverable. Changes during *Tailapaka*-gradual changes of colour were noted during the time of *Taila paka*. Penetrating smell of *Sarshapa Taila* was appreciated during the procedure. Ratio of *kalka dravyas* plays an important role in the *Tailapaka*. *Kalka* absorbed more quantity of *Taila* which affected yield of the end product. During the process of oil preparation, various parameters viz., *Pakasiddhi*, *Phenodgama*, *Shabdahina* were used to determine the quality of end product. Aroma of *Arka* leaves, turmeric and sesame oil was observed during the preparation of *Taila*, at the

end of procedure odour became more pleasant. During starting stage of *Taila* preparation colour was brownish yellow. But, the end product of *Taila* was dark brownish due to the presence of *Haridra* and *Manashila*. Temperature pattern- the temperature range for *Taila paka* was maintained at 80-90°C by using *Mandagni* for 8-9 hours. At the end of procedure temperature raised up to 120-130°C (last 30 minutes). That is due to after complete evaporation of water temperature of oil increased. This temperature pattern and continuous stirring of *Taila* done in the last stage helps to attain proper *Taila paka* without burning of *Kalka*. To evaluate the quality of *Taila* minimum analytical parameters were selected. Results of all the physico-chemical parameters shows that prepared *Arkamanashiladi tailam* was good in quality and stable physically and chemically.

CONCLUSION

Arkamanashiladi Tailam is a classical formulation that has reference in Chakradatta and Bhaishajya ratnavali. This formulation is indicated in *Kandu* and *Pamadi kushtarogas*. Oil was prepared following the standard method of preparation of *Taila*. On completion of process 60 percent of final oil was obtained. Significant loss was noted after the preparation of *Tailam*. Results of analytical study found to be within the reference standard and the *Tailam* can be used for further studies in future on *Arkamanashiladi tailam* standardization with different samples.

REFERENCES

1. Sharangadharacharya, Sharangadhara samhitha with Dipika and Goodartha dipika commentary, madhyama khanda, edited by Pandit Prasurama Sastri, Vidyasagar, Chaukhambha Orientalia, Varanasi, 7th Edn, 2008.p.212.
2. Chakrapanidatha, Chakradatta Sanskrit text with English translation, edited by Sharma P V Chaukhambha Orientalia, 2007, p.408.
3. Vagbhatacharya, Rasaratna samuchaya Sanskrit text with English translation by Ashok D Satpute, Chaukhamba Sanskrit pratisthan, Delhi, p.71.
4. Gyanendra Pandey, Dravyaguna vijnana, part 1, chowkhamba krishnadas academy, Varanasi, 3rd Edn, 2005, p.203-208.
5. Anonymous, Ayurveda pharmacopeia of India, part 1, vol.3, p.279-280.
6. Gyanendra Pandey, Dravyagunavijnana, part 1, Chowkhamba Krishnadas academy, Varanasi, 3rd Edn, 2005 p.737-738.
7. Rasa tarangini of Sri Sadananda sarma, English translation by Ravindra Angadi Chaukhamba surbharati prakashan, Varanasi, 1st Edn, 2015, p.174.

Cite this article as:
Mrudula Divakaran, K L Virupaksha Gupta, Saravanan B. Pharmaceutical Study of Arkamanashiladi Tailam. International Journal of Ayurveda and Pharma Research. 2021;9(11):9-14.
https://doi.org/10.47070/ijapr.v9i11.2114
Source of support: Nil, Conflict of interest: None Declared

***Address for correspondence**
Dr. Mrudula Divakaran
II Year PG Scholar,
Department of Rasa Shastra and Bhaishajya Kalpana, Sri Jayendra Saraswathi Ayurveda College and Hospital, Nazarathpet, Chennai.
Email:
mruduladivakaran64@gmail.com

Figure 1: Ingredients of *Manashila shodana*

***Ardraka* (Ginger)** | ***Ardraka swarasa* (Ginger Juice)** | ***Ashodita Manashila* (unpurified realgar)**

Figure 2: *Manashila shodana* with *Ardraka swarasa*

Bhavana* with *Ardraka swarasa | **After 4th *Bhavana*** | **After 7th *Bhavana*** | ***Shodita manashila* (Purified realgar)**

Figure 3: Ingredients of *Arkamanashiladi tailam*

Arka patra | ***Arkapatra swarasa*** | ***Sarshapa tailam*** | ***Haridra churnam*** | ***Shoditha Manashila***

Figure 4: Preparation of *Arkamanashiladi tailam*

Manashila* + *Haridra kalka | **Last stage of *Tailapaka*** | **Filtration of *Tailam*** | ***Arkamanashiladi tailam***