

PHARMACEUTICAL STUDY OF MAHAMAASH TAILA AND ASHWAGANDHADYA GHRITA – A POLY HERBAL FORMULATIONS

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ABSTRACT

Aacharya Sushruta has explained twenty eight types of *Karna Rogas* and *Karana-naada* is one of them. Vitiated *Vata Dosha* either entering into other channels (*Vimarga Gamana*) or encircled by *Kaphadi Doshas (sangam)* in *Sabdavaha Srotas* produces different types of sounds in the ear like Bheri, Mrudanga, Shankha etc. is known as *Karna Nada*. The clinical features of *Karnanada* relates to Tinnitus in modern science. So the present study was carried out to standardize the finished product *Mahamaash Taila* and *Ashwagandhadya Ghrita* to confirm its identity, purity and quality. Physicochemical analysis of *Mahamaash Taila* shows loss on drying 0.17%, total solid content is

99.83%, refractive index is 1.467, Sp gravity is 0.0926, Thin Layer Chromatography showed 9 and 6 Spots. Physicochemical analysis of *Ashwagandhadya Ghrita* shows loss on drying is 0.15%, total solid content is 99.85%, refractive index is 1.412, Thin Layer Chromatography showed 7 Spots. This shows the presence of certain definite constituents in the *Mahamaash Taila* and *Ashwagandhadya Ghrita* and is helpful for the easy separation of these constituents.

KEYWORDS: *Karna Nada*, *Ashwagandhadya Ghrita*, *Mahamaash Taila*, HPTLC, Pharmaceutics.

INTRODUCTION

The term *Karnanada* is basically derived from two root words *karna* and *Nada*.

Karna – The organ of hearing.

Nada – Sound or ringing in the ear.

Karna is one of the *Adhithana* of *Vata- Dosha* and according to *Acharya Charaka*, *Karnanada* is a *Vataja Nanaatmaja Vyadhi*^[1] and mainly *Vata* predominant causative factors are responsible for *Karnanada*. *Snehana* becomes important to control the localised increased *Vata Dosha*. It can be said that *Karna Nada* is a *vata* predominant disease. So the ingredients of the selected drug were those which were having *Vata shamaka* properties.

So the present study was carried out to analyze the physico-chemical properties of *Mahamaash Taila*^[2] and *Ashwagandhadya Ghrita*.^[3]

MATERIALS AND METHODS

Collection of the Drug

Raw drugs of *Mahamaash Taila* and *Ashwagandhadya Ghrita* were procured from and were Identified and Authenticated at Pharmacognosy laboratory.

Table No 1: Ingredients of Mahamaash Taila.

Sr. No.	Name of Plant	Botanical name	Family	Part used	Quantity
1	<i>Til taila</i>	<i>Sesamum indicum</i> Linn.	Pedaliaceae	Seed oil	1 L
Kwath Dravya					
2	<i>Bilva</i>	<i>Aegle marmelos</i> Corr.	Rutaceae	Root	400g
3	<i>Agnimanth</i>	<i>Premna mucronata</i> Roxb.	Veberaceae	Root	400g
4	<i>Shyonak</i>	<i>Oroxylum indicum</i> Vent.	Bignoniaceae	Root	400g
5	<i>Patla</i>	<i>Stereospermum suaveolens</i> DC.	Bignoniaceae	Root	400g
6	<i>Gambhari</i>	<i>Gmelna arborea</i> Linn.	Verbenaceae	Root	400g
7	<i>Shalparni</i>	<i>Desmodium gangeticum</i> DC.	Fabaceae	Root	400g
8	<i>Prishniparni</i>	<i>Uraria picta</i> Desv.	Fabaceae	Root	400g
9	<i>Brihati</i>	<i>Solanum indicum</i> Linn.	Solanaceae	Root	400g
10	<i>Kantakari</i>	<i>Solanum surattense</i> Burm. f.	Solanaceae	Root	400g
11	<i>Gokshura</i>	<i>Tribulus terrestris</i> Linn.	Zygophyllaceae	Root	400g
12	<i>Mash</i>	<i>Phaseolus mungo</i> Linn.	Fabaceae	Fruit	4 kg
13	<i>Go-dugdha</i>	Cow's milk		Milk	1 L
Kalka Dravya					
14	<i>Ashwagandha</i>	<i>Withania somnifera</i> Linn.	Solanaceae	Root	10 g
15	<i>Shati</i>	<i>Hedychium spicatum</i> Buch-Ham	Zingiberaceae	Rhizome	10 g
16	<i>Daruharidra</i>	<i>Berberis aristata</i> DC.	Berberidaceae	Heart wood	10
17	<i>Bala</i>	<i>Sida cordifolia</i> Linn.	Malvaceae	Root	10 g
18	<i>Rasna</i>	<i>Pluchea lanceolata</i> C.B. Clarke	Compositae	Leaf	10 g
19	<i>Gandh Prasarini</i>	<i>Paederia foetida</i> Linn.	Rubiaceae	Root	10 g
20	<i>Kushtha</i>	<i>Saussurea lappa</i>	Compositae	Root	10 g

		C.B. Clarke			
21	Parushak	<i>Grewia asiatica</i> D. Don.	Tiliaceae	Fruit	10 g
22	Bharangi	<i>Clerodendrum serratum</i> Linn.	Verbenaceae	Root	10
23	Vidari kand	<i>Pueraria tuberosa</i> DC.	Leguminasae	Rhizome	10 g
24	Varahi kand	<i>Dioscorea bulbifera</i> Linn.	Dioscoreace	Rhizome	10 g
25	Punarnava	<i>Boerhavia diffusa</i> Linn.	Nyctaginaceae	Whole plant	10 g
26	Matulung	<i>Citrus medica</i> Linn.	Rutaceae	Fruit	10 g
27	Jeerak	<i>Cuminum cyminum</i> Linn.	Umbelliferae	Fruit	10 g
28	Hingu	<i>Ferula narthex</i> Boiss.	Umbelliferae	Exudates	10 g
29	Saunf	<i>Anethum sowa</i> Kurz.	Umbelliferae	Fruit	10 g
30	Shatavari	<i>Asparagus racemosus</i> Willd.	Lilliaceae	Rhizome	10 g
31	Gokshur	<i>Tribulus terrestris</i> Linn.	Zygophyllaceae	Whole plant	10 g
32	Pippali	<i>Piper longum</i> Linn.	Pieraceae	Fruit	10 g
33	Chitraka	<i>Plumbago zeylanica</i> Linn.	Plumbaginaceae	Root	10 g
34	Ashwagandha	<i>Withania somnifera</i> Linn.	Solanaceae	Root	10 g
35	Shatavari	<i>Asparagus racemosus</i> Willd.	Lilliaceae	Rhizome	10 g
36	Vidari kand	<i>Pueraria tuberosa</i> DC.	Leguminase	Rhizome	10 g
37	Varahi kand	<i>Dioscorea bulbifera</i> Linn.	Leguminase	Rhizome	10 g
38	Saindhav lavana	Rock salt		-	10 g

Table no 2: Ingredients for Til Tail Murchna.

Sr. No	Name of plant	Botanical Name	Family	Part used	Quantity
1.	Manjishtha	<i>Rubia codifolia</i> Linn.	Rubiaceae	Root	2 parts
2.	Haritaki	<i>Terminalia chebula</i> Retz.	Combretaceae	Fruit	1 part
3.	Bibhitak	<i>Terminalia Bellirica</i> Roxb.	Combretaceae	Fruit	1 part
4	Amalaki	<i>Emblica officinalis</i> Gaertn.	Euphorbiaceae	Fruit	1 part
5	Haridra	<i>Curcuma longa</i> Linn.	Zingiberaceae	Stem	1 part
6	Lodhra	<i>Symplocos racemosa</i> Roxb.	Symplocaceae	Bark	1 part
7	Nagarmotha	<i>Cyperus rotundus</i> Linn.	Cyperaceae	Stem	1 part
8	Dalchini	<i>Cinnamomum zeylanicum</i>	Lauraceae	Bark	1 part
9	Kevda	<i>Pandanus odorotissimus</i> Linn.	Pandanaceae	Root	1 part
10	Vatt	<i>Ficus bengalensis</i> Linn.	Moraceae	Leafbud	1 part

Method of Preparation of Mahamaash Taila

This process involves two steps, firstly murchna of tila taila is carried out as per Bhaishya Ratnavali with the durgs mentioned in table no 2 in this section then coarsely powdered drugs (no.2 to 13) mentioned in table no1 is boiled with 16 parts of water in an earthen pot

over a mild heat till the liquid is reduced to 1/4 of the original quantity. This liquid is known as kwath, then kwath is added to murcchit tila taila, and then sneha paka of tila taila along with kalka dravya (no 14 to 38) in table no 1 until the appearance or lakshna of samyaka sneha siddhi. Then taila paka completed with all its examination allowed to cool and packing. Then taila is used as medicine for karnapurna purpose.

Table No 3: Ingredients of Ashwagandhadhya Ghrita.

Sr. No.	Name of plant	Botanical name	Family	Qty.
1.	Ashwagandha churna (Kalkartha)	Withania sominifera (Linn.) Dunal	Solanaceae	1 part
2.	Ashwagandha kshaya			16 part
3.	Godugdha			16 part
4.	Goghrita			4 part

Murchhna of Goghrita is performed to eliminate the aam dosha from ghrita. In this process ghritapaka is performed along with following drugs:

Table No: 4.

Sr. No.	Name of plant	Botanical name	Family	Parts used	Qty.
1.	Haritaki	Terminalia chebula Retz.	Combretaceae	Phala	1/15 th Part each
2.	Bibhitaki	Terminalia bellirica Roxb.	Combretaceae	Phala	
3.	Amalaki	Emblica officinalis Gaertn.	Euphorbiaceae	Phala	
4.	Haridra	Curcuma longa Linn.	Zingiberaceae	Kanda	
5.	Nagarmotha	Cyperus rotundus Linn.	Cyperaceae	Moola	
6.	Matulunga	Citrus medica Linn.	Rutaceae	Phala	
7.	Goghrita				1 part
8.	Water				1 part

Method of preparation of Ashwagandha Ghrita

Ashwagandha churna is prepared and mixed with water to prepare kalka. This kalka is added to Murchhita Goghrita and Godugdha and paka is carried out on mandagni. Meanwhile kshaya of Ashwagandha is prepared with which paka of ghrita is done again. After that kalka is again added along with Godugdha and paka of ghrita is done along with water.

Organoleptic Evaluation

Various parameters of the material such as colour, odour, touch and taste of the Mahamaash Taila and Ashwagandhadhya Ghrita were observed and recorded.

Physico-chemical Analysis

Physico-chemical analysis was carried out by following the parameters. Physicochemical analysis like loss on drying at 110°C^[4], pH value^[5], ash value^[6], water soluble extractive^[7], methanol soluble extractive^[8] were recorded

Determination of Specific gravity^[9]

The specific gravity of a liquid is the weight of a given volume of the liquid at 25 OC (Unless otherwise specified) compared with the weight of an equal volume of water at the same temperature, all weighing being taken in air.

Procedure

A Pycnometer of 25 ml, capacity is cleaned, dried and weighed. It is filled up to the mark with water at the required temperature and weighed. The Pycnometer is next filled up to the mark with the sample, at the same temperature and weighed. The specific gravity is determined by dividing the weight at the sample in grams by the weight of the water, expressed in gram.

High Performance Thin Layer Chromatography^[10]

High performance thin layer chromatography (HPTLC) is an invaluable quality assessment tool for the evaluation of botanical materials. It allows for the analysis of a broad number of compounds both efficiently and cost effectively. Additionally, numerous samples can be run in a single analysis thereby dramatically reducing analytical time. With HPTLC, the same analysis can be viewed using different wavelengths of light thereby providing a more complete profile of the plant than is typically observed with more specific types of analyses.

Procedure

First of all, take a drop of sample and diluted with haxen (as per require) then application of the sample at the one end of the precoated plate through linomat V (150 µl/sec) then on the sample zone again applied 7% alcoholic KOH then leave for 10-15 minutes at 60-80°C in oven. The plate is then developed by the suitable mobile phase in a chromatographic chamber which was previously saturated with the mobile phase. Then after development it is visualized into day light, short UV (254nm) and / or by derivatization of the plate with suitable reagent. The R_f value and the colours of resolved bands and fingerprinting profiles are recorded.

OBSERVATIONS AND RESULTS**Organoleptic Evaluation**

Various parameters of the material such as colour, odour, touch and taste of the *Mahamaash Taila* and *Ashwagandhadya Ghrita* were observed and recorded.

Table no 5: Organoleptic characters of Mahamash Taila.

No	Properties	Observation
1.	Rupa (colour)	Yellowish
2.	Gandha (odour)	Characteristic
3.	Rasa (Taste)	Kashya
4.	Sparsh (Touch)	Smooth

Table no 6: Organoleptic characters of Ashwagandhadya Ghrita.

No	Properties	Observation
1.	Rupa (colour)	Yellow
2.	Gandha (odour)	Characteristic
3.	Rasa (Taste)	Bitter
4.	Sparsh (Touch)	Smooth

Analytical Study

Results of the analytical study of *Mahamaash Taila* and *Ashwagandhadya Ghrita* are as follows.

Physico-chemical Constants

The results are depicted in **table: 7 -8**.

Table no 7: Physico-chemical Constants of Mahamaash Taila.

Sr. No	Test	Result
1	Loss on drying	0.17%
2	R.I	1.467
3	Sp. Gravity	0.926
4	Total solid	99.83%

Table no: 8: Physico-chemical Constants of Ashwagandhadya Ghrita.

Sr. No	Test	Result
1	Loss on drying	0.15%
2	R.I	1.4612
3	Sp. Gravity	0.926
4	Total solid	99.85%

High Performance Thin Layer Chromatography (HPTLC)

In HPTLC, 9 and 6 spots were observed in *Mahamaash Taila*.

In HPTLC, 6 spots were observed in *Ashwagandha Ghrita*.

Table no 9: Chromatographic results of *Mahamash taila*.

Rf values	0.13, 0.17, 0.25, 0.35, 0.43, 0.50, 0.55, 0.77, 0.83 0.14, 0.26, 0.35, 0.65, 0.80, 0.85
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Table no 10: Chromatographic results of *Ashwagandha Ghrita*.

Rf values	0.13, 0.24, 0.34, 0.52, 0.73, 0.81, 0.85
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CONCLUSION

Results obtained in Physiochemical parameters of *Mahamash taila* and *Ashwagandhadya Ghrita* are within limits mentioned by Ayurvedic Pharmacopoeia of India. HPTLC profile of *Mahamash taila* and *Ashwagandhadya Ghrita* showed similar in number of spots. This profile can be used for the identification of the medicinally important formulation of *Mahamash taila* and *Ashwagandhadya Ghrita*. Present work can be considered as the first step towards identifying the following methods through HPTLC analysis. This is the preliminary analysis and meticulous nature along with depiction is to be carried out.

REFERENCES

1. Pt. Kashinathshastri and Dr. Gorakhanath Chaturvedi, Charaka Samhita of Charaka with Vidyostini Hindi Commentary, Sutrasthana, Reprint edition; chapter 1 versus 43 Varanasi: Chaukhamba Bhabharati academy, 2006; 18.
2. Shri Chakrapanidatta, Chakradatta Hindi commentary Vaidyaprabha by Indradev Tripathi, Reprint edition, 2005; chapter 22 versus 192-200, Varanasi: Chaukhamba Sanskrit Sansthan, 154.
3. Shri Chakrapanidatta, Chakradatta Hindi commentary Vaidyaprabha by Indradev Tripathi, Reprint edition, 2005; chapter 22 versus 91, Varanasi: Chaukhamba Sanskrit Sansthan, 148.
4. Indian Pharmacopoeia, Appendix 8 (8.6). New Delhi: Govt. of India, Ministry of Health and Family Welfare, The Controller of Publication, 1996; II: A-89.
5. Indian Pharmacopoeia, Appendix 8 (8.11). New Delhi: Govt. of India, Ministry of Health and Family Welfare, The Controller of Publication, 1996; II: A-95.

6. The Ayurvedic Pharmacopoeia of India, Vol. VI, Part 1, Appendix -2 (2.2.3). 1st ed. New Delhi: Govt. Of India, Ministry of Health and Family Welfare, 2008; 242.
7. The Ayurvedic Pharmacopoeia of India, Vol. VI, Part 1, Appendix -2 (2.2.8). 1st ed. New Delhi: Govt. of India: Ministry of Health and Family Welfare, 2008; 243.
8. The Ayurvedic Pharmacopoeia of India, Vol. VI, Part 1. Appendix -2 (2.2.7). 1st ed. New Delhi: Govt. of India: Ministry of Health and Family Welfare, 2008; 243.
9. The Ayurvedic Pharmacopoeia of India, 1st edition, Govt. of India, 2007; 1; Part 2, appendix 3; 212-213.
10. Anonymous, Planner Chromatography, Modern Thin layer Chromatography, Switzerland, 1999; 2-16.