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RESEARCH ARTICLE

A PHARMACEUTICAL STUDY OF MANAHSHILADI GHRITA

Kirkire Rashmi Shrikant[1], Sudhindra A.N.[2] and Aditya A. Samant[3]

1. PG Scholar, Post Graduate Department of Rasashastra and Bhaishajya Kalpana, Gomantak Ayurved Mahavidyalaya and Research Centre, Shiroda, Goa.
2. Guide, Professor, HOD, Post Graduate Department of Rasashastra and Bhaishajya Kalpana, Gomantak Ayurved Mahavidyalaya and Research Centre, Shiroda, Goa.
3. Co guide, Professor, Post Graduate Department of Rasashastra and Bhaishajya Kalpana, Gomantak Ayurved Mahavidyalaya and Research Centre, Shiroda, Goa.

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Abstract

Rasashastra and Bhaishajya Kalpana form the scientific base by providi ng methods to prepare potent Ayurvedic medicines used across all eight branches. These medicines are made in different forms called Aushadhi Kalpanas, containing ingredients from herbal, mineral and animal sourc es. Manahshiladi Ghrita is one such formulation, consisting of substanc es from plant, animal and mineral origins, prepared using Ghrita as the base. It is described in Charaka Chikitsa Sthana, 17th Chapter, Hikka – Shwasa Rogadhikara [(1)].To enhance the quality and therapeutic strength of Ghrita, Acharyas recommend the process of Murcchana, which removes impurities and boosts efficacy. The article explains the pharmaceutical steps involved in preparing Murcchita Ghrita and formulating Manahshiladi Ghrita.

Introduction :-

Rasashastra & Bhaishajya Kalpana are the crucial branches forming the scientific foundation for preparation of Ayurvedic medicines. Potent medicine is the inherent part of all the 8 branches of Ayurveda. Rasashastra & Bhaishajya Kalpana provide essential methodologies for creating such potent and effective medicines. The various formulations prepared in Ayurveda are called as Aushadhi Kalpanas. These formulations contain the combination of medicines of different origins, like herbal, mineral and animal origin. Manahshiladi Ghrita, mentioned in this article is a unique combination of Vanaspatija, Pranija as well as Khanija origin Dravyas added with Ghrita as Sneha Dravya. It is described in Charaka Chikitsasthana, 17th Chapter, Hikka-Shwasa Rogadhikara. To amplify the properties of Ghrita, the specialized process of Murcchana [(2)] is described by our Acharyas. Use of Murcchita Ghrita for Ghrita Siddhi, helps to remove Aamadosha from Sneha by increasing its potency and efficacy. The article describes all the necessary pharmaceutical procedures carried out for the process of Ghrita Murcchana and preparation of Manahshiladi Ghrita.

Corresponding Author :- Kirkire Rashmi Shrikant
Address: PG Scholar,Post Graduate Department of Rasashastra and Bhaishajya Kalpana,Gomantak AyurvedMahavidyalaya and Research Centre, Shiroda, Goa.

Literary Review :-

For the Pharmaceutical Study, all the data was collected from classical texts.

Pharmaceutical Study :-

The study documents all pharmaceutical procedures in detail to ensure authenticity and reproducibility.
Key procedures include**:**

1. Ghrita Murcchana to enhance the quality and efficacy of Go-ghrita.
2. Shodhana of Manahshila [(3)] to ensure its safety and therapeutic value.
3. Preparation of Manahshiladi Ghrita following classical Ayurvedic principles.

All raw materials required for the study were procured from authentic and reliable sources**.**

Ghrita Murcchana :-

For preparation of Kalka for Ghrita Murcchana, Nimbu Swarasa [(4)] was used. It was extracted by using the following procedure.

Fresh, matured Nimbu fruits were washed, dried, cut and squeezed to extract the Swarasa. The juice was then filtered through a clean cotton cloth, collected in a clean dry container and used for preparation of Kalka for Ghrita Murcchana. The obtained Swarasa was light yellow in colour.

Table 1: Ingredients used for Ghrita Murcchana

No	Dravya	Used as	Scientific Name	Part Used	Used quantity
1	Haritaki	Kalka Dravyas	Terminalia chebula	Fruit	220 gms
2	Bibhitaki		Terminalia bellirica	Fruit	220 gms
3	Amalaki		Emblica officinalis	Fruit	220 gms
4	Musta		Cyperus rotundus	Tuber	220 gms
5	Haridra		Curcuma longa	Rhizome	220 gms
6	Nimbu Swarasa		Citrus medica	Fruit	Q.S.
7	Go-ghrita	Sneha Dravya	Cow Ghee	-	3520 gms
8	Jala	Drava Dravya	Water	-	14080 gms

Procedure :-

The procedure was completed in four days.

Ghrita Murcchana – Day 1 :-

Before the actual process of Murcchana, the Go-ghrita was warmed and allowed to melt completely.

Primary melting and warming of Go-ghrita :-

3520 g of Go-ghrita was taken in a clean, dry, wide-mouthed stainless-steel vessel. It was light yellow in colour. Its initial temperature was 26.6°C. On mild heating, it began melting at 32.2°C. Small bubbles appeared at the base at 63°C and disappeared at 66°C. Taranga-like movements were seen at 64°C and subsided at 67°C. Heating was then stopped and the Ghrita was allowed to get Swangashitata, after which it was used for further procedures.

Preparation of Kalka for Ghrita Murcchana :-

220 gms of each of the Dravya for Murcchana was weighed. It was taken in a stainless-steel utensil and added with enough quantity Nimbu Swarasa. All the ingredients were mixed well and Kalka was prepared. It was Brown in colour.

Ghrita Murcchana :-

Swangashita Ghrita was reheated mildly and the prepared Kalka was slowly added and mixed thoroughly. Then 14,080 g of water was added. The mixture was dark yellow, while the Kalka was yellowish-brown in colour. Mild to moderate heating continued with a gradual rise in temperature. A distinct Haridra and Triphala aroma were noted throughout the procedure. Intermittent stirring was done to prevent the Kalka from sticking to the bottom of the vessel.

Ghrita Murcchana - Day 2 :-
The Ghrita was heated mildly, with the temperature increasing gradually. The mixture turned yellowish-green, while the Kalka remained yellowish-brown. The characteristic Haridra and Triphala aroma persisted and intermittent stirring was maintained to prevent the Kalka from sticking to the vessel.

Ghrita Murcchana - Day 3:-
The Ghrita was heated mildly with a gradual rise in temperature. It was of yellow to slight green in colour. There was Phenotpatti in Ghrita. The characteristic smell of Haridra and Triphala persisted. Intermittent stirring continued to prevent the Kalka from sticking to the bottom and heating was maintained until Sneha Siddhi Lakshanas were achieved.

Ghrita Murcchana - Day 4 :-
The Ghrita was heated mildly with a gradual rise in temperature. Intermittent stirring was maintained and the mixture turned yellowish-orange. Heating continued until Sneha Siddhi Lakshanas appeared.
The Sneha Kalka formed a proper Varti,
Phenotpatti was followed by Phenashanti**,**
The Kalka no longer adhered to the vessel,
When placed in Agni, the Kalka produced no sound, indicating complete moisture removal.
After all Siddhi Lakshanas were confirmed, Agni was put off.

Filtration of Murcchita Ghrita :-
The hot Murcchita Ghrita was filtered through a cotton cloth to maximize yield, producing 3010 g of yellowish-green filtrate collected in a wide-mouthed vessel for further use. After filtration, the Sneha Kalka was seen with the marks of the Vastra.

- ✓ Total Days required for Ghrita Murcchana – 4 days
- ✓ Date of Starting – 28/11/2024
- ✓ Date of completion – 1/12/2024
- ✓ Total hrs. of Agni Samparka – 20 hrs. 40 Min
- ✓ Used quantity – 3520 gms
- ✓ Quantity gained – 3010 gms
- ✓ Total gain – 85.52 %
- ✓ Total loss – 14.48 %.

Table 2: Observations of 4 days of Ghrita Murcchana

No	Reading	Day 1	Day 2	Day 3	Day 4
1	Agni Samparka	35 min	7 hrs.	8 hrs.	5.15 hrs.
2	Max Temp	67 ^{0}C	97.6 ^{0}C	95.3 ^{0}C	96.6 ^{0}C
3	Sneha Varti	-	-	-	+ +
4	Shabdotpatti (Agni Samparka)	-	+ +	+ +	-
5	Kalka	-	Liquid	Semi solid	Soft
6	Phenodgama	-	+ +	+ +	+ +
7	Phenashanti	-	-	-	+ (87.9^{0}C)
8	Gandha	Ghrita	Haridra + + Triphala	Haridra + + Triphala	Haridra + + Triphala

9	Varna	Dark Yellow	Yellowish Green ++	Yellowish + + Green tinge	Yellowish Green

Shodhana of Manahshila :-

Procedure of Ardraka Swarasa Nirmana :-

Fresh, mature Ardraka (50 g) was washed, dried and pounded in a Khalva Yantra to prepare Kalka. The Kalka was placed in a clean cloth and squeezed to extract the Swarasa. About 30 ml of Ardraka Swarasa was obtained each time and this procedure was repeated seven times for further use.

Procedure :-

Ashuddha Manahshila was powdered in a Khalva Yantra and triturated with freshly prepared Ardraka Swarasa. This process was repeated for seven Bhavanas until the powder became completely dry each time. After the 7th Bhavana, the purified Manahshila was collected, dried and stored for further use.

Table 3: Observations of Manahshila before and after Shodhana

Manahshila	ASM	SM
Colour	Light Orange	Bright Orange
Odour	Manahshila specific	Ardraka specific
Appearance	Dry	Smooth
Consistency	Rough, Solid	Smooth, Powdery, not spilling out of Khalva Yantra

Manahshiladi Ghrita Nirmana / Ghrita Siddhi :-

Table 4: Ingredients for Manahshiladi Ghrita

No	Ingredient		Latin / English Name	Quantity
1	Shuddha Manahshila	Kalka Dravya	Arsenic disulphide	15 gm
2	Sarjarasa		Vateria indica	15 gm
3	Laksha		Laccifer lacca	15 gm
4	Haridra		Curcuma longa	15 gm
5	Padmakashtha		Prunus cerasoides	15 gm
7	Manjishtha		Rubia cordifolia	15 gm
8	Ela		Elettaria cardamomum	15 gm
9	Murcchita Ghrita	Sneha Dravya	-	960 gms

Jala was added 4 times of Ghrita (3840 gms). The process of Murcchana was carried out once and the same Murcchita Ghrita was used for the preparation of all three batches of Manahshiladi Ghrita

Preparation of Kalka for Ghrita Siddhi :-

15 gms of each Kalka Dravyas was weighed carefully. It was taken in a wide-mouthed stainless-steel container and mixed well. Water was added as per the requirement. Kalka was brown in colour and used for further procedure.

Manahshiladi Ghrita Siddhi - Day 1 :-

960 g of Murcchita Ghrita was taken, mixed with the prepared Kalka, and four times its quantity of water (3840 g) was added. The mixture was heated mildly to moderately with intermittent stirring. Sneha Siddhi Lakshanas were

checked. Phenodgama was observed, a distinct Sulphur–Arsenic smell was noted, Varti of the Kalka did not form and the Kalka produced sound when exposed to flame, indicating the process was still incomplete.

Manahshiladi Ghrita Siddhi - Day 2 :-
On Day 2, the mixture was heated mildly to moderately and observed for Siddhi Lakshanas. Phenodgama followed by Phenashanti occurred. The Kalka formed a proper Varti and produced no sound when placed in fire, indicating complete moisture removal. A characteristic smell and reddish-orange colour developed. After confirming all Siddhi LakshanasAgni was put off.

Filtration of Manahshiladi Ghrita :-
The hot, Siddha Ghrita was filtered and stored in a clean airtight container as Manahshiladi Ghrita. The filtrate obtained was reddish-orange in colour and the Sneha Kalka showed cloth markings after filtration. The same procedure was repeated two more times, resulting in a total of three batches of Manahshiladi Ghrita prepared using the identical method.

Table 5: Observations of each batch of Manahshiladi Ghrita

NO	Observations		MG 1	MG 2	MG 3
1	Duration		2 Days	2 Days	2 Days
2	Hrs. of Agnisanskara		12 hrs. 32 min	12 hrs. 40 min	12 hrs. 20 min
3	Max Temp Noted		101.3	103.8	106.1
4	Sneha Siddhi Lakshana	Varti of Kalka	+	+	+
		Shabda Hina	+	+	+
		Phenashanti	+	+	+
		Gandha, Varna	+	+	+
5	Quantity used		960 gm	960 gm	960 gm
6	Quantity gained		850 gm	800 gm	860 gm
7	Total Gain		88.54 %	83.33 %	89.58 %
8	Quantity Lost		110 gm	160 gm	100 gm
9	Total Loss %		11.46 %	16.67 %	10.42 %
10	Specific Signs During the procedure		Slight burning of the eyes and tip of the nose	Slight burning of the eyes and tip of the nose	Slight burning of the eyes and tip of the nose
11	Varna		ReddishOrange	Reddish Orange	Reddish Orange
12	Gandha During the procedure		Sulphur + Arsenic specific	Sulphur + Arsenic Specific	Sulphur + Arsenic Specific
13	Completion of Procedure		No burning Sensation	No burning Sensation	No burning Sensation
14	Gandha		Specific	Specific	Specific

15	Dates of the procedure	7/12/2024 to 8/12/2024	11/12/2024 to 12/12/2024	15/12/2024 to 16/12/2024

Results :-

The obtained results are included alongwith the procedure in the article.

Discussion :-

In this section, the facts revealed from the literature review and the observations during the study are discussed and interpreted. The process of Ghrita Murcchana helps for Aama Dosha Nashana, Veerya Vriddhi, enhanced colour, odour and potency of Go-ghrita. Shelf life of added Dravyas gets enhanced. Out of the various Shodhana Dravyas described, Ardraka Swarasa was used for the Shodhana of Manahshila, which was used for Manahshiladi Ghrita Nirmana. Ardraka has Hikka, Kasa and Shwasahara properties and acidic pH, while Manahshila is alkaline in nature. Bhavana of Ardraka reduces the Alkalinity of Manahshila and it becomes safer for use. After the Shodhana process, due to the addition of starch material present in Ardraka, 13 gms, which means 10.4 % of weight gain was observed in the original weight of Manahshila. Ashuddha Manahshila, which was Ruksha in nature, was found to be Snigdha and Shlakshna after Shodhana.

Due to pounding and trituration, the particle size was remarkably reduced which will help with the better absorption. The Dravyas used for Manahshiladi Ghrita are Hikka, Shwasa and Kasa Hara in nature, hence they enhance the therapeutic efficacy of Go-ghrita. Addition of Jala as Drava Dravya during Sneha Paka causes in the better extraction of water-soluble active principles of the herbal Drugs into the Sneha. Intermittent stirring prevents the Kalka from adhering to the bottom of the utensil. During the process of Ghrita Murcchana and the Manahshiladi Ghrita Siddhi, the Sneha Siddhi Lakshanas, as mentioned above, were checked carefully. They indicate the loss of moisture from Sneha Dravya. Changa in colour and odour of Ghrita indicates, Sanskara of specific Dravyas on the Ghrita. Filtration of Murcchita and Siddha Ghrita was done at the hot stage, allowing the extraction of the optimum quantity of Ghrita from the Kalka and improving the amount of final yield.

Summary :-

The pharmaceutical study documents the practical procedures undertaken, including the preparation of Nimbu Swarasa, Ardraka Swarasa, Ghrita Murchhana, Shodhana of Manahshila and formulation of Manahshiladi Ghrita. These processes were systematically carried out and recorded to ensure authenticity, reproducibility and scientific validity, forming the experimental base of the study.

Conclusion :-

- ✓ The present study was undertaken with a clear need and relevance, aiming to explore the principles and applications of Sneha Kalpana, with special focus on Manahshiladi Ghrita.
- ✓ In this study, the classical concepts were correlated with the actual pharmaceutical observations.
- ✓ The study opened pathways for future research, especially in the standardisation of Ayurvedic formulations and their wider validation through modern scientific tools.
- ✓ The objectives of the study were fulfilled and a strong foundation was laid for further research in this area.

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