

PHARMACEUTICO-ANALYTICAL STUDY OF MAMSADHI GHRITA W. S. R. MANAGEMENT OF OBESITY

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Article Received: 16 February 2026 | Article Revised: 8 March 2026 | Article Accepted: 29 March 2026

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PG Scholar, Professor Department of Rasashastra and Bhaishajya Kalpana, DGM Ayurvedic Medical Collage, Hospital, PG and Ph.D. Studies and Research Centre Gadag, Karnataka. DOI: <https://doi.org/10.5281/zenodo.19413277>

How to cite this Article: Dr. Netravati S. Doddamani, Dr. S. P. Nidagundi, Dr. Kashimali Nadaf (2026) PHARMACEUTICO-ANALYTICAL STUDY OF MAMSADHI GHRITA W. S. R. MANAGEMENT OF OBESITY. World Journal of Pharmaceutical Science and Research, 5(4), 416-423.



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ABSTRACT

Mamsadhi Ghrita, a classical pure herbal Ghrita preparation from Yogaratnakar for Sthoulya (Obesity) which is a global health concern caused due to excessive accumulation of medo dhatu that leads to sthoulya which is one among the metabolic disturbances. **Methods:** Prepared via classical Sneha preparation. **Results:** Greenish colour ghrita with 85% yield. **Conclusion:** Mamsadhi ghrita exhibits reducing lipid accumulation with analytical results.

KEYWORDS: Mamsadhi ghrita, Bhaishajya kalpana, Obesity, Pharmaceutical & analytical parameter.

INTRODUCTION

Rasashastra and Bhaishajya kalpana is an Ayurveda pharmaceuticals, which basically represents one of the pillars of Chikitsa Chatuhspada. In recent times, it has gained wide spread of recognition due to the advancement in the field of therapeutics.

Bhaishajya Kalpana is the pharmaceutical department dealing with various types of medicinal preparations, their formulations, dosage form etc. It explains various formulations, among them Sneha Kalpana is one, in which the unique formulations are prepared by using Chaturvidha Snehas i.e., Taila, Ghrita, Vasa & Majja as the base. To preserve the drugs for longer time and extract the fat-soluble active principles of plants & minerals.

Ghrita is derived from “Ghru” means sprinkled and “Tha” means water. This word is mentioned in Rigveda. Ghee or butter which has been boiled gently, and allowed to cool, it is then used for culinary and religious purpose and is highly esteemed by the Hindus.

As per bhavaprakasha, The ghee stored in air tight container made of iron or steel or mud pot for one year is called Purana ghrita. Purana means old, has very unique benefits in neurological and psychological disorders. As per Charaka, it should be 10 years old. Ghrita have Tikta & Kashaya rasa, Sheetaveerya which cures all types of demoniac seizures. It promotes intellects and as a purgative, it is excellent.

Ghrita is tridoshamaka, pacifies Vata by its unctuousness, kapha by pacifying drugs / medicines, and pitta by its coldness. Therefore, ghee is useful in all forms of disease like fire subsides with water. Ghrita is administered to manage chronic condition. No other Sneha brings the refinement properties of samskara (processing with drugs / medicines) as ghee and therefore it is said the best one of all the snehas. Ghrita is superior as it possesses the qualities of samskara i.e. blending with other substances having different properties or gunas without losing its own properties or gunas. So ghrita is called Samskarasya Anuvartanat.

Atisthaulya has been mentioned in Ashta Ninditiya Adhyaya by Acharya Charaka. In Atisthaulya, one accumulates excess of Medadhatu and Mamsadhatu which leads to flabbiness of hips, abdomen, breast etc., The increase in Medo dhatu further causes symptoms like Ayu-hrasa (decrease of life span), Javoparadha (decrease in enthusiasm and activity), Krichravayavayata (difficulty in sexual act), Dourbalya (decrease in strength), Dourgandhya (bad odour), Swedabadham (excess perspiration) and Kshutpipasadhikya (excessive hunger and thirst). Obesity is the common problem for everyone irrespective of the age group. There are many formulations available and still there are many research work going on for this issue. Among them Mamsadhi ghrita is one of them on which research work is not done.

Obesity is considered as Global Epidemic condition according to WHO. The Worldwide prevalence of obesity nearly tripled between 1975 -2016. Overall, about 13% of the population, 11% of men & 15% of women were obese in 2016 to 24% in 2021. Atishoulya is one of the Santharpaniyajanya vikaras caused by improper functioning of Medo dhatwagni, results in excessive and abnormal accumulation of Medo dhatu in body. In Charaka Samhita, he also explained Athisthoulya in Ashtanindhita purusha. Medovruddhi can be considered analogous to Hyperlipidemia in modern science.

Mamsadhi ghrita having the ingredients like Jatamamsi, Kushta, Ashwagandha, Chitraka, Ativisha, Shaileya, Kutaja, Katuki, Rasna, Karkatashringi, Vayuvidangana, Tagar, Musta, Tagar, Vasa, Mundi, Eranda, Nimba, etc. Kalka dravya are taken each one tola & dravadravayas are taken each one prasrutha. Most of the drugs of Mamsadhighrita are having Laghu, Ruksha guna and Lekhaniya, Teekshna, Kapha prashamana, Medohara properties which acts on Medodhatu. Hence, I have selected Mamsadhighrita as my research activity.

AIM & OBJECTIVES

Aim

Pharmaceutico-analytical study of Mamsadhi Ghrita w.s.r. to obesity.

Objectives

- Preparation of Ghrithamurchana as explained in Bhaishajya Ratnavali.
- Preparation of Mamsadhi Ghrita as explained in Yogaratnakara.
- Analytical study was done in SDMAC&H Udipi.

MATERIALS & METHODS

Pharmaceutical study

Study design

This section includes major steps –

1. Identification and collection of raw drugs.
2. Ghrita Murchana
3. Preparation of Mamsadhi Ghrita

Identification and collection of raw drugs

Ghrita murchana drugs – Triphala, Musta, Haridra, Matulung.

Mamsadhi ghrita drugs:- Jatamamsi, Kustha, Tejapatra, Ela, Rasna, Karkatashruni, Chitraka, Vidanga, Ashwagandha, Shaileya, Tagara, Ativisha, Kutaja, Katuki, Saindhva lavana, Vasapatra, Mundi patra, Eranda patra, Nimba patra, Kantakari patra, Goghrita, Godugdha.

GhritaMurchana

Kalka: 650 g, Ghrita: 1.5 litres &

Jala: 10liter

Procedure

- Take all the Ghrita murchana drugs & weighed accurately. Made a churna separately with help of ulukhala yantra.
- Then made a kalka with adding Matulunga swarasa.
- Initially plain ghee was taken in a big stainless steel vessel and heated made into self cool.
- Then Jala and Kalka were added and boiling was started.
- The boiling was continued until all the water content evaporated from the ghrita and all the ghrita siddhi lakshanas were appreciated.
- Once the Ghrita Siddhi Lakshanas were observed, the heating process was stopped and subjected to filtration.
- The filtration was done through a clean and thick double folded Kore cloth in order to avoid the seeping of Kalka into the ghrita. The retained Kalka was squeezed in order to strain as much ghrita as possible.
- The filtered ghrita was then allowed to cool down on its own and then stored.
- The Murchita Ghrita was further used for Mamsadhighrita.

Ativisha shodhana

Before preparing mamsadhi ghrita ativisha should be purified.

- Take ativisha made a pottali kept in mudpot. Mudpot is filled with gomutra pottali is immersed in it. Kept for 3 days. Every day gomutra should be changed. After that open the pottali dry in shade, Make a choorna for ghrita preparation.

Swarasa preparation

Preparation of swarasa of vasa, Nimba, Eranda, Kantakari, Mundi.

Mamsaghi ghrita**Murchita ghrita – 1liter, Godugdha- 1 liter, Swarasa of five patra – each 1 liter, Kalka – 200 gm**

- Take all ingredients of Mamsadhi ghrita drugs, weighed, made into coarse powder separately, with help of Ulukhala yantra.
- Later kalka was prepared with jala.
- Initially the Murchita Ghrita was taken in a big stainless steel vessel.
- Later, kalka was added, after swarasa of five drug i.e Vasa, Eranda, Kantaki, Nimba and Mundi were added.
- Afterwards godugdha was added.
- The boiling was continued until all the water content evaporated from the ghee and saindhava lavana is added, when Ghrita Siddhi Lakshanas were appreciated.
- The temperature was maintained between 90-102°C.
- Once the Ghrita Siddhi Lakshanas were observed, the heating process was stopped and the ghrita was filtered.
- Filtration was done through a thick double folded core cloth into a stainless steel vessel.
- Later the ghee was allowed to cool and was stored in airtight container.

OBSERVATIONS

- Kalka was added and boiling was started and warm milk was added. The whole procedure was completed within 2 days.
- After attaining paka all the siddhi lakshanas could be appreciated such as Shabdahinatva on Agninikshepa, formation of Varti, Rasa, gandha and varna could be appreciated.

Precautions

- Continuous stirring was carried out to prevent charring of Kalka.
- Ghrita paka is stopped at Madhyama pakaavaastha.
- The mandagni is maintained throughout the procedure.

Analytical study

The action of a drug is directly proportional to many factors such as selection of genuine crude drip, Standard operating procedures, storage of finished products etc. The potency of a Formulation is the net result of the above mentioned factors, quality strength and purity of drugs. Utmost care should be taken in evaluating all the steps starting from procurement of crude drugs till storage of finished products.

Analytical study - Assessment Criteria will be carried through

- a) Organoleptic analysis
- b) Physico- chemical analysis

Both Classical & Modern Parameters**Classical parameters**

The ancient parameters for Mamsadhi Ghrita were analyzed at the Department of PG Studies in Rasashastra and Bhaishajya Kalpana, DGMAMC, Gadag.

Organoleptic parameters for Mamsadhi Ghrita like Rasa, Sparsha, Gandha, varna, Rupa.

Organoleptic characters- Color, odor, taste and touch of sample are noted using sensory organs.

Physico-chemical characters- pH, Refractive index, Specific gravity, Acid value, Saponification value, Iodine value, Peroxide value, Unsaponifiable matter, Viscosity, HPTLC.

Modern parameters

Physical tests: -was carried out at SDM centre for Research in Ayurveda and Allied sciences (Ayush center for excellence and recognized Siros by dsir), Laxminarayan Nagar, P.O.Kuthpady – 574 118, Udupi [Karnataka].

OBSERVATION & RESULT

Table no. 1: Mamsadhi ghrita result.

| | |
|---|-------|
| Initial weight of murchita ghrita | 1 kg |
| Loss | 150ml |
| Final weight after mamsadhi ghrita | 850ml |
| % of Yield | 85% |

Table no. 2: Observation of Ghrita Sneha siddhi lakshana.

| Viramati shabda | Stoppage of bubbling sounds |
|---|--|
| Prashamyati cha phena | Disappearance of the froath formation |
| Prasadamapadhate Sneha | Appearance of clarity |
| Yathasvama cha gandha varna rasotpatti | Manifestation of the desired smell, colour and taste |
| Samvartate cha bhaisajya angulibhyam mridhman | Portion of the Kalka mixed with Ghrita when rubbed with fingers takes the shape of wick. |
| Ananguligrahi | It does not adhere to the fingers |
| Anati mridu naati darunam | It is neither very hard nor very soft to touch |

Table no. 3: Organoleptic character.

| | |
|--------------------|-------------|
| Colour | Green |
| Odour | Bitter |
| Taste | Bitter |
| Consistency | Thick |
| Appearance | Transparent |

Table no. 4: Result of standardization parameters for Mamsadi ghrita.

| Parameter | Results n = 3%w/w |
|-----------------------|--------------------------|
| Refractive index | 1.45879 |
| Specific gravity | 0.8946 |
| Viscosity | 49.58 |
| pH | 6.02 |
| Acid value | 13.03 |
| Saponification value | 200.43 |
| Iodine value | 3.77 |
| Peroxide value | 1.63 |
| Unsaponifiable matter | 0.2 % |

HPTLC Result

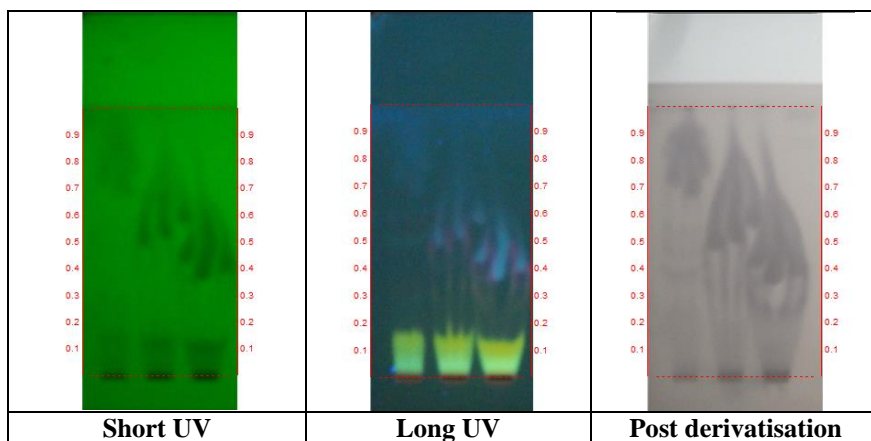


Figure 1: HPTLC photo documentation of chloroform fraction of Mamsadi ghritha.

Track 1 – Mamsadi ghritha – 3µl

Track 2 – Mamsadi ghritha – 6µl

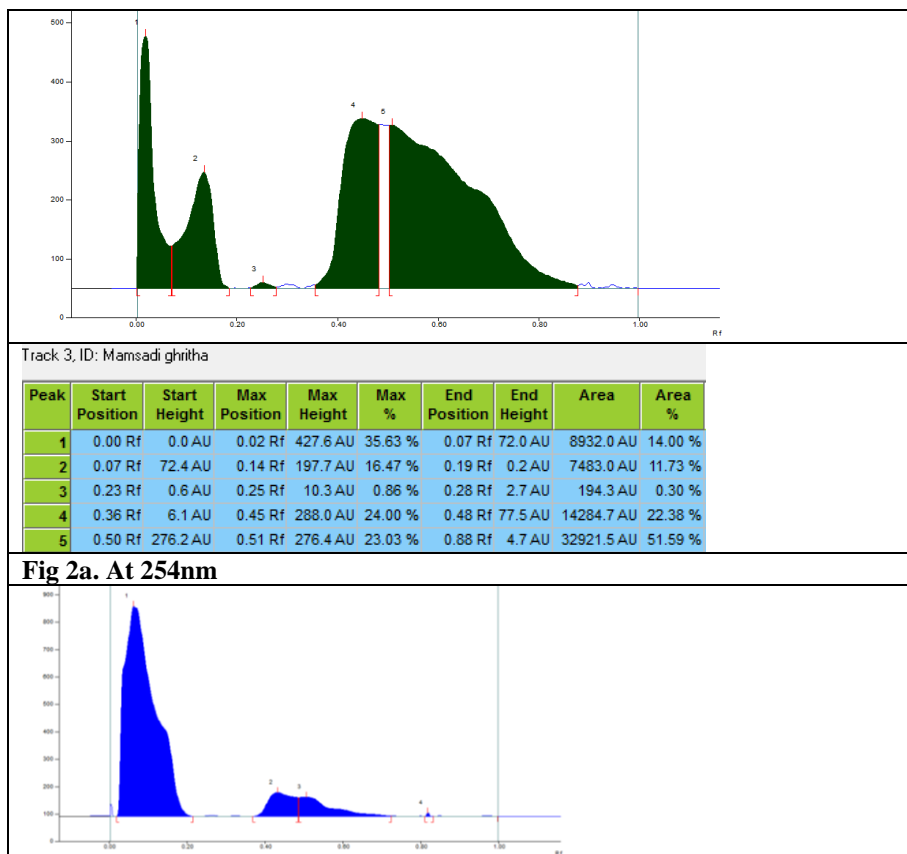
Track 3 – Mamsadi ghritha – 9µl

Solvent system – Toluene: Ethyl acetate (9:1)

Table 2: R_f values of samples

*F – fluorescent; L –light; D – dark

| At 254nm | At 366nm | Post derivatisation |
|----------|------------------|---------------------|
| - | 0.11 (F. yellow) | - |



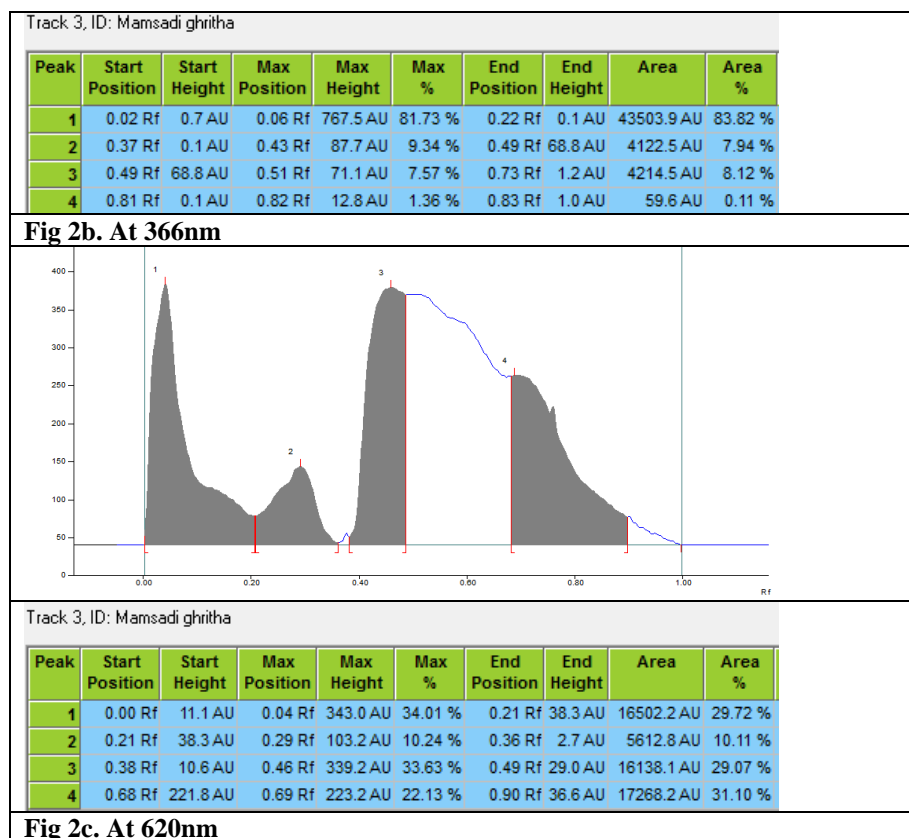


Figure 2: Densitometric scan of Mamsadhi ghritha.

Part D: Remarks

The given sample of Mamsadi ghritha has been standardized physicochemically, results of standardisation parameters are mentioned in Table 1 and HPTLC photodocumentation, chromatograms, R_f values are mentioned in respective tables and figures.

DISCUSSION

क्षीरघृताभ्यासो रसायनानां

Daily intake of ghee and milk is best anti aging remedy – Best Rasayana.

Ghritha is tridoshamaka, pacifies vata by its unctuousness, kapha by pacifying drugs / medicines, and pitta by its coldness. Therefore, ghee is useful in all forms of disease like fire subsides with water. condition.

Obesity is the common problem for everyone irrespective of the age group. Obesity is a complex disease involving having too much body fat. Obesity isn't just a cosmetic concern. It's a medical problem that increases the risk of many other diseases, diabetes, high cholesterol, high blood pressure, liver disease, sleep apnea and certain cancers. For preparing medicated ghee before we should do ghritha murchana for the purpose of gandha nasha devoid of amadosha, I am taking mamsadhi ghritha for anti – obesity activity, Mamsa indicate meat in common word, but here mamsa or mamsi is synonym of Jatamamsi Dravya according to nomenclature rule first drug name are using for the mamsadhi ghritha.

Ativisha is widely used herb in ayurvedic medicine known for its deepana, pachana jwaragna, and balya properties. Shodhana not only reduces toxicity but also enhance the therapeutic efficacy of the drug. Here mamsadhi ghritha drugs

have most of the drugs have a tiskshna, katu, kashya rasa, ushna veerya, katu, tikta vipaka dravya are there so, its reduces fat, helps to easily metabolise the obesity.

CONCLUSION

The present study concludes that Mamsadhi Ghrita reduces Obesity administration of mamsadhi ghrita led to a reduction in body weight. The formulation, being prepared with medicated ghee and herbs possessing lekhana, medohara and deepana-pachana properties, effectively helped in regulating fat metabolism and reducing adipose tissue accumulation. The ghrita base facilitates better absorption and delivery of the active herbal constituents at the tissue level, supporting its efficacy. By improving liver function and stimulating metabolic enzymes, Mamsadhi Ghrita may facilitate the conversion of excess lipids into energy, preventing further fat deposition. This finding is consistent with the classical Ayurvedic claim that Mamsadhi Ghrita acts as a Medohara (fat-reducing) and Lekhana (scraping) formulation. The reduction in weight could be due to the synergistic action of its herbal ingredients, which may possess Deepana (enhancing digestive fire), Pachana (digestive), and Kaphahara (reducing Kapha) properties that regulate lipid metabolism.

Further study may develop based on the humans may useful in action of drug with proper dosage may be evaluated with this study.

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