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Preparation of *Gandhakadya Malahara* as per Classical Text

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ABSTRACT

Rasa Shastra and *Bhaishjya Kalpana* is a pharmaceutical field of *Ayurveda* which is concerned with preparation of herbal and herbomineral formulations. There are many pharmaceutical preparations mentioned in *Rasa Shastra* and *Bhaishjya Kalpana* classics. *Malahar kalpana* is one of them which may contain *siktha taila*, *siktha*, *sarjarasa* or *ghritta* as base material. It was lately introduced by *Acharya Yogratnakar* in *Ayurveda* pharmaceutics. It is widely used ointment preparation with many advantages. *Gandhakadya Malahar* is mentioned in 8th *Taranga* of *Rasa Tarangini* by Acharya Sadanand Sharma. It is a herbomineral formulation which comprises of *siktha taila, shudha gandhaka, girisindur,shudha tankan* and *karpura.* It is intended to be used externally for dermatological problems especially for *pama* according to *Rasa Tarangini*.

Key Words *Malahar, Gandhaka, Siktha Taila, Tankan, Karpura*

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INTRODUCTION

Malahar kalpana comes under *bahya kalpana* i.e. pharmaceutical preparation for external application. The term '*malahar*' has originated from the root word '*malham'* or *'marham'* taken from Unani system of medication. This is similar to ointments in modern pharmaceutics which include herbal and mineral contents according to usage. It is very useful preparation for many skin disorders.

For the preparation of *malahar kalpana* base material is required for which *siktha taila* is commonly used. *Malhar kalpana* should be soft, smooth, should not produce sensitization and irritaton to the skin. *Gandhakadya malahar* is one of the *malahar* mentioned in *Rasa Tarangini, gandhakvigyaniya tarang*. Daily application of *gandhakadya malahar* cures very deep seated *pama roga* (scabies). Properties of *Gandhakadya malhar* are mentioned in table 1.

Table 1 Properties of *Gandhakadya Malahar*

Sr.no	Drug	English Name	*Rasa*	*Guna*	*Virya*	*Dosha Karma*	Therapeutic use
1	***Siktha***[6]	Bee wax	-	*Mridu Snigdha*	-	*Vatahara*	*Vranaropana Bhagnasandhanakar*
2	***Tila Taila***[7]	Sesame oil	*Madhura*	*Guru*	*Ushna*	*Vatakaphahar*	*Vrananashak*

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			Kashaya	*Snigdha*			*Twachaya*
2	***Shudha Gandhaka***[8]	Sulphur	*Katu Tikta Kashaya*	*Sara*	*Ushna*	*Pitta vardhaka Kapha-vatahar*	*Kushtha Twakdosha Krimighana*
3	***Giri sindur***[9,10]	Red oxide of mercury	*Katu Tikta*	*Ushna*	*Ushna*	*Tridosha shamaka*	*Vranashodhana Kushtha Bhagnasandhankar Vranaropana*
4	***Shudha Tankan***[11]	Borax	*Kshariya*	*Ruksha Tikshna Guru*	*Ushna*	*Kapha nissaraka Vatahara*	*Vishadoshahar Varnya Vrananashan*
5	***Karpoora***[12]	Camphor	*Tikta Katu Madhura*	*Laghu Tikshna*	*Sheeta*	*Tridoshahar*	*Dahaprashaman Swedajanana Vishaghna charmaroganashaka*

Gandhakadya Malahar[1]**:**

Contents:

Siktha taila	*6 tola*
Shudha Gandhaka (Figure1)	*½ tola*
Giri Sindura (Figure2)	*½ tola*
Shudha Tankana (Figure3)	*2 masha*
Karpura (Figure4)	*2 masha*

Figure 1 *Gandhaka*

Figure 2 *Girisindoor*

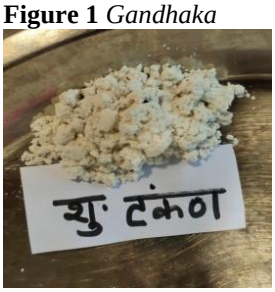

Figure 3 *Tankana*

Figure 4 *Karpura*

MATERIAL AND METHODS

Material: Raw material i.e. s*iktha, tila taila, shudha gandhaka, girisindura, shudha tankan* and *karpura* were procured from the Shiv Shakti Herbal and Healthcare Pharmacy, Bhikhi. All the drugs were screened and identified to meet the properties mentioned in *Ayurveda* classics.

Methods: It involves following pharmaceutical procedures:

1. *Siktha Taila Nirmaana*

2. *Gandhaka Shodhana*

3. *Tankan Shodhana*

4. *Gandhakadya Malahar* preparation.

1. *Siktha Taila Nirmaan*[2]**:**

Ingredients:

1. *Siktha*: 146.6g

2. *Tila Taila*: 880ml

Apparatus Required: Stainless steel vessel, spatula, cotton cloth, gas stove and cylinder.

Procedure:

1. In a clean stainless steel vessel *taila* was taken and placed over mild flame.
2. Heat was given until foam starts appearing.
3. After some time required amount of bee wax was added to it according to the reference.
4. After some time bee wax completely melts in oil then it was filtered to another clean vessel for self cooling (Figure 5).

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Figure 5 *Siktha Taila*

5. After cooling it becomes a soft butter like paste.

Observations:

- **Final Weight**- 1 kg
- **Weight loss**- 26.6g
- **% of Weight loss** - 2.6%
- **Color** - Creamish
- **Odour** - Characteristic
- **Description** - semisolid, butter like

2. *Gandhaka Shodhan*[3]*:*

Ingredients:

1. *Ashudha Gandhaka* : 500g
2. *Godugdha*: 1L
3. *Goghritta*: 50g

Apparatus required: Cotton Cloth, *Lauha darvi*, stainless steel vessels, spoon and gas stove.

Procedure:

- *Ashudha Gandhaka* 500gm was procured from market.
- Then screening of *Ashudha Gandhaka* was done and reduced to powdered form in Pestle and mortar.
- It was poured in 50g *Ghritta* smeared heavy base S.S vessel and heated over medium flame and heated till *Gandhaka* start melting.
- Simultaneously, cow milk was taken in container and muslin cloth was tied over the containers mouth.
- When *Gandhaka* was completely in molten state it was poured into container having cow milk which was covered by muslin cloth and continuous stirring was done during whole process of pouring.
- *Gandhaka* was taken out in S.S tray and washed with warm water (Figure 1).
- It was allowed to dry and same procedure was done for two more times.
- It was stored in air tight container.

Observations:

- **Final Weight** - 440gm
- **Weight loss** - 60 gm
- **% of Weight loss** - 6%
- **Color** - Bright yellow
- **Odour** - Characteristic
- **Description** - Granular

3. *Tankan Shodhan*[4]:

Ingredients:

1. *Ashudha Tankana* : 50g

Apparatus Required: Stainless steel vessel, spatula, weighing machine, gas stove and gas cylinder.

Procedure:

1. *Ashudha tankana* was procured from market and reduced into powder form with the help of pestle and mortar.

2. A stainless steel vessel was kept over stove and mild heat was applied.

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3. Powdered *tankana* was poured into the vessel and continuous stirring was done.

4. Heating was continued until whole water was evaporated.

5. After self cooling *tankan* was reduced to powder form and weighed properly (Figure 3).

Observations:

Final weight	**:**	42g
Weight loss	**:**	8g
% of weight loss	**:**	16%
Color	**:**	white
Odor	**:**	Odorless
Description	**:**	Puffed rice like appearance

4. *Gandhakadya Malahar* Preparation:

Ingredients:

1. *Siktha Taila*: 1 Kg
2. *Shudha Gandhaka*: 83.3g
3. *Girisindura*: 83.3g
4. *Shudha Tanka*: 31.25g
5. *Karpura*: 31.25g

Apparatus Required: Stainless steel vessels, spatula, weighing machine, pestle and mortar, gas stove and gas cylinder.

Procedure:

1. *Siktha taila* was taken in clean stainless steel vessel and heated over mild flame (Figure 6).

2. When foam started to appear, the flame was put off and powders of other drugs were added to it (Figure7).

3. The mixture was stirred well and then left for self cooling.

4. After cooling it became solidified waxy mass and is called as *gandhakadya malahar*.

Figure 6 Heating of *Siktha Taila*

Figure 7 Addition of other contents

5. It was stored in container with wide mouth for further use.

Observations:

- **Final weight:** 1200g
- **Weight loss:** 29.1g
- **% of weight loss:** 2.4%
- **Color:** Bright Orange
- **Odor:** Characteristic
- **Description:** Semisolid

Precautions:

- Heat was kept mild throughout the process.
- It was stirred continuously to prevent the material from burning.
- *Gandhaka* was poured immediately after melting into the vessel containing warm milk and lumps of *gandhak* obtained after *shodhana* should be washed properly with warm water.

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- Powdered material should be added after some gap of heating the *siktha taila*.

DISCUSSION

Aim of this study was to prepare *Gandhakadya Malahar* according to the method mentioned in *Rasa Tarangini*. In this pharmaceutical study, different procedures were done and their findings have been discussed:

1. *Siktha Taila Nirmaana*

- Preparation of *siktha taila* was done in the ratio 1:5 i.e. *siktha* 1 part and *taila* 5 parts was taken.
- According to *Rasa Tarangini* for the *malahar* preparation in summer season *siktha taila* with 1:5 should be prepared[5].
- The percentage loss was 2.6% during process; it may be due to poor handling.

2. *Gandhaka Shodhana*

- *Gandhaka shodhana* was done according to method mentioned in *Rasamrittam*.
- Fat soluble impurities got dissolved in *ghritta* and *milk*.
- The percentage loss was 6% and it may be due to loss of impurities, poor handling and Some amount of *gandhaka* got stuck with cloth every time while filtering.

3. Tankan Shodhana

- *Tankan shodhana* was carried out according to reference given in *Rasa Tarangini*.
- As *Tankan* contains a large amount of water content so total percentage loss of *Tankan* during *shodhana* was 16%.

4. ***Gandhakadya Malahar* Preparation**

- All the powdered material should not be added while heating the oil and immediately after turning off the stove otherwise material will get burnt.
- The total percentage loss of material during process was 2.4% which may be due to poor handling method and some amount of *malahar* was left stuck in walls and base of container.

CONCLUSION

Malahar is a semisolid preparation which can be correlated with the ointment preparation of the modern pharmaceutics. The ingredients of *Gandhakadya malahar* mentioned in literature were brought and subjected to *Shodhana* to avoid toxic effects and to get the desired therapeutic effects. Base material used for preparation is bee wax oil and it is possible to achieve the desirable consistency by adjusting the amount of wax. Consistency of *Malahara* was neither too hard nor too soft. Method of preparation of *gandhakadya malahar* is easy and can be prepared at very low cost. *Malahar Kalpana* is different from *ghritta, taila* and *upnaha kalpana* though they are also used for external application.

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