



# “PHARMACEUTICAL STANDARDIZATION OF KARANJATAILADI MALAHAM”

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**Abstract:** *Rasa Shastra* and *Bhaishajya Kalpana* is a unique branch of *Ayurveda* which deals with the preparation of *Ayurvedic* medicines using metals, minerals and herbs. In the present research paper, the work done on pharmaceutical study of *Karanjatiladi Malaham* conducted in the department of *Rasa Shastra* and *Bhaishajya Kalpana* under the post graduate research program is being presented. *Karanjatiladi Malaham* is a unique herbo-mineral formulation elucidated in *Rasa Tantra Sara Va Siddha Prayoga Sangraha*, part 2- *Kushta adhikara* for the management of *Vicharchika*. *Karanja taila*, *Siktha*, *Shuddha Tuttha*, *Krishna Maricha*, *Krishna Jeeraka*, *Karpoora* and *Madhu* are the ingredients. The main pharmaceutical procedures involved in the preparation of *Karanjatiladi Malaham* are *Shodhana*, *Choorna nirmana*, *Siktha taila nirmana* and *Mardana*. The present study has been planned to standardize the method of preparation of *Karanjatiladi Malaham* according to the method explained in the classical literatures.

**Index Terms -** *Karanjatiladi Malaham*, *Vicharchika*, *Shodhana*, *Tuttha*, *Malaham*.

## I. INTRODUCTION

*Ayurveda*, a natural system of medicine originated in India more than 3000 years ago. The aim of *Ayurveda* is to protect health and manage disease by maintaining a balance between body, mind and soul. *Bhaishajya Kalpana* is composed of two words- *bhaishajya* – drug and *kalpana* – processing. The key objective of pharmaceutical study is to produce a safe, effective and quality drug. The pharmaceutical standardization of any drug/formulation involves various steps starting from identification and collection of authentic raw material, application of standard processing techniques and production of quality drug. (Ex: *Choorna*, *Vati*, *Guggulu*, *Avaleha*, *Malahara* etc..) *Karanjatiladi Malaham*<sup>1</sup> is a herbo-mineral formulation described in *Rasa Tantra Sara Va Siddha Prayoga Sangraha*, part 2- *Kushta adhikara* for the management of *Vicharchika*. *Karanja taila*, *Siktha*, *Shuddha Tuttha*, *Krishna Maricha*, *Krishna Jeeraka*, *Karpoora* and *Madhu* are the ingredients.

The concept of *Malahara* has come from unani system of medicine. *Yogaratnakara* was 1<sup>st</sup> to incorporate *Malahara Kalpana* to *Ayurveda*. Pharmaceutical processing of *Malahara* requires basically 3 ingredients an oil base, a binding material and ingredients in powder form. The ratio of oil base, binding material and the ingredients varies from one *Malahara* to other. In the present study, a sincere effort is made to highlight the significance of pharmaceutical procedures and to standardize the method of preparation of *Karanjatiladi Malaham*.

**AIM & OBJECTIVES:**

- Pharmaceutical standardization of various steps involved in the preparation of *Karanjatailadi Malaham*.

**MATERIALS AND METHODS:**

**Pharmaceutical source and place:** Raw drugs for the preparation of *Karanjatailadi Malaham* were collected from Yahya herbals, local market Tirupati and preparation was carried out in P.G Department of *Rasa Shastra* and *Bhaishajya Kalpana*, S.V. Ayurvedic College, T.T.D, Tirupati.

**The entire pharmaceutical procedure was carried in different stages**

**STAGE :1**

*Shodhana of Tuttha*

**STAGE :2**

- Preparation of *Krishna Maricha Choorna*
- Preparation of *Krishna Jeeraka Choorna*
- Preparation of *Karpoora Choorna*

**STAGE :3**

Preparation of *Siktha Taila*

**STAGE :4**

Preparation of *Karanjatailadi Malaham*.

**PROCEDURE****1.TUTTHA SHODHANA<sup>2</sup>**

**Reference:** *Rasa Tarangini–Upadhatwadi Vigyana Taranga* (21<sup>st</sup> chapter - *Shloka* No.109-111)

**Materials:** *Tuttha* -100 g, *Gomutra*-Q. S

**Principle:** *Swedana*

**Apparatus:** Stainless steel vessel, Thread, Cloth, Tray, weighing machine, Hot Plate.

**Procedure:**

- Ashuddha Tuttha* was taken in a clean *khalva yantra* and it was made in to fine powder.
- The *pottali* containing *Ashuddha Tuttha* was suspended in glass beaker containing *Gomutra* in such a way that it freely hangs in the *Gomutra*.
- It was subjected to *Mandagni* for 3 hours
- Total *Tuttha* was dissolved in *Gomutra*. The empty cloth of *pottali* was removed.
- It was then heated till complete evaporation of *Gomutra*.
- After 3 hours of *paka*, *Shoditha Tuttha* was taken into the tray and dried.

**Observations:**

- ✓ For every 10 minutes 50 ml *Gomutra* was reduced.
- ✓ After 5 minutes of heating *Tuttha* was dissolved in *Gomutra* and the colour of *Gomutra* totally changed into Skyblue colour.
- ✓ After 30 minutes colour changed to thick blue colour.
- ✓ After 3 hours *Gomutra* evaporated completely and light Green coloured *Shoditha Tuttha* was obtained.

**Precautions:**

- Beaker should be taken large enough to prevent spillage of *Gomutra*.

**Result:**

**Table No 1: Showing the result of *Tuttha Shodhana*.**

Initial weight	Final weight	Loss in weight	Loss in percentage
100g	90g	10g	10%

**Reason for loss in weight:**

Impurities separated from *Tuttha* are dissolved in *gomutra* and evaporated.

**2. PREPARATION OF KRISHNA MARICHA CHOORNA<sup>3</sup>**

**Reference:** *Sharangadhara Samhitha Madhyama Khanda 6/2.*

**Principle:** Pounding, Filtering

**Apparatus:** *Khalva yantra*, Stainless steel vessel, Cloth, Weighing machine.

**Procedure:**

- *Krishna Maricha* was taken in a *Khalva yantra* and pounded.
- Pounded material was sieved through a cloth to obtain very fine powder.

**Observations:**

Fine Powder of *Krishna Maricha Choorna* was obtained.

**Precautions:**

- Care should be taken to avoid spillage while pounding.
- Sieving should be done properly to get fine powder.

**Result:**

**Table No 2: Showing the result of preparation of *Krishna Maricha Choorna***

Initial weight	Final weight	Loss in weight	Loss in weight in%
90 g	83 g	7g	7.77%

**Probable reason for loss of weight:**

Loss was incurred due to spilling during pounding and sieving.

**3. PREPARATION OF KRISHNA JEERAKA CHOORNA<sup>4</sup>**

**Reference:** *Sharangadhara Samhitha Madhyama Khanda 6/2.*

**Principle:** Pounding, Filtering.

**Apparatus:** *Khalva yantra*, Stainless steel vessel, Seiver, Weighing machine.

**Procedure**

- *Krishna Jeeraka* was taken in a *Khalva yantra* and pounded.
- Pounded material was sieved through a seiver to obtain very fine powder.

**Observations**

Fine Powder of *Krishna Jeeraka Choorna* was obtained.

**Precautions**

- Care should be taken to avoid spillage while pounding.
- Sieving should be done properly to get fine powder.

**Result:**

**Table No 3: Showing the result of preparation of *Krishna Jeeraka Choorna*.**

Initial weight	Final weight	Loss in weight	Loss in weight in%
102 g	81 g	21g	20.5%

**Probable reason for loss of weight:**

Loss was incurred due to spilling during pounding and sieving.

#### 4. PREPARATION OF KARPOORA CHOORNA<sup>5</sup>

**Reference:** *Sharangadhara Samhitha Madhyama Khanda 6/2.*

**Principle:** Pounding.

**Apparatus:** *Khalva yantra*, weighing machine.

**Procedure**

*Karpooora* was taken in a *Khalva yantra* and pounded to obtain very fine powder.

**Observations**

Fine Powder of *Karpooora Choorna* was obtained.

**Precautions**

Care should be taken to avoid spillage while pounding.

**Result:**

**Table No 4: Showing the result of preparation of *Karpooora Choorna***

Initial weight	Final weight	Loss in weight	Loss in percentage
12g	11.5g	0.5g	4.16%

**Probable reason for loss of weight:**

Loss was incurred due to spilling during pounding.

#### 5. PREPARATION OF SIKTHA TAILA<sup>6</sup>

**Reference:** *Rasa Tarangini 2/34*

**Materials:**

*Karanja Taila* – 120ml

*Siktha* -120 g

**Method/ principle:** Heating

**Apparatus:** Stainless steel vessels, Spatula (spoon), Cotton cloth, Gas stove, *Khalva Yantra*.

**Procedure:**

- 120g of *Siktha* was taken in a *Khalva Yantra* and pounded into small pieces.
- 120ml *Karanja Taila* was taken in a stainless-steel vessel and heated till bubbles appear.
- 120ml *Karanja Taila* was taken in a stainless-steel vessel and heated till bubbles appear.
- Pounded *Siktha* was added to hot oil and mixed continuously until *Siktha* was completely melted in hot oil.
- It was then filtered through a cotton cloth in a clean *khalva yantra*.
- *Siktha Taila* was obtained.

**Observation:**

- ✓ On complete melting of *Siktha* in *Karanja taila*, the colour of oil (Light Dull Yellow colour) changed to Dark Brown colour.
- ✓ On pouring hot *Siktha Taila* through cloth, impurities of beewax were stucked on the cloth.

**Precaution:**

- Mild heat was given
- Constant stirring was done during melting.

**Result:**

Quantity of *Siktha taila* obtained was 209 ml.

**Probable reason for loss of weight:**

Impurities of bee wax were stucked to the cloth.

## 6. PREPARATION OF *KARANJATAILADI MALAHAM*<sup>7</sup>

**Reference:** *Rasa Tantra Sara Va Siddha Prayoga Sangraha, Dwitiya Khanda, Kushta Adhikara.*

**Material:**

**Table No 5: - Showing the materials and quantity for the preparation of *Karanjatailadi Malaham***

Materials	Quantity
1. <i>Karanja taila</i>	120ml
2. <i>Madhuchista/ Siktha</i>	120g
3. <i>Madhu</i>	120g
4. <i>Krishna Maricha</i>	60g
5. <i>Krishna Jeeraka</i>	60g
6. <i>Shuddha Tuttha</i>	24g
7. <i>Karpooora</i>	12g

**Principle:** *Malahara Kalpana*

**Apparatus:** *Khalva yantra*, weighing machine, Spoon

**Procedure:**

- Hot *Siktha Taila* which was obtained from above practical was taken in a clean *khalva yantra*.
- Fine powders of *Shuddha Tuttha*, *Krishna Maricha*, *Krishna Jeeraka*, *Karpooora* and *Madhu* was added into *Siktha Taila* and mixed well to form a homogenous mixture.
- After cooling the mixture attained Semi-solid consistency.

**Observation:**

**Dark greenish colored *Karanjatailadi Malaham*** was obtained.

**Precaution:**

Care should be taken during mixing to avoid spilling of the drug.

**Result:**

**Table No 6: Showing the final result of preparation of *Karanjatailadi Malaham*.**

Initial weight	Final weight	Loss in weight	Loss in percentage
516g	458 g	58g	11.24%

**Probable reason for loss of weight:**

Sticking of *Karanjatailadi Malaham* to the *Khalva Yantra*.

**\*NOTE:** The ratio of *Siktha taila* can be altered according to the need of situation if consistency is thick.

**Images showing the preparation of *Karanjatailadi Malaham***

**TUTTHA SHODHANA**



**Image No. 1**  
*Ashuddha Tuttha*



**Image No. 2**  
*Pottali Nirmana*



**Image No. 3**  
*Heating Ashuddha Tuttha in Gomutra*





**Image No. 4**  
Colour change after dipping  
of Tuttha pottali in  
Gomutra.



**Image No. 5**  
Efferecene of Tuttha  
during swedana.



**Image No. 6**  
*Shuddha Tuttha Choorna*

**CHOORNA NIRMANA**



**Image No.7**  
*Maricha*



**Image No. 8**  
*Maricha Choorna*



**Image No.9**  
*Krishna Jeeraka*



**Image No. 10**  
*Krishna Jeeraka Choorna*



**Image No. 11**  
*Karpooora*



**Image No. 12**  
*Karpooora choorna*

### SIKTHA TAILA NIRMANA



Image No.13  
Siktha



Image no. 14  
Karanja Taila



Image No. 15  
Melting of Siktha



Image No. 16  
Filtration of Siktha Taila  
through cloth



Image No. 17  
Filtered Siktha Taila

### KARANJATAILADI MALAHAM NIRMANA



Image No. 18  
Adding Maricha choorna, Krishna Jeeraka choorna,  
Shuddha Tuttha and Karpoora choorna to Siktha Taila.



Image No. 19  
Adding Madhu to the mixture.



Image No.20  
Homogenous mixture



Image No. 21  
Karanjatailadi Malaham

**DISCUSSION:**

**Shodhana<sup>8</sup>:** It is the process done to remove the impurities present in a drug by adopting procedures like triturating, boiling in liquids etc., using the drugs advocated by the classics. *Shodhana* process is not a mere chemical purification where the purity percentage of the material becomes increased. It is believed that *Shodhana* is such a process in which addition and separation of certain materials both simultaneously takes place. Some soluble, volatile and inflammable materials are removed and at the same time certain materials are being added from the substances taken for processing and also from the environment.

**TUTTHA SHODHANA<sup>9</sup>**

- *Tuttha Shodhana* was done according to the reference of *Rasa Tarangini*. *Tuttha Churna* was tied in a *Pottali* and boiled in *Gomutra* in *Dolayantra* for 3 hours. After dipping of *Tuttha Pottali* in *Gomutra*, *Gomutra* turns into green colour. After 10 minutes total content of *Tuttha* in *Pottali* was dissolved in *Gomutra* and cloth of *Pottali* floated on the *Gomutra*. The cloth of *Pottali* was removed when it was totally empty.
- After 3 hours of boiling *Tuttha* dissolved in *Gomutra* and *Gomutra* turned into thick semisolid material, later it was dried and preserved.
- After dipping *Pottali* of *Tuttha* into *Gomutra*, effervescence was observed.
- There was liberation of gaseous bubbles observed even before heating is initiated. The probable reason could be explained as: Urine of Cow is generally Alkaline in nature (8-8.5pH). The principal cause for Alkalinity of Mammal's urine is due to presence of large amounts of Carbonates and Phosphates of Sodium and Potassium. Copper reacts with these to form Copper phosphate and Copper carbonate and liberates Hydrogen gas. Perhaps this gas was the reason for immediate effervescence.
- *Gomutra* turns into green colour immediately.
- Copper Carbonate and Phosphates are green in colour and this proves possibility of above reaction.

**Gomutra:**

Recent researches shown that cow urine has Anti-bacterial, Anti-fungal, Wound healing property.<sup>10</sup>

**CHURNA NIRMANA:**

*Krishna Maricha*, *Krishna Jeeraka*, *Karpoora* were taken and made into fine powder separately.

**MALAHARA NIRMANA**

The word *Malahara* was adopted by *Yogaratanakara* from the word *Malaham* or *Marham* basically originated from Unani system of Medicine. **Base material** for the preparation of *Malahara* may contain *Siktha/Taila/Ghrita/Sarja rasa* etc, Base should be smooth, soft, should not produce irritation or sensitization of skin. In the present formulation *Siktha taila* is used as base which is the chief ingredient of *Malahara Kalpana*.

**SIKTHA TAILA NIRMANA**

*Siktha taila* a compound of oil and bee wax is used as base in most of the *Malahara*. The base of the drug *Karanjatiladi Malaham* is *Siktha Taila*. Bees wax as an emulsifying agent of cosmetics provides elasticity, plasticity and increases skin adhesiveness. The *taila* hydrates and softens the skin. It prevents the escape of water through the skin by forming a protective layer. Hydration of skin increases absorption of the drug. *Siktha taila* has emollient property. Thus, *Siktha Taila* might be the ideal base for the preparation of *malahara*.

**KARANJATAILADI MALAHAM PREPARATION**

*Karanjatiladi Malaham* was prepared as per the reference of *Rasa Tantra Sara Va Siddha Prayoga Sangraha*, *Dwitiya Khanda*, *Kushta Adhikara*. It was prepared by following the general method of *Malahara kalpana* and presented in the form of ointment. The prepared *Siktha Taila* was taken in a *khalwa yantra*, to that *Shuddha Tuttha*, *Krishna Maricha*, *Krishna Jeeraka*, *Karpoora* and honey were taken one after the other and *Mardana* was done till a homogenous mixture was formed.



## CONCLUSION

Pharmaceutical standardization helps in developing standard manufacturing procedures without disturbing the efficacy and safety profile of the drug. *Malahara* is one among the *Bahirparimarjana Chikitsa*. The Pharmaceutical procedures involved in the preparation of *Karanjatailadi Malaham* are *Shodhana*, *Choorna nirmana*, *Siktha taila nirmana* and *Mardana*.

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