

Comparative Pharmaceutical Study Of Pinda Taila And Khajita Pinda Taila

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Abstract:

Background: Sneha Kalpana (oleagenous preparation) is one among those preparations derived from the basic Kalpanas prepared using either Ghrita (ghee) or Taila (oil). The transformation of properties into the Sneha Dravya is made possible by the use of various Samskaras. Manthana Samskara is believed to help in the proper mixing of two substances and also imbibe Sheeta Guna to the formulation. It is considered to give a homogenous mixture thereby improving the product's stability to a greater extent. **Aims and objectives:** To compare the pharmaceutical aspects of Pinda Taila and Khajita Pinda Taila. **Methodology:** The preparation of Pinda Taila and Khajita Pinda Taila was done as per the reference given in Charaka Samhita. **Conclusion:** the quantity of water to be added for Khajita Pinda Taila, the time duration required for churning and the instrument used were standardized through this study.

Keywords: Pinda Taila, Khajita Pinda Taila, Manthana Samskara.

Introduction

Bhaishajya Kalpana (Ayurvedic pharmacology) deals with the various preparatory aspects of medicines by using different herbal origin drugs. The main aim of Bhaishajya Kalpana is to bestow best therapeutic effect to a formulation to make it a quality medicine. This quality medicine is gained through different procedures that are adopted during the preparation of formulations and are termed as Samskaras¹. Samskaras play a pivotal role in the extraction of the active principles, thereby rendering the formulation with better therapeutic value and better efficacy. Sneha Kalpana or Taila Kalpana to be specific is one such Kalpana explained in our classics having significant therapeutic value in many ailments when used judiciously. Pinda Taila² and Khajita Pinda Taila³ are the formulations explained in Charaka Samhita, as a remedy for pain and burning sensation manifested in the disease Vatarakta (Gout) when used externally. The present study was aimed to prepare the formulations of Pinda Taila and Khajita Pinda Taila according to the standard operative procedure as explained in the treatise Charaka Samhita.

Materials And Methods

Aim of the study:

To prepare Pinda Taila and Khajita Pinda Taila as per the method mentioned in Charaka Samhita.

Pharmaceutical study:

Pharmaceutical study of Pinda Taila and Khajita Pinda Taila was divided into 3 components, namely

- I. Practical No.1 – Taila Murchana.
- II. Practical No.2 – Preparation of Pinda Taila.
- III. Practical No.3 – Preparation of Khajita Pinda Taila.

Practical Number 1.

Name of the Practical: Taila Murchana

Step 1: Procurement and Identification of the raw materials for Taila Murchana

The raw drugs were obtained from the SDM Ayurveda Pharmacy, Kuthpady, Udupi. They were then botanically identified by the experts from the Department Of P.G. Studies in Dravyaguna, SDM College of Ayurveda, Udupi.

STEP 5: The process of Taila Murchana

Name of the practical: Taila Murchana Samskara

Reference: Bhaishajya Ratnavali Jwaradhikara⁴

Equipments used: Tamra Patra(Copper vessel), spatula, measuring jar, cloth, thermometer, vessel etc

Date of commencement: 25-04-2017

Date of completion: 28-04-2017

Principle involved: Sneha Paka Samskara

Ingredients:

1. Kalka(Paste of medicines) : 3kgs
2. Tila Taila(sesame oil) : 12 lts
3. Jala (water) : 48lts

Table 1: Quantity of Kalka Dravya taken for Taila Murchana

Sl. No.	Name of the ingredient	Quantity taken
01.	Manjishta(Rubia cardifolia)	750g
02.	Haridra(Curcuma longa)	190g
03.	Lodhra(Symplocos racemoses)	190g
04.	Musta(Cyperus rotundus)	190g
05.	Twak(Cinnamomum verum)	190g
06.	Amalaki(Emblica officinalis)	190g
07.	Haritaki(Terminalia chebula)	190g
08.	Vibhitaki(Terminalia belerica)	190g
09.	Ketaki(Pandanus amaryllifolius)	190g
10.	Vatavaroaha(Ficus bengalensis)	190g

Procedure:

- Initially, the plain Tila Taila(Sesame oil) was taken in a big copper vessel and heated until the froth or Phena disappears. Later, it was allowed to cool down for few minutes and then Jala and Kalka were added and boiling was started.
- The boiling was continued until all the moisture content evaporated from the oil and all the Sneha Siddhi Lakshanas(Tets of perfection)⁵ were appreciated and then filtered.
- The filtration was done through a clean and thick double folded kora cloth in order to avoid the seeping of Kalka into the oil.
- The Murchita Tila Taila was further used for the preparation of Pinda Taila.

Results: The results of this practical are summarized in the table below-

Table 2: Table showing the observations after Murchana Samskara of Tila Taila

Sl.No.	Attribute	Result/ Observation
01.	Initial quantity of Tila Taila	12lts
02.	Quantity of Tila Taila obtained after Murchana	10.5lts
03.	Loss observed	1.5lts
04.	Initial quantity of Kalka	3kgs
05.	Weight of Kalka after Murchana	5kgs
06.	Gain observed in Kalka	2kgs

Observations:

- The procedure of Taila Murchana of 12lts of Tila Taila took 4 days to complete.
- The temperature maintained throughout the procedure was 95 to 102⁰C. The temperature chart is depicted in the table below.(Table 11)
- Major loss was observed in the final yield of the oil due to the reabsorption of oil into the Kalka.
- The Paka was stopped at Madhyama Paka⁶ for further continuation of the process.

Table 3: Temperature pattern followed for Tila Taila Murchana

Time in hours	Temperature
Room temperature before starting the procedure	32 ⁰ C
After 1 hour	64 ⁰ C
After 2 hours	80 ⁰ C
After 3 hours	102 ⁰ C
After 4 hours	102 ⁰ C
After 5 hours	102 ⁰ C
After 6 hours	102 ⁰ C

Practical Number 2:

Preparation of Pinda Taila

Name of the practical

: Pinda Taila preparation

Reference

: Charaka Samhita⁷

Equipments used

: Tamra Patra, spatula, measuring jar, cloth, thermometer, vessel etc

Date of commencement

: 29-04-2017

Date of completion

: 02-05-2017

Principle involved

: Sneha Paka Samskara

Ingredients:

1. Kalka: 2500g
2. Tila Taila: 10 lts
3. Jala: 40 lts

Procedure:

- Initially, the Murchita Tila Taila was taken in a big copper vessel. Later, Jala and Kalka were added and boiling was started.
- The temperature maintained for the Sneha Paka was same as that of Murchana Samskara.
- The filtration was done through a clean and thick double folded kora cloth in a stainless steel vessel containing Sarjarasa(Shorea robusta resin) and Madhuchishta(Bee wax).
- The oil was continuously stirred during filtration to dissolve Sarjarasa and Madhuchishta properly. After complete dissolution of Sarjarasa and Madhuchishta, the oil was once again filtered to remove the physical impurities, if any, in Madhuchishta.
- Later, the oil was allowed to cool down and was stored in air tight containers.

Observations:

- Sarjarasa was forming cakes at the bottom of the vessel which made it difficult to dissolve.
- Filtration of the Taila after adding Sarjarasa and Madhuchishta was difficult as the cloth became sticky and would block the passage of oil.

Results: The results obtained after the preparation of Pinda Taila are tabulated below.

Table 5: Table showing the observations after preparation of Pinda Taila

Sl.No.	Attribute	Result/ Observation
01.	Initial quantity of Murchita Tila Taila	10 lts
02.	Quantity of Pinda Taila obtained	8.5 lts
03.	Loss observed	1.5lts
04.	Initial quantity of Kalka	1250g
05.	Weight of Kalka after Pinda Taila preparation	3335g
06.	Gain observed in Kalka	2085g

Practical Number 3:

Preparation Of Khajita Pinda Taila

Name of the practical : Khajita Pinda Taila preparation

Reference : Charaka Samhita⁸

Equipments used : Steel vessel, electric motor churner, measuring jar etc

Date of commencement : 11-07-2017

Date of completion : 11-07-2017

Principle involved : Toya Sannikarsha/ Manthana Samskara

Ingredients:

1. Pinda Taila : 500ml
2. Jala : 500ml

Procedure:

- Initially the prepared Pinda Taila was taken in stainless steel vessel.
- To this, equal quantity of cold water was added and the churning was started with the help of electric motor churner. The churning was continued till the contents formed into a thick homogenous mixture.
- This mixture was taken as Khajita Pinda Taila and was stored in wide mouthed air tight containers.

Observations:

- The color of the oil changed to light brown from dark brown as soon as the churning was started.
- The consistency of the oil became very greasy like butter.
- It took totally 1 hour to attain homogenous mixture.

Discussion

The process of Tila Taila Murchana

The preparation of Tila Taila Murchana was carried out in a wide mouthed Copper vessel according to the reference quoted in Abhinava Chintamani⁹. The initial volume of the oil was 12lts and the final yield obtained was 10lts 490ml. The loss observed was 1510ml. The loss might have caused due to the spillage of oil during the process or loss during assessment of Siddhi Lakshanas or during filtration due to absorption of oil by the cloth or improper squeezing of the Kalka to strain the oil. The Murchita Taila had a deep red color which may be because of the presence of Manjishta as an ingredient and also Manjishta(1/16th) is mentioned in large quantity as compared to other drugs(1/64th).

Preparation of Pinda Taila

Taila Paka was initially carried out with only Manjishta and Sariva as the Kalka Dravyas in order to make it easy for assessment of the Paka Lakshana. Murchita Taila taken for the preparation of Pinda Taila was 10lts and the final yield was 8lts and 540ml. The loss was noted to be 1460ml. The loss might have caused due to spillage of oil during the process or loss during assessment of Siddhi Lakshanas or during filtration due to absorption of oil by the cloth or improper squeezing of the Kalka to strain the oil and loss during re-

filtration after dissolving Sarjarasa and Madhuchishta. After cooling it was noted that the consistency of the oil slightly changed to thicker consistency towards semi-liquid consistency. This may be because of the presence of Sarjarasa and Madhuchishta. Out of the final 8.540lts of Pinda Taila, 540 ml was kept as sample and remaining 8lts was divided into two equal parts and was further used for the preparation of Khajita Pinda Taila.

Preparation of Khajita Pinda Taila

The preparation was carried out in a narrow mouthed stainless steel vessel for ease of churning. As the exact ratio to be added to prepare Khajita Pinda Taila was not mentioned by both Acharya Charaka and Acharya Vagbhata, a pilot study was carried out to fix the ratio of oil and water and also to finalize the instrument to be used for churning. Initially, 8 parts of water was added and Manthana was done with Khaja/Mathani(churner). After 4 hours of continuous churning, there was no difference observed in the contents. The oil globules were seen floating over the water surface throughout the churning process. Churning was then tried with different rotatory instruments like blender, mixer grinder and electric motor churner. No difference was observed with these instruments as well in the consistency of the oil. In the same way, different ratios of water with respect to the oil were tried one by one such as 6 parts, 4 parts, 2 parts and 1 part. Churning was done with all the aforementioned ratios of water and with all the four instruments mentioned. The changes during churning was observed and recorded. No changes were observed in 6 parts, 4 parts and 2 parts of water with all the four instruments. But with equal part and half part of water in the oil, a homogenous mixture with thick buttery consistency was obtained after churning it in electric motor churner. The time taken for homogenization was noted as 60 minutes. This change in the timing and also the use of instrument may be due to the vigorous rotation of the churner in electric motor churner which helps to disturb the surface tension of the oil and water globules are evenly spread in the oil.

Conclusion

Pinda Taila and Khajita Pinda Taila were prepared as per the Standard operative procedures explained in Charaka Samhita. The standardization with respect to the ratio of water to be added for Manthana was done. The instrument used for Manthana was also standardized i.e Electric Motor Churner for better mixing and homogenization. The standard time taken for homogenization during the Manthana Karma for the preparation of Khajita Pinda Taila was noted as 60 minutes.

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**PICTURES OF PHARMACEUTICAL STUDY
TAILA MURCHANA**



Fig. 1. PLAIN TILA TAILA



Fig. 2. KALKA FOR MURCHANA



Fig. 3. SNEHA PAKA



Fig. 4. FILTRATION PROCESS



Fig. 5. TAILA AFTER MURCHANA

PICTURES OF PHARMACEUTICAL STUDY
PREPARATION OF PINDA TAILA



Fig. 6. KALKA FOR PINDA TAILA



Fig.7. SNEHA PAKA



Fig. 8. ASSESSMENT OF VARTI



Fig. 9. ASSESSMENT OF PHENODGAMA



Fig. 10. PINDA TAILA FINAL PRODUCT

PICTURES OF PHARMACEUTICAL STUDY
PREPARATION OF KHAJITA PINDA TAILA

Fig. 11. CHURNING PROCESS OF KHAJITA PINDA TAILA



Fig. 12 FINAL CONSISTENCY OF KPT



Fig. 13. FINAL PRODUCT OF KPT



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