

ORIGINAL RESEARCH ARTICLE

A Comparative Pharmaceutical Study of *Aranaladi Taila* and *Khajita Aranaladi Taila*

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ABSTRACT

Introduction: *Sneha Kalpana* is a group of preparations of medicated *ghrita* (ghee) and *taila* (oils). The use of various *Samskaras* allows for the transformation of the properties of ingredients into the *Sneha Dravya*. One such *samskara* known by the name *Manthana Samskara* aids in the proper mixing of two substances as well as the incorporation of *Sheeta Guna* into the preparation and make it a homogenous mixture. This helps in improving the stability of the final preparation. *Aranaladi taila* mentioned in *Sahasrayoga* is an effective oil preparation for the treatment of *Vatarakta* associated with *daha* and *jwara*.

Materials and Methods: In this study, pharmaceutical preparation of *Aranaladi taila* and *Khajita Aranaladi taila* was done as per *Sahasrayoga* reference. *Aranaladi taila* is prepared with *tila taila* as its base and it contains *kanjika* as *dravadravya*. This preparation also contains *sarjarasa* too. However, according to *Sahasrayoga*, *Aranaladi taila* can be converted to *Khajita* by adding a small amount of water and assisting in *Manthana samskara*. The present study is an attempt to compare the pharmaceutical aspect of *Aranaladi taila* and *Khajita Aranaladi taila*.

Result: *Aranaladi taila* was obtained using 800 ml *tila taila*, 3200 ml *kanji*, and 182 g *sarjarasa*. To convert 200 ml of *Aranaladi taila* to *khajita* form, 100 ml of water was added little by little while churning.

Discussion: Conversion of *Aranaladi taila* to its *Khajita* form imparts *sheeta guna* to the formulation thereby enhancing its *pittahara* property.

Conclusion: This study examined the preparation of *Aranaladi taila*, as well as the time and water required to convert it to *Khajita* form.

1. INTRODUCTION

Bhaishajya Kalpana is an important branch of Ayurveda that deals with the various preparatory aspects of medicines using *Kashtoushadhis* (herbal origin). The quality and efficacy of a medicine are obtained through various procedures used during formulation preparation, which are referred to as *Samskaras*. *Samskaras* plays an important role in the extraction of active principles which result in the development of a formulation with higher therapeutic value and efficacy. *Sneha*

Kalpana is one of the widely used Ayurvedic dosage forms, that is used to create an oleaginous medicament from specific proportions of substances such as *kalka*, *kwatha*, and *drava dravyas* by subjecting them to a specific heating pattern and duration.^[1] This process ensures that the active therapeutic properties of the ingredients are transformed to solvents, allowing for the recovery of both fat-soluble and water-soluble chemical constituents. *Aranaladi taila* mentioned in *Sahasrayoga*, *Taila prakarana* is a simple combination of *Tila taila*, *Kanji* and *Sarjarasa*, indicated for *Vatarakta* associated with *jwara* and *daha*.^[2] According to *Sahasrayoga*, *Aranaladi taila* has to be subjected to a churning process with water, which results in the formation of *Khajita Aranaladi taila*. *Sheeta virya* is imparted to the formulation on adding water, and this *taila* acts as *pittahara* by property, thereby helping to reduce the burning sensation and fever associated with

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vatarakta. The present study was aimed to prepare the formulations of *Aranaladi Taila* and *Khajita Aranaladi Taila* according to the standard operative procedure as explained in the Malayalam treatise *Sahasrayoga*.

2. MATERIALS AND METHODS

To prepare *Aranaladi Taila* and *Khajita Aranaladi Taila* as per the method mentioned in *Sahasrayoga, Taila prakarana*.^[2]

2.1. Pharmaceutical Study

Pharmaceutical study includes preparation of *Aranaladi Taila* and *Khajita Aranaladi Taila*.

1. Preparation of *Aranaladi Taila*
2. Preparation of *Khajita Aranaladi Taila*.

2.2. Preparation of *Aranaladi Taila*^[2] - Table 1

2.2.1. Ingredients and quantity

- *Tila taila* (sesame oil) – 800 ml
- *Kanjika* (sour gruel) – 3200 ml
- *Sarjarasa* – 182 g.

2.2.2. Procedure

1. *Tila taila* was taken in a steel vessel of 5 L capacity.
2. 3200 ml of *kanjika* was added to it and heated in *mandagni*.
3. The heating of *taila* was carried out for a period of 5 days up to the attainment of *khara paka*^[4] (sand like appearance of *kalka*).
4. As *kanjika* is used as *dravadavya* here, *Sneha paka* was carried out for 5 days as mentioned in *Vaidyaka Paribhasha pradiipika*.^[5]
5. The temperature maintained during *snehapaka* was consistent throughout.
6. The filtration was done through a clean and thick double-folded kora cloth into a borosil beaker containing finely powdered *Sarjarasa* (*Shorea robusta* resin).^[6]
7. The *taila* was continuously stirred during filtration process to dissolve *Sarjarasa* properly. After complete dissolution of *Sarjarasa*, the *taila* was once again filtered to remove the physical impurities, if present any.
8. After cooling, the *taila* was stored in clean dry airtight containers.

2.2.3. Observations

1. In the 1st day, no appearance of *kalka* was noted until the end of *paka*.
2. Light brown colored *kalka* started to appear on the 2nd day of *Sneha paka*.
3. *Kalka* attained dark brown color on the 5th day of *Sneha paka*.
4. The temperature maintained throughout the preparation was about 90–100°C (for 5 days).
5. Major loss was not observed in the final yield of *taila* as no *kalka* was added during the preparation.
6. *Sarjarasa* was found difficult to dissolve in the *taila*.
7. The filtration of *taila* after the addition of *Sarjarasa* proved difficult because the cloth became sticky and blocked the passage of oil.

2.3. Observations during the Preparation of *Aranaladi Taila* - Table 2

The observations seen in *kalka* and *taila* during the preparation of *Aranaladi taila* and the duration of heat given is enlisted in Table 2.

2.4. Observations after the Completion of *Aranaladi Taila* - Table 3

The amount of ingredients added for the preparation of *Aranaladi taila*, quantity of final product and the loss observed is enlisted in Table 3.

2.5. Preparation of *Khajita Aranaladi Taila*^[2] - Table 4

2.5.1. Ingredients and quantity

- *Aranaladi taila* – 200 ml
- Water – 20 ml.

2.5.2. Procedure

1. 200 ml of prepared *Aranaladi taila* was taken in a medium-sized mortar and pestle.
2. To this water was added little by little and churning was carried out. The churning was continued till the consistency of *taila* attained a thick homogenous mixture. Finally, 100 ml of water was utilized for the preparation of *Khajita Aranaladi taila*.
3. This preparation was taken as *Khajita Aranaladi taila* and was stored in clean dry wide mouthed airtight containers.

2.5.3. Observations

1. When churning began with the addition of water, the brown color of *Aranaladi taila* turned yellowish white, and it eventually achieved a creamy white color with a slightly thick creamy consistency.
2. It took nearly 1 h to complete the final preparation.

2.6. Observations after the Completion of *Khajita Aranaladi Taila* - Table 5

The quantity of ingredients used for the preparation of *Khajita Aranaladi taila*, the quantity of final product and the loss observed during the preparation is enlisted in Table 5.

2.7. Organoleptic Features of *Aranaladi Taila* and *Khajita Aranaladi Taila* - Table 6

The organoleptic features like colour, odour, touch of both the prepared formulations are enlisted in Table 6.

2.8. Preparation of *Aranaladi Taila* - Figure 1

The images of the preparation of *Aranaladi taila* is named as Figure 1.

2.9. Preparation of *Khajita Aranaladi Taila* - Figure 2

The images of the preparation of *Khajita Aranaladi taila* is named as Figure 2.

2.10. Images of final product

The images of final products of *Aranaladi taila* and *Khajita Aranaladi taila* is named as Figure 3.

3. RESULTS

800 ml *tila taila*, 3200 ml *kanji*, and 182 g *sarjarasa* were used to make *Aranaladi taila*. 100 ml of water was added little by little while churning to convert 200 ml of *Aranaladi taila* to *khajita* form with a time period of 60 min.

4. DISCUSSION

Aranaladi taila is a widely used formulation mentioned in *Sahasrayoga*. This *taila* is indicated as an external application in *vatarakta* associated

with *daha* and *jawara*. In the *sahasrayoga* reference, it is mentioned to add water to this preparation and churning should be carried out. This preparation can be taken as *Khajita Aranaladi taila*. In market, *Aranaladi taila* is available but its *khajita* form is not available.

4.1. Preparation of *Aranaladi Taila*

The preparation of *Aranaladi taila* was carried out with *tila taila* as its base and *kanjika* as *dravadravaya*. The *tila taila* taken for the preparation was of AGMARK standard. The *tila taila* taken was 800 ml and the final yield was 755 ml. The loss observed was 45 ml. As *kanjika* is added as *dravadravaya*, the *paka* was done for 5 days maintaining a temperature ranging from 90°C to 100°C for 6 h (per day for 5 days). The loss observed might be due to the refiltration of *taila* after adding *sarjarasa*. Even though no *kalka* was added during preparation, a small amount of *kalka* was observed from the 2nd day of *paka*. It might be due to the presence of starch in *kanjika*. After the stage of cooling, the appearance of *taila* attained a viscous form. This may be due to the presence of *sarjarasa* and *kanjika*. Out of the 755 ml of final *taila* obtained, 200 ml was used to make *Khajita Aranaladi taila*, and the remaining 555 ml was saved as a sample.

4.2. Preparation of *Khajita Aranaladi Taila*

During the preparation of *Khajita Aranaladi taila* with 200 ml of *Aranaladi taila*, a total of 100 ml of water was added and churning was done for 1 h to attain a proper consistency. After the churning process, a homogenous mixture with butter-like consistency was obtained. Although the exact ratio to be added to prepare *Khajita Aranaladi taila* was not specified in the classics, this study was conducted to determine the oil-to-water ratio.

The *seeta guna* property is imparted into the formulation by churning *Aranaladi taila* with water, making it more effective in reducing aggravated *pitta dosa* and thus aiding in the treatment of *daha* and *jawara* associated with *vatarakta*. *Khajita Aranaladi taila* is more patient-friendly because it has a slightly creamier consistency and a much better odor than *Aranaladi taila*. This *taila* can be considered as water in oil emulsion where the disperse phase is water and disperse medium is *Aranaladi taila*.

5. CONCLUSION

Both *Aranaladi taila* and *Khajita Aranaladi taila* were prepared as per the reference mentioned in *Sahasrayoga*. The ratio of water to be added for *Manthana* was determined through this study. The normal time required for the homogenization during the process of *manthana samskara* (churning) for preparing *Khajita Aranaladi taila* was recorded as 1 h. The conversion of *Aranaladi taila* to *Khajita Aranaladi taila* makes it more desirable to consumers.

6. ACKNOWLEDGMENT

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7. AUTHORS' CONTRIBUTIONS

All the authors contributed equally in design and execution of the article.

8. FUNDING

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9. ETHICAL APPROVALS

This study not required ethical clearance as it is laboratory study.

10. CONFLICTS OF INTEREST

Nil.

11. DATA AVAILABILITY

This is an original manuscript and all data are available for only review purposes from principal investigators.

12. PUBLISHERS NOTE

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Table 1: Preparation of *Aranaladi Taila*^[2]

Name of practical	<i>Aranaladi taila</i>
Reference	<i>Sahasrayoga</i>
Equipment's	Steel vessel, laddle, measuring jar, beaker (borosil), cloth, heating device
Date of commencement	April 04 2023
Date of completion	April 08 2023
Principle	<i>Samanya Sneha paka vidhi</i> ^[3]

Table 2: Observations during the preparation of *Aranaladi taila*

Day	Kalka	Taila	Temperature	Duration of heat
Day 1	Absence of <i>kalka</i>	Light golden color with appearance of profuse bubbling.	90–100°C	6 h
Day 2	light brown colored <i>kalka</i> started to appear at the end of the day.	Light golden color with slight bubbling.	90–100°C	6 h
Day 3	Amount of <i>kalka</i> increased and color changed to brown	Bubbling started to disappear.	90–100°C	6 h
Day 4	Brown colored <i>kalka</i> .	Light yellow color with no bubbling.	90–100°C	6 h
Day 5	Dark brown.	Light yellow colour with no bubbling	90–100°C	6 h

Table 3: Observations after the completion of *Aranaladi taila*

S. No.	Attribute	Result
1	Initial amount of <i>tila taila</i> taken	800 ml
2.	Final amount of <i>Aranaladi taila</i> obtained	755 ml
3.	Loss observed	5.6%
4.	Kalka added	Nil
5.	Final quantity of <i>Kalka</i> (derived from <i>kanjika</i>)	4.5 g
6	<i>Sarjarasa</i> added	182 g
7.	<i>Sarjarasa</i> left in cloth after filtering	54 g

Table 5: Observations after the completion of *Khajita Aranaladi taila*

S. No.	Attribute	Result
1	Initial amount of <i>Aranaladi taila</i> taken	200 ml
2	Amount of water taken	100 ml
3	Final amount of <i>khajita Aranaladi taila</i> obtained	220 ml
4.	Loss observed	45%

Table 4: Preparation of *Khajita Aranaladi Taila*^[2]

Name of practical	<i>Khajita Aranaladi taila</i>
Reference	<i>Sahasrayoga</i>
Equipment's	Mortar and pestle, Measuring jar, Beaker.
Date of commencement	April 11 2023
Date of completion	April 11 2023
Principle	<i>Manthana samskara</i> (churning)

Table 6: Organoleptic features of *Aranaladi taila* and *Khajita Aranaladi taila*

S. No.	Feature	Observation of <i>Aranaladi taila</i>	Observation of <i>Khajita Aranaladi taila</i>
1	Colour	Light brown	Creamy white
2	Odour	Pungent	Characteristic
3	Touch	Viscous	Creamy, cold

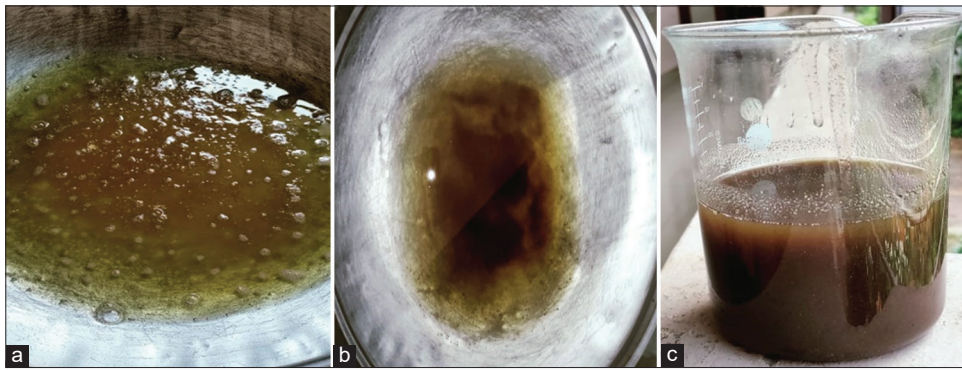


Figure 1: Preparation of *Aranaladi taila*. (a) 1st day of preparation, (b) 5th day of preparation, (c) After adding Sarjarasa



Figure 2: Preparation of *Khajita Aranaladi taila*. (a) Ingredients of *Khajita Aranaladi taila*. (b) During the preparation of *Khajita Aranaladi taila*. (c) After 1 h of grinding

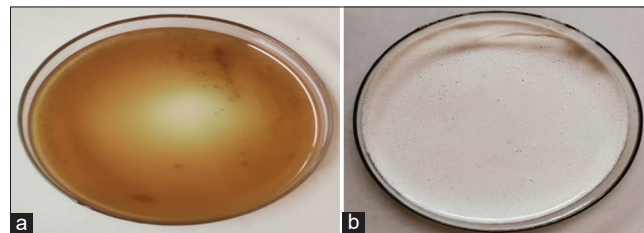


Figure 3: Final product. (a) *Aranaladi taila*. (b) *Khajita Aranaladi taila*