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 20 0 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 Kashtouchadhis (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. Sheetha 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...
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 dravadravya here, Sneha paka was carried out for 5 days as mentioned in Vaidyaka Paribhasha pradipika.[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 Aranaldi taila and Khajita Aranaladi taila is named as Figure 3.

3. RESULTS
800 ml tilla 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 jwara. 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 dravadravya. 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 dravadravya, 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 pita dosa and thus aiding in the treatment of daha and jwara 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 sanskara (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

We would like to express our sincere thanks to the faculty members of the Rasashastra and Bhaishajya Kalpana department at GAVC Kannur, especially Dr. Leena KC, MD (Ay) HOD and Dr. Sanila VK, MD (Ay) Associate Professor, for their unwavering support throughout our research.

7. AUTHORS’ CONTRIBUTIONS

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

8. FUNDING

Nil.

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. PUBLISHER’S NOTE

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REFERENCES


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Table 1: Preparation of Aranaladi Taila

<table>
<thead>
<tr>
<th>Name of practical</th>
<th>Aranaladi taila</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference</td>
<td>Sahasrayoga</td>
</tr>
<tr>
<td>Equipment’s</td>
<td>Steel vessel, laddle, measuring jar, beaker (borosil), cloth, heating device</td>
</tr>
<tr>
<td>Date of commencement</td>
<td>April 04 2023</td>
</tr>
<tr>
<td>Date of completion</td>
<td>April 08 2023</td>
</tr>
<tr>
<td>Principle</td>
<td>Samanya Sneha paka vidhi</td>
</tr>
</tbody>
</table>

Table 2: Observations during the preparation of Aranaladi taila

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

Table 3: Observations after the completion of Aranaladi taila

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

Table 4: Preparation of Khajita Aranaladi Taila

<table>
<thead>
<tr>
<th>Name of practical</th>
<th>Khajita Aranaladi taila</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference</td>
<td>Sahasrayoga</td>
</tr>
<tr>
<td>Equipment’s</td>
<td>Mortar and pestle, Measuring jar, Beaker.</td>
</tr>
<tr>
<td>Date of commencement</td>
<td>April 11 2023</td>
</tr>
<tr>
<td>Date of completion</td>
<td>April 11 2023</td>
</tr>
<tr>
<td>Principle</td>
<td>Manthana sanskara (churning)</td>
</tr>
</tbody>
</table>

Table 5: Observations after the completion of Khajita Aranaladi taila

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

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

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Feature</th>
<th>Observation of Aranaladi taila</th>
<th>Observation of Khajita Aranaladi taila</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Colour</td>
<td>Light brown</td>
<td>Creamy white</td>
</tr>
<tr>
<td>2</td>
<td>Odour</td>
<td>Pungent</td>
<td>Characteristic</td>
</tr>
<tr>
<td>3</td>
<td>Touch</td>
<td>Viscous</td>
<td>Creamy, cold</td>
</tr>
</tbody>
</table>
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