Critical review on Sneha Kalpana w.s.r. to Kalyanaka Ghrita

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ABSTRACT

Rasa Shastra and Bhaishajya Kalpanais the branch of Ayurveda that deals with Pharmaceutics. It deals with the preparation of different dosage form. Sneha Kalpana is one of dosage prepared by Taila and Ghrita with addition of different plants and liquid media, they were very extensive range of diseases among patients of all age groups. Sneha Kalpas preparation in Ayurvedic pharmaceutics are used widely for medicinal as well as cosmetic purposes. It is used to extract the fat soluble, water soluble, or even the chemical constituents which are soluble in various media and active principles from the raw material, enhance and absorption of drugs, when used topically in fat media. Kalyanaka Ghrita is a polyherbal formulation mentioned in various Ayurvedic texts, and it is widely and effectively used by Ayurvedic physicians in the management of a wide array of disorders. Here, we provide a critical review of Sneha Kalpana process in reference to Kalyanaka Ghrita.

KEYWORDS

Conceptual study, Sneha kalpana, Murchana, Paka and Paka Siddhi
INTRODUCTION

*Sneha Kalpana* is the combination of two words *Sneha* and *Kalpana*. *Sneha* means fat or fatty material and *Kalpana* stands for pharmaceutical process of medicaments. *Kalpana* is a process through which a raw material converted into medicinal form according to the necessity of the physician. *Sneha Kalpana* is defined as “A pharmaceutical process to prepare oleaginous medicaments from the substances like *Kalka* (paste of herbs), *Kwatha* (prepared decoction) or *Drava Dravya* (any liquid) taken in definite proportion and by subjecting them to unique heating pattern and duration to complete certain pharmaceutical parameters, according to the need of therapeutics. This process ensures that the absorption of the active therapeutic properties is obtained from the ingredients which are used into the *Sneha* media.¹

**Sources of Sneha Dravyas**²-

As per Acharya Charaka the *Sneha Dravyas* are classified according to their source of origin as—

1. *Sthavara* (Vegetable origin)
2. *Jangama* (Animal origin)

**Sthavara Sneha**— It is obtained from different parts of the plants like. Fruits, bark, seeds, leave etc. Seeds of *Tila* (Sesame indicum linn), *Eranda* (Ricinus Linn), *Sarsapa* (Brassica nigra Koch), *Atasi, Karanja* (Pongamia Pinnata), *Shahjan* (Moringa oleifera linn) etc. are the sources of oil of *Sthavara* Kingdom.

**Jangama Sneha**— It is obtained from animals, fishes & birds etc. as follows

1. *Ghrita*
2. *Vasa* (fat)
3. *Majja* (bone marrow)

As per Acharya Charaka fishes, birds, and deer are sources of *Jangama Sneha*. Obtained curd, milk, *Ghrita*, meat, fat & bone marrow are administered as *Snehas*.

**Classification of Sneha Dravyas**-

*Sneha* drayyas may be divided under three headings—

1. On the basis of Nature of media³- *Ghrita, Taila, Vasa, Majja, Yamaka Sneh†a* and *Chatuh Sneha*.  
2. On the basis of stages of *Paka*— *Aam Paka, Mridu Paka, Madhya Paka, Khara Paka* and *Dagdha Paka*.  
3. On the basis of types of utility— *Pana, Anuvasana, Abhyanga, Shirobasti, Uttarbasti, Nasya, Karnapuran* and *Dharana*

 Generally in ayurveda *Sneha* is used are of four types—

1. *Ghrita*— *Ghrita* - Clarified butter
Sneha-Oils- Unsaturated butter
(3) Vasa- Enemata- Animal fat -lard
(4) Majja- Snuff- Bone marrow

**Historical background of Sneha Kalpana and Kalyanaka Ghrita —**

**Charaka Samhita** - Acharya Charaka clearly mention about the method of preparation of Sneha kalpana, type of Sneha paka, Snehasiddhi lakshana and uses of Sneha kalpana in different therapeutics. He also describe about Kalyanaka Ghrita there ingredients and uses in Chikitsa sthan 9th.

**Sushruta Samhita** - Sushruta clearly describes about the Sneha paka vidhi, ratio of drava, kalka and Sneha and give characteristic feature of Sneha paka lakshana and there uses. Description of Kalyanaka Ghrita is given in the reference of snake poisoning in Kalpastrhana 6th.

**Ashtanga Hridya** - In Ashtang Hriday the detailed knowledge of methods of Sneha paka, Snehasiddhi laksana types and uses of Sneha paka are given in Kalpa siddhisthana 6th chapter. Therapeutically use of Kalyanaka Ghrita in Unmada is given in unmada pratisedhah adhyaya 6th chapter of uttarantra.

**Ashtanga Sangraha** - Vagbhatta describe in detailed about Sneha and its uses in Sutrasthana chapter 25th. He describes about Kalyanaka Ghrita in uttarantra of unmad pratisedh adhyaya 9th chapter with its ingredient and its uses.

**Kashyapa Samhita** - Detailed knowledge about Sneha is given in Sutrasthana chapter 22 and He also describe about Kalyanaka Ghrita in Leha adhyaya of Sutrasthana.

**Sharangdhar Samhita** - The detailed and accurate knowledge of Sneha kalpana are given in Sharangdhar samhita madhyama khand chapter 9th. Here each and every thing is clearly describe as like the ratio of Sneha, kalka, drava dravya, types of Sneha paka, Sneha siddhi lakshana uses of kalpana and all other things which are related with Sneha kalpana are given in this chapter. Paniya kalyanaka Ghrita are given in the therapeutically use of epilepsy.

**Chakradutta** - Chakrapani describe about paniya kalyanaka Ghrita in unmada chikitsa prakarana.

**Bhaishajya ratnawali** - First of all describe about the methods of Sneha murchana. Give detailed knowledge of Sneha paka, ratio of kalka there method of preparation, Sneha and ratio of drava dravya. The description of Kalyanaka Ghrita, uses and there ingredients are given in unmada rogadhkara which is taken from charak.

**Bharata bhaishajya ratnakara** - The reference of Kalyanaka Ghrita are given in first part of Bharat bhaishajya ratnakara of
kakaradi Ghrita with their ingredients and therapeutic uses.

Rasatantrasara avam Siddhaprayoga samgraha\textsuperscript{13} - The brief knowledge of Sneha kalpana are given in Ghrita, Taila prakarana and description of Kalyanaka Ghrita there ingredients, doses and uses are also given.

Ayurveda sarasamgraha\textsuperscript{14} - Ayurveda sarasamgraha give the brief knowledge of Sneha kalpana, Snehapaka, paka lakshana and also give the knowledge of Ghrita murchana. Also describe the Kalyanaka Ghrita with their ingredients and uses.

Bhavaprakash\textsuperscript{15} - Acharya Bhavamishra only gives the therapeutic use of Kalyanaka Ghrita in part II chikitsa prakarana of unmada adhikara chapter 22.

Yogratnakara\textsuperscript{16} - Acharya describes in purvardh the properties of Ghrita, Taila and He also explain the uses of Kalyanaka Ghrita in unmada chikitsa prakarana.

Ayurvedic Pharmacopoea of India\textsuperscript{17} and Ayurvedic Formulary of India\textsuperscript{18} - General method of preparation of Sneha kalpana are given in brief of Ghrita section of API parts II volume I, II, and III and AFI part I, II and III and detailed methods of preparations of Kalyanaka Ghrita and its pharmacopoeal properties are given in API part II volume I in Ghrita section. In AFI part I the detailed knowledge of doses wits its anupana and therapeutic uses of Kalyanaka Ghrita are given.

Primary knowledge of Sneha and its properties, source of origin, types, etc., is clearly mentioned.

Systematic method of preparation, types of Snehapaka, proportions and Siddhilakshana of Sneha Kalpana, and their uses is discussed in this samhita. In CharakaVimanSthana, 7\textsuperscript{th}, separately Sneha siddhi lakshana is mentioned. Different kalpas of Sneha Kalpana are elaborated Primary knowledge of Sneha and its properties, source of origin, types, etc., is clearly mentioned.

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**General method of Preparation of Sneha Kalpana:**

Sneha Paka process may be divided in three phases:

1. **Sneha Murchana**
2. **Sneha Paka**
3. **Paka Siddhi**

**Sneha Murchana:**

Sneha Murchana is a unique procedure carried out on uncooked Sneha before subjecting it to Sneha Kalpana. The concept of Murchana is found in Dipika commentary of Sharangdhara which was written in later parts of 14th century. Bhaishajya Ratnavali deals in detail about the Sneha Murchana concept of Ghrita and different oils used for therapeutic purpose. Since no obvious reference are find for Sneha Murchana concept in Brihatrayi or Laghutrayi. Bhaishajya Ratnavali is the first text, which described the importance and method of Murchana process.

Process of Sneha Murchana (Ghrita /Taila) is necessary before starting the Sneha Paka. Prepare the Kalka and Kwath of the drugs for according to the disease. Along with it prepare the Kalka of Gandha dravaya and also use the milk of cow, goat, buffalo and Swaras for the best result. Keep all these drugs in stainless steel vessels and put them on Mandagni. When Sneha become free from water, and passes the Sneha siddhi Lakshana remove it from the stove and filter it in hot stage from the cloth. In brief we can say that Sneha Murchana is the procedure where in the raw Sneha (Oil or Ghrita ) is boiled with the coarse powder of selected medicinal drug and desired quantity of water to get rid of Ama and Gandha dosha present in it.

**Ghrita Murchana:**

**Ingredients:**

- SnehaDravya - Go Ghrita 1 - part
- Kalka Dravya- 1/16 Part of each, Haritaki, Vibhitaki, Amlaki, Musta, Haridra and Matulunga Swarasa.
- Drava Dravya- 4 part of water
Table 1 Ingredients of Ghrita Murchana

<table>
<thead>
<tr>
<th>S.n</th>
<th>Name of Ingredients</th>
<th>Latin Name</th>
<th>Parts used</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Haritaki</td>
<td>Terminalia chebula Retz.</td>
<td>Pericarp (p.)</td>
<td>1/16</td>
</tr>
<tr>
<td>2.</td>
<td>Vibhitaki</td>
<td>Terminalia belerica Roxb.</td>
<td>p.</td>
<td>1/16</td>
</tr>
<tr>
<td>3.</td>
<td>Amalaki</td>
<td>Emblica officinalis Gaertn.</td>
<td>p.</td>
<td>1/16</td>
</tr>
<tr>
<td>4.</td>
<td>Musta</td>
<td>Cyperus rotundus</td>
<td>Root</td>
<td>1/16</td>
</tr>
<tr>
<td>5.</td>
<td>Haridra</td>
<td>Curcuma longa Linn.</td>
<td>Rhizome (Rz.)</td>
<td>1/16</td>
</tr>
<tr>
<td>6.</td>
<td>Matulunga</td>
<td>Citrus medica</td>
<td>Fruit</td>
<td>1/16</td>
</tr>
<tr>
<td>7.</td>
<td>Ghrita</td>
<td>Clarified butter from cow’s milk</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>8.</td>
<td>Water</td>
<td>RO Water</td>
<td>-</td>
<td>4</td>
</tr>
</tbody>
</table>

Procedure: For the preparation of Go-Ghrita murchana, first of all take all the mentioned ingredients in dry form and make them moderately fine powder to pass from sieve number 44. After that it was grinded with sufficient quantity of Nimbu Swarasa by adding little amount of water to make Kalka (homogenous blend). Then Go-Ghrita is taken in a stainless-steel vessel and heated in mild temperature. The Kalka was mixed with the vessel containing Ghrita. Ghrita Murchana is carried out in Mandagni till the appearance of Siddhi Lakshana. After filtration it is stored in air tight glass jar.

Sneha paka

Sneha Paka is a phenomena in which we take the Murchita Sneha (Ghrita, Tail) first, then Kalka and lastly Drava dravya is added. This is the order for addition of basic ingredients to prepare a formulation. Acharya Sushruta and Vagbhatta have followed the method of adding all basic ingredients simultaneously.

AIM

- To extract lipid soluble active principle from the drugs.
- To make use of therapeutic values of Oil/Ghrita.
- To enhance the shelf life of Sneha preparation.
- To enhance the drug absorption.
- To make the preparation more palatable and pleasing with good odour.
- Increase the bioavailability of drugs due to its Sukshma, Vyavayee Gunas.

Sneha Kalpana- Essential ingredients:

1. Kalka Dravya: In the case of fresh and wet drugs Kalka is prepared by pounding them in Khalva yantra. However, in the case of dry drugs, the fine powder of these drugs is triturated with required quantity of water to prepare Kalka.

2. Sneha Dravya: Sneha dravya (Oil or Ghrita) is taken 4 times to that of Kalka dravya.

3. Drava dravya: Drava dravya is taken 4 times to that of Sneha. The Drava dravya might be water, any of the other,
natural liquids or any of the liquid preparations.

**General method of preparation:**

**Kalka:** A green or dry drug should be converted into course powder form by rubbing, chopping or grinding with or without water, is called Kalka.

**Method:**

**Green Drug (Fresh):** Drugs are collected and cleaned with water then cut it and converted in to paste form with the help of Khalva Yantra.

**Dry Drug:** Drugs should be taken in a prescribed ratio converted into powder form then water is added to make it into paste form.

1. Used as a dosage form for internal administration.
2. Pharmaceutically it is used in Sneha Kalpana and Avaleha Kalpana etc.
3. As a lepa Kalpa it is used in Vrana, Shotha etc.

**Drava-dravya:** Any of natural liquid or the classical liquid preparation can be used as drava-dravya. A method of Kwatha preparation is separately explained by Shrangdhara Samhita in chapter of Sneha Kalpana.

Table 2 Ingredients of Kalyanaka Ghrita 23.

<table>
<thead>
<tr>
<th>S.n</th>
<th>Plants name</th>
<th>Botanical name</th>
<th>Parts use</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Haritaki</td>
<td>Terminalia chebula Retz.</td>
<td>Pericarp (p.)</td>
<td>1 part</td>
</tr>
<tr>
<td>2</td>
<td>Vibhitaka</td>
<td>Terminalia belerica Roxb.</td>
<td>p.</td>
<td>1 part</td>
</tr>
<tr>
<td>3</td>
<td>Amalaki</td>
<td>Emblica officinalis Gaertn.</td>
<td>p.</td>
<td>1 part</td>
</tr>
<tr>
<td>4</td>
<td>Visala</td>
<td>Citrullus colocynthis Scharad.</td>
<td>Fruit (Fr.)</td>
<td>1 part</td>
</tr>
<tr>
<td>5</td>
<td>Bhadraila (Sihula)</td>
<td>Amomum subulatum Roxb.</td>
<td>Seed (Sd.)</td>
<td>1 part</td>
</tr>
<tr>
<td>6</td>
<td>Devdaru</td>
<td>Cedrus deodara (Roxb.) Loud.</td>
<td>Heart wood, (Ht.wd)</td>
<td>1 part</td>
</tr>
<tr>
<td>7</td>
<td>Elvaluka</td>
<td>Prunus avium L.</td>
<td>Stem bark,</td>
<td>1 part</td>
</tr>
<tr>
<td>8</td>
<td>Svetasariva</td>
<td>Hemidesmus indicus R. Br.</td>
<td>Root (Rt.)</td>
<td>1 part</td>
</tr>
<tr>
<td>9</td>
<td>Krsnasariva</td>
<td>Cryptolepis buchani Roem&amp;Schult</td>
<td>Rt.</td>
<td>1 part</td>
</tr>
<tr>
<td>10</td>
<td>Haridra</td>
<td>Curcuma longa Linn.</td>
<td>Rhizome (Rz.)</td>
<td>1 part</td>
</tr>
<tr>
<td>11</td>
<td>Dharahrida</td>
<td>Berberis aristata Dc.</td>
<td>Stem (St.)</td>
<td>1 part</td>
</tr>
<tr>
<td>12</td>
<td>Salparni</td>
<td>Desmodium gengeticum Dc.</td>
<td>Rt.</td>
<td>1 part</td>
</tr>
<tr>
<td>13</td>
<td>Prisparni</td>
<td>Uvaria picta Desv.</td>
<td>Rt.</td>
<td>1 part</td>
</tr>
<tr>
<td>14</td>
<td>Phalini (Priyongu)</td>
<td>Callicarpa macrophylla Vahl.</td>
<td>Inflorescence,</td>
<td>1 part</td>
</tr>
<tr>
<td>15</td>
<td>Nata (Tagara)</td>
<td>Valeriana wallichii Dc.</td>
<td>Rt.</td>
<td>1 part</td>
</tr>
<tr>
<td>16</td>
<td>Brhati</td>
<td>Solanum indicum Linn.</td>
<td>Whole, (Pl.)</td>
<td>1 part</td>
</tr>
<tr>
<td>17</td>
<td>Kushtha</td>
<td>Saussurea lappa C.B. Clark</td>
<td>Rt.</td>
<td>1 part</td>
</tr>
<tr>
<td>18</td>
<td>Manjistha</td>
<td>Rubia cordifolia Linn.</td>
<td>St.</td>
<td>1 part</td>
</tr>
<tr>
<td>19</td>
<td>Nagakesara</td>
<td>Mesua ferrea Linn.</td>
<td>Stmn.</td>
<td>1 part</td>
</tr>
<tr>
<td>20</td>
<td>Dadimaphalavaka</td>
<td>Punica granatum Linn.</td>
<td>p.</td>
<td>1 part</td>
</tr>
<tr>
<td>21</td>
<td>Vella (Vidanga)</td>
<td>Embelia ribes Burm.F.</td>
<td>Fruit (Fr.)</td>
<td>1 part</td>
</tr>
<tr>
<td>22</td>
<td>Talisapata</td>
<td>Abies webbiana Lindle.</td>
<td>Leaf (L.f.)</td>
<td>1 part</td>
</tr>
<tr>
<td>23</td>
<td>Ela (Suksmila)</td>
<td>Ellateria cardamomum Maton.</td>
<td>Sd.</td>
<td>1 part</td>
</tr>
<tr>
<td>24</td>
<td>Malatimukula (Jati)</td>
<td>Jasminum officinale Linn.</td>
<td>Flower (Fl.)</td>
<td>1 part</td>
</tr>
<tr>
<td>25</td>
<td>Utpala</td>
<td>Nymphaea stellata Wild.</td>
<td>Fl.</td>
<td>1 part</td>
</tr>
<tr>
<td>26</td>
<td>Danti</td>
<td>Baliospermum monatanum Muell.</td>
<td>Rt.</td>
<td>1 part</td>
</tr>
<tr>
<td>27</td>
<td>Padmaka</td>
<td>Prunus cerasoides D.Don.</td>
<td>Ht.Wd</td>
<td>1 part</td>
</tr>
<tr>
<td>28</td>
<td>Hima (Rakta chand)</td>
<td>Pterocarpus santalinus Linn.F.</td>
<td>Ht.Wd</td>
<td>1 part</td>
</tr>
<tr>
<td>29</td>
<td>Sarpi (GoGhrita)</td>
<td>Clarified butter from cow’s milk</td>
<td>-</td>
<td>64 part</td>
</tr>
</tbody>
</table>
Table 3 Guidelines for Kwatha preparation depending on the nature of drugs

<table>
<thead>
<tr>
<th>Drugs of different</th>
<th>Water Ratio</th>
<th>Reduced up to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft drugs</td>
<td>4 times</td>
<td>1/4th part</td>
</tr>
<tr>
<td>Medium and hard drugs</td>
<td>8 times</td>
<td>1/4th part</td>
</tr>
<tr>
<td>Very hard drugs</td>
<td>16 times</td>
<td>1/4th part</td>
</tr>
</tbody>
</table>

Table 4 Guidelines for Kwatha preparation depending on quantity of drugs

<table>
<thead>
<tr>
<th>Drug Quantity</th>
<th>Ratio of water</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Karsha (12gm) to 1 Pala (48gm)</td>
<td>16 times</td>
</tr>
<tr>
<td>1 Pala (48gm) to 1 Kudava (192gm)</td>
<td>8 times</td>
</tr>
<tr>
<td>1 Kudava (192gm) to Prashta (768gm) and above</td>
<td>4 times</td>
</tr>
</tbody>
</table>

Specific rules of Sneha preparation:

Table 5 Rule1: The quantity of Kalka dravya differs from general ratio depending on different Drava-dravya used.

<table>
<thead>
<tr>
<th>Drava-dravya</th>
<th>Quantity of Kalka dravya</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambu (jala)</td>
<td>1/4th</td>
</tr>
<tr>
<td>Kwatha</td>
<td>1/6th</td>
</tr>
<tr>
<td>Rasa (Swarasa)</td>
<td>1/8th</td>
</tr>
</tbody>
</table>

Table no. 6: Rule 2: In the case of Godugdha and some other Drava-dravyas quantity of Kalka dravya are as follows-

<table>
<thead>
<tr>
<th>Drava-dravya</th>
<th>Quantity of Kalka dravya</th>
</tr>
</thead>
<tbody>
<tr>
<td>Godugdha (milk)</td>
<td>1/8th</td>
</tr>
<tr>
<td>Dadhi (curd)</td>
<td>1/8th</td>
</tr>
<tr>
<td>Mansarasa (meat soup)</td>
<td>1/8th</td>
</tr>
<tr>
<td>Takra (buttermilk)</td>
<td>1/8th</td>
</tr>
</tbody>
</table>

For appropriate Paka of Sneha four times of water is also added.

Rule 3: If number of Drava dravya is five or more than five in number then the quantity of each should be equal to that of Sneha and if they are less than five then the total quantity of all of them should be four times to that of Sneha.

Rule 4: If only dravya are mentioned for a Sneha preparation, then Kalka of the same drugs is prepared and four times of water is also added.

Rule 5: If only kwatha dravya are given in a Sneha Paka then Kalka of same drugs is added.

Rule 6: In case where Kalka is either not indicated or restricted in any Sneha Kalpana there Sneha may be prepared with four times of drava dravya.

Rule 7: In case of Pushpa Kalka in the preparation, it should be taken in 1/8th part to that of Sneha and water should be taken four times from the Sneha.

Type of Sneha Paka:

Sneha Paka can be done in two methods.

1. Agni Paka (with fire)
2. Aditya Paka / Bhanu Paka / Surya Paka (with sun rays)
1. **Agni Paka:** This *Paka* method is done, using fire as a heat source. It is a commonly followed method as usually all the *Sneha* preparations are manufactured by using *Agni*. Here the *siddhi* *Lakshanas* (Test of perfectness) is obtained as the *Sneha* is getting prepared such as *Kalka* attains wick shape when rolled between fingers, no sound is produced when put into fire, foam disappears in *Ghrita Paka* and appears in *Taila Paka* and colour taste & odour of ingredients used is appreciated in the final product.

2. **Aditya Paka:** This *Paka* method is done, using sun rays. In this the *Sneha* along with *Kalka dravyas* are kept in sun rays for certain duration of time. Sometimes *Drava dravyas* may also be added along with *Kalka dravyas*. As such there are no specific *Siddhi lakshanas* are mentioned, but few opine that colour of *patra* (vessel) should change after the proper *Paka*. Drugs having more volatile principles and *Rasa dravyas* are commonly used in this method of *Paka*.

### Table 7 Different types of *SnehaPakas* are mentioned in Classical Ayurvedic texts -

<table>
<thead>
<tr>
<th>Reference</th>
<th>Types of Pakas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch.S.Kalpa (12/102), Su.S.Ch. (31/11)</td>
<td>Mridu, Madhayam, Khara</td>
</tr>
<tr>
<td>Sh.S.Ma Kha. (9/14)</td>
<td>Mridu, Madhayam, Khara</td>
</tr>
<tr>
<td></td>
<td>Ama, Mridu, Madhyama, Khara, Dagdha</td>
</tr>
<tr>
<td>A.S. Kalpa (8/30), A.H.Kalpa (6/19)</td>
<td>Manda, Chikkna, Kharachikkana</td>
</tr>
<tr>
<td>H.S.Chaturtha Sthana (2/1)</td>
<td>Khara, Chikkana, Madhyama, Vishoshi</td>
</tr>
</tbody>
</table>

### Lakshana of different *Sneha Paka*:

**Ama Paka:** *Ama* means the medicated oil has not sufficiently assimilated the medicinal properties due to short duration of heat treatment. A small quantity of *Kalka* taken out and pressed in between the fingers indicates water in both oil as well as in *Kalka*. Here the fluids are at heterogeneous stage. In this *Sneha* will be guru in nature with no potency generated in it. It causes *Agnimandya* and is therapeutically not used.30.

**Mridu Paka:** In this *Paka* the paste is sticky on touch due to the presence of traces of water and produces crackling sound, when kept on fire. The oil collected at this stage is likely to contain fewer amounts of fat soluble active principles. In this *Paka* *Sneha Kalka* will have some amount of moisture left out in it.31. According to *Acharya Sushruta* when the medicine only separates from the *Sneha* is said to be the *Mridu Paka*.32.

- When the final product is similar to the paste of drugs it is known as *Mridu Paka*.33.

**Madhyama Paka:** When the paste still remains soft and not sticky due to the
complete disappearance of water content. Kalka can be made into varti between the fingers, and the oil is also free from water content. The oil collected at this stage is likely to be rich is fat soluble contents. In this Paka Sneha Kalka will be soft and will be devoid of moisture.

- When medicine becomes dried like wax and becomes non-sticky, it is called Madhyama Paka.
- In Madhyama Paka the final product is like Sanyava and does not adhere to ladle.
- In this Paka foam appear in the surface of Taila.

**Khara Paka:** In this stage, the paste becomes hard, rough due to excess heating. The oil collected at this stage is meant for external application. In this Paka Sneha Kalka will be hard to touch.

- When the Kalka becomes black settle down, becomes partially dried and smooth.
- When final products disintegrate during wicking it is known as Khara Paka.

- When the colour of Taila became ManjishthaVarna.

**Dagdha Paka:** This is the last stage of SnehaPaka, where probably the contents of the oil are burnt leaving it no use for any therapeutic purposes. It causes burning sensation and it is Vata vardhaka. In this Paka Sneha causes Daha and it is therapeutically unfit as all its potency is burnt.

**Manda Paka:** In this Paka the nature of Kalka will not change its look like Kalka (soft in nature).

**Chikkana Paka:**

- In this Paka Kalka will be Madnopamam (Like wax).
- In this Paka foam appear as white as moon (Saphenachandrabho).

**Khara Chikkana Paka:** In this Paka Kalka will be hard in touch.

**VishoshiPaka:** In this Paka the taila is burnt thereby giving rise to smoke and its taste and smell are reduce because of burnt.

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**Table 8** Therapeutic uses of different SnehaPaka according to classical Ayurvedic texts

<table>
<thead>
<tr>
<th>S.n.</th>
<th>Paka</th>
<th>Ch. S.</th>
<th>Su. S.</th>
<th>A.H.</th>
<th>Sha. S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ama Paka</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>No therapeutic use</td>
</tr>
<tr>
<td>2.</td>
<td>Mridu Paka</td>
<td>Nasya</td>
<td>Pana, Bhojna</td>
<td>-</td>
<td>Nasya</td>
</tr>
<tr>
<td>3.</td>
<td>Madhayam Paka</td>
<td>Pana, Basti</td>
<td>Nasya, Abhyanga</td>
<td>-</td>
<td>All purpose</td>
</tr>
<tr>
<td>4.</td>
<td>Khara Paka</td>
<td>Abhyanga</td>
<td>Basti, Karnapuran</td>
<td>-</td>
<td>Abhyanga</td>
</tr>
<tr>
<td>5.</td>
<td>Manda Paka</td>
<td>-</td>
<td>-</td>
<td>Nasya</td>
<td>-</td>
</tr>
<tr>
<td>6.</td>
<td>Chikkana Paka</td>
<td>-</td>
<td>-</td>
<td>Pana, Basti</td>
<td>-</td>
</tr>
<tr>
<td>7.</td>
<td>Khara-chikkana Paka</td>
<td>-</td>
<td>-</td>
<td>Abhyanga</td>
<td>-</td>
</tr>
</tbody>
</table>
**Gandha Paka (Patra Paka)**:
The process in which the Sneha is flavored by certain selected Gandha dravya. The fine Kalka of such drugs are placed in the vessel into which the warm prepared Sneha is filtered. After some time when the Sneha is cooled, it is filtered and packed into suitable containers.

**Gandha dravya ratio**:
The 1/8th quantity of Kalka of Gandha dravaya will added to the total quantity of oil. However, some physicians are suggested that, the gandha dravya Kalka should be added equal to that of Sneha Kalka dravya i.e. 1/4th quantity of that of Taila.

**Time duration to cook Sneha and some other preparations**:

<table>
<thead>
<tr>
<th>Table 9 Specific time duration for Sneha-Paka</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drava-dravya</td>
</tr>
<tr>
<td>Dhanya, Mansarasa</td>
</tr>
<tr>
<td>Milk</td>
</tr>
<tr>
<td>Swarasa</td>
</tr>
<tr>
<td>Takra, Dadhi, Kanji, Gomutra</td>
</tr>
<tr>
<td>Roots, Creepers, Climbers</td>
</tr>
</tbody>
</table>

In any pharmaceutical process where different plant material of varied hardness and fibre content are used the time taken to extract the active principles is also different.

**Table 10 Sneha siddhi Lakshana**

1. चिततिष्ट्यो लेखकलः स्नेहकलः Sneha Kalka attains perfect wick like shape when rolled between thumb and index finger.
2. स्वादाणगुण्यां विनिर्दितः If a part of Sneha Kalka is put in the fire, no sound is produced indicating the loss of moisture in it.
3. रूपोद्धारस्ति रूपमांसस्तिरः संपन्नः Foam appears in Taila Paka and it disappears in Ghrita Paka during completion of preparation.
4. मनोरण्यासाठीशीलः Desired colour, odour and taste of the ingredients become appreciable as the preparation is properly done.

**Sneha**

**Kalpana Saviryatavadhi (Shelf life/Stability)**:
Shelf life is the period of time, from the date of manufacture, that a drug product is expected to remain within its approved product specification while stored under defined condition. The phrase “shelf life” and “expiry date” is often interchangeably used in the industry, as both terms reflect the same concept; there is a period of time where a product is stable and safe for use, but is made limited based on thorough stability research. Shelf life / expiry dates reflect the time where a product will work both safely and effectively. This is why “shelf life testing” is also referred to as...
“stability testing”. The amount of time a product can stay stable under certain environmental conditions, equates to its shelf life\textsuperscript{50}.

- Sixteen months is the shelf life of any \textit{Sneha Kalpana} (Medicated \textit{Ghrita} or Oil).
  Few books mention the \textit{Sneha Kalpana Saviryatavadhi} as four months, however this cannot be agreed as \textit{Sharangdhara} clearly mentions the \textit{Saviryatavadhi} as sixteen months and \textit{Adhamala} clarifies the same even in \textit{Gudartha dipika} commentary\textsuperscript{51}.

- \textit{Ghrita} - 2 years, \textit{Taila} - 3 Years (Gazette notification GSR No. 789(E) dated 12\textsuperscript{th} August, 2016 for revising shelf life of ASU Drugs)

\textit{Sneha Avartana}\textsuperscript{52}:  

\textit{Avartana} literally means repetition. \textit{Sneha} which is subjected for repeated processing (\textit{Paka}) along with \textit{Kalka dravya} and \textit{Drava dravya} is called \textit{Avartita Sneha}.This concept of \textit{Sneha Avartana} prevails from \textit{Samhita} period. \textit{Dasa Paki} (\textit{Anutaila}), \textit{Shata Paki} (\textit{Kshirabala taila}) and \textit{Shahastra Paki} indicate the number of times the process is repeated. With repetition of process each time, practically we find considerable loss in the quantity of \textit{Sneha}. But the dosage of \textit{Avartita Sneha} is greatly reduced as it has more active principles in concentrated form.

**The advantages of Avartita Sneha are:**
- The reduced dosage
- Quicker action
- Almost therapeutic efficacy
- Easier drug administration because of lesser dose requirement.

**Disadvantages of Avartita Sneha**-
- Include more cost effectiveness
- Time factor for preparation
- More fuel and
- Manual labour.

**Modern concept of Ghrita\textsuperscript{53}**

\textit{Ghrita} contains approximately 8\% lower saturated fatty acids which makes it easily digestible. These are the most edible fat and which are not found in any other edible oil or fat. It contains vitamins, A, D, E and K in which vita A and Vita E are anti-oxidants and are helpful in preventing oxidative injury to the body. No other edible fat or oil contains Vita. A, except fish oil. Vit. A, keeps epithelial tissues of the body intact keeps the outer living of the eyeball moist and prevent blindness. \textit{Ghrita} also contains 4-5\% linoleic acid as Essential fatty acids promote proper growth of human body. During preparation of \textit{Ghrita} protein casein is removed. Animal studies have shown that casein elevates cholesterol, \textit{Ghrita} resist the spoilage by micro-organism or chemical action. The melting point of \textit{Ghrita} is 35\degree C. Which is
less than the normal temperature of the human body its digestibility coefficient or rate of absorption is 96% which is highest of all oils and fats. Since active ingredients are mixed with Ghrita they are easily digested and absorbed. Lipophilic action of Ghrita facilitates transportation to a target organ and final delivery, inside the cells, because cell membrane also contains lipid. This lipophilic action of Ghrita facilitates entry of the formulation into the cell and its delivery to the mitochondria microsome and nuclear membrane.

DISCUSSION
Sneha Kalpana is a pharmaceutical process to prepare oleaginous medicaments (medicated Taila and Ghrita) from the substances like Kalka (herbal paste), Kwatha (decoction) or Drava dravya (any other liquid such as milk, self-expressed juices, meat juice, etc.) taken in specific proportion and by subjecting them to unique heating pattern and duration to fulfil certain pharmaceutical parameters, according to the need of therapeutics. Ghrita Kalpana (medicated Ghrita preparations) is one of the commonly used dosage form in Ayurvedic pharmaceutics, aimed; to extract the lipid soluble active principles from the plants and minerals, to make use of therapeutic values of Ghrita, to preserve the drug/drugs for longer time (enhanced shelf life), and to enhance and hasten the absorption of drugs, when used topically in fatty medias. Before starting the Sneha Kalpana, remove the Ama dosa by the process of Murchana. Sneha Murchana is the procedure where in the raw Sneha (Oil or Ghrita) is boiled with the coarse powder of selected medicinal drug and desired quantity of water to get rid of Ama and Gandha dosa a present in it. Kalyanaka Ghrita is a famous and commonly used Ayurvedic preparation in Apasmāra (Epilepsy); Bhūtonmāda (exogenous psychosis); Bālagraha (specific disorders of children); Visavikara (disorders due to poison); Vandhyatva (Infertility); Moha (Delusion); Jvara (fever); and Smritisaurbalya (weak memory) etc.

CONCLUSION
Sneha Kalpana is the preparation prepared by using one part of Kalka dravyas, four parts of Sneha dravyas and sixteen parts of Drava dravya. The mixture is boiled in Mandagni until Sneha siddhi Laksanas are attained. In any pharmaceutical process where different plant material of varied hardness and fibre content are used the time taken to extract the active principles is also different. The Ghrita, Taila, Guda and such other preparations should not be
cooked in single day. If done so they may not acquire the desired therapeutic properties. Instead, the process has to be carried out for more than a day by cooking at day time and allowing the Paka to cool down at night. By doing so, the preparation is known to acquire special therapeutic properties. General rule of Sneha Paka is Dhanya, Mansarasa in one day, Milk two day, Swarasa 3days, Takra, Dadhi, Kanji, Gomutra five days and Roots, Creepers, Climbers in twelve days. Kalyanaka Ghrita was mentioned in many classical texts and many therapeutic books in the reference of different diseases but here the importance of Kalyanaka Ghrita was given in reference to anticonvulsant activity i.e epilepsy (Apasmara). Mainly Tikta Rasa, Laghu Guna, Ushna Virya, and Katu Vipaka dravyas are used in this problem. It is proved that when herbs are processed with Ghrita, their activity and efficacy are potentiated and longer preservatively and itself one type of Rasayana.
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