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## Pharmaceutical Study of *Brahmighrita* by Three Different Modified Methods

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### ABSTRACT

*Snehakalpana* is a secondary formulation of *bhaisajyakalpana*. *Brahmighrita* is such a *snehakalpana* which is very beneficial in the treatment of *unmad*, *apasmaretc* mental and convulsive disorder. *Acharyacharak* had mentioned *brahmighrita* in the context of *apasmarchikitsa* in *chikitsasthan*. Ingredients of *Brahmighrita* are *Brahmi* (*Bacopamonnieri*), *Vacha* (*Acorus clamus*), *kustha* (*Inularecemosa*), *Shankhapuspi* (*Convovulus pluricaulis*), *Puranghrita*.

### KEYWORDS

*Snehakalpana*, *Brahmighrita*, *Brahmi* (*Bacopa monnieri*)



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## INTRODUCTION

*Snehakalpna* is a secondary formulation of *bhaisajyakalpna*. It is a pharmaceutical procedure in which some fatty substances like *ghrita* or *taila* is prepared by adding some medicated paste of herbs and some liquid which has medicinal value, and cooked for some duration until the attainment of desired properties. *Brahmighrita* is such a *snehakalpna* which is very beneficial in the treatment of *unmad*, *apasmaretc* mental and convulsion disorder. The drug is widely prescribed by *vaidyas* as *medhya* drug (memory tonic) in children. It has a broad spectrum use in *panchakarma* for *matravasti*, *shirapichu*, *nasya*.

*Acharyacharak* had mentioned *brahmighrita* in the context of *apasmarchikitsa* in *chikitsasthan*. He opines that the *ghrita* is “*Unmadapasmaralaxmipaapnuta*”<sup>1</sup>

According to *acharyacharak* the ingredients of *Brahmighrita* are *Brahmi* (*Bacopamonni*), *Vacha* (*AcorusClamus*), *kustha* (*Inularecemos*), *Shankhapuspi* (*Convovulus pluricaulis*), *Puranghrita*<sup>1</sup>.

*Acharyacharak* has mentioned the *dravadravya* as *brahmiras* or the fresh juice of *brahmi*. But when the fresh herb is not available our *shastra* permits that the dried plant decoction can be used as *swaras*. So,

in the present study slight modification was done during the pharmaceutical procedure.

The *ghrita* was also taken the normal one which is available in market instead of “*puranghrita*”.

## AIMS AND OBJECTIVE

To prepare *brahmighrita* by 3 different methods, i.e.,

SAMPLE 1 (s1) –decoction prepared bydried *Brahmi*+ Dried *shankhapuspi* (used as *dravadravya* in *snehapaak*)

SAMPLE 2(s2)- The *dravadravya* was prepared by decoction of dried *Brahmi* and *shankhapuspi* +fresh *Brahmiswaras*

SAMPLE 3 (s3) - Prepared by only fresh *bramhiswaras*

The amount of *ghrita* and *kalkadravya* are unchanged in every sample.

## MATERIALS & METHODS

In this important part of the study, the detailed drug manufacturing procedure is explained. The three samples of the *bramhighrita* were prepared as per the classical method<sup>3</sup> in thepharmaceutical laboratory of department of *RasaShastra* & *Bhaisajyakalpna*, NIA, Jaipur.

### Equipments:

1) Stainless steel vessel: Diameter -14 inch, Height -7 inch



- 2) Heating device: Gas burner
- 3) Ladle made of stainless steel
- 4) Thermometer, cotton cloth, grinder, other large vessels for preparation of decoction etc.

## INGREDIENTS



**Fig 1** Shankhapuspi, Vacha, Kustha powder

**Table 1** Ingredients of *Bramhighrita (s1)*

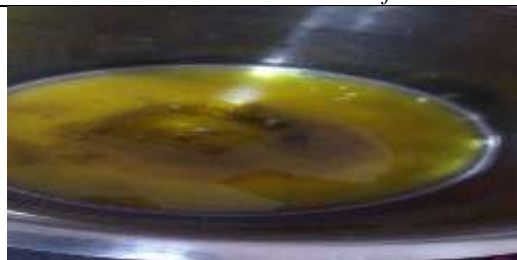
| <i>Seneha</i>   | Amount | <i>Kalkadravya</i>   | Amount | <i>Drava dravya</i>        | Amount         |
|-----------------|--------|----------------------|--------|----------------------------|----------------|
| <i>Goghrita</i> | 1 kg   | <i>Shankahapuspi</i> | 50gm   | <i>Dried bramhi</i>        | 1.5 kg         |
|                 |        | <i>Vacha</i>         | 25 gm  | <i>Dried shankhapushpi</i> | 500gm          |
|                 |        | <i>Kustha</i>        | 25gm   | <i>Water</i>               | 16lit          |
|                 |        | <i>Bramhifresh</i>   | 100gm  | <i>Total decoction</i>     | 4 lit (1/4 th) |

**Table 2** Ingredients of *Bramhighrita (s2)*

| <i>Seneha</i>   | Amount | <i>Kalkadravya</i>   | Amount | <i>Drava dravya</i>           | Amount  |
|-----------------|--------|----------------------|--------|-------------------------------|---------|
| <i>Goghrita</i> | 1 kg   | <i>Shankahapuspi</i> | 50gm   | <i>Fresh bramhiswaras</i>     | 2.4 lit |
|                 |        | <i>Vacha</i>         | 25 gm  | <i>Dried bramhi Decoction</i> | 1.6 Lit |
|                 |        | <i>Kustha</i>        | 25gm   | <i>Total</i>                  | 4 lit   |
|                 |        | <i>Bramhifresh</i>   | 100gm  |                               |         |

**Table 3** Ingredients of *Bramhighrita (s3)*

| <i>Seneha</i>   | Amount | <i>Kalkadravya</i>   | Amount | <i>Drava dravya</i>       | Amount |
|-----------------|--------|----------------------|--------|---------------------------|--------|
| <i>Goghrita</i> | 1 kg   | <i>Shankahapuspi</i> | 50gm   | <i>Fresh bramhiswaras</i> | 4 lit  |
|                 |        | <i>Vacha</i>         | 25 gm  |                           |        |
|                 |        | <i>Kustha</i>        | 25gm   |                           |        |
|                 |        | <i>Bramhifresh</i>   | 100gm  | <i>Total</i>              | 4 lit  |



**Fig 2** Goghrita

## Collection of drug

Dried brahmi, vacha, shankahapuspi, kustha (Fig:1) were collected from the local market of jaipur (shriram herbals). Fresh brahmi plant was collected from the NIA, garden. The drugs were authenticated manually by experts of the dept of Dravyagun, NIA, Jaipur. Ghrita (Fig:2) was procured from the Pharmacy of NIA, Jaipur. The ingredients of the three sample and their amount are mentioned in the Table 1, Table 2 and Table 3, respectively.

The amount of *kalka*, *ghrita* was unchanged in all the 3 samples of *Bramhighrita*. Only the modification of *dravadravya* was conducted.



### **Preparation of Drava dravya**

#### **S1:**

2 Kg dried *brahmi* (*Bacopamoneri*) and 1kg *shankhapuspi* was purchased from local market. After removal of foreign matter 1.5kg *brahmi* was obtained.

*Brahmi*, 1.5 kg and 500 gm *shankhaapuspi* were soaked overnight in 1lit water. The next morning *kwath* was prepared by reducing it to  $\frac{1}{4}^{\text{th}}$  part. Total duration of *kwath* preparation was 4 hours. Finally 4 litter *kwath* was obtained. (The first sample of *brahmighrita* (Fig:3) was prepared by the above decoctions.



Fig 3 Straining of *brahmi ghrita*

#### **S2:**

2.5 kg of fresh *brahmi* (Fig:4) was washed thoroughly for several times. Root was separated manually and again washed in running water.



Fig 4 Fresh *Brahmi*

After cleaning 2.2 kg fresh *brahmi* and 200 ml water was taken and made paste by the help of mixer grinder. *Swaras* was extracted 2.4 lit. During preparation of sample two (S2) 1.6 lit decoction of dried *brahmi* and *shankhapuspi* was also added along with the fresh *swaras*. S2 was prepared by the above *dravadravya*.

#### **S3:**

The procedure was same with s2 but here the *dravadravya* was only the fresh *brahmiswaras*, which is expressed from 3.5 kg fresh *brahmi*. 500 ml water was added for juice extraction. Total 4L of *brahmi* juice (Fig:4) was obtained. *Brahmighrita* s3 was prepared as like as the s1 & s2 without changing the other procedure.



Fig 4 *Brahmi swaras*

### **Preparation of Kalka dravya:**

Fine powder of *vacha*, *kustha*, *shankhapuspi* were powdered and mixed with liquids (*swaras*/ *kwath*) to make a paste. 100gm fresh *brahmipaste* was added. Total 250 gm of *kalka* was prepared by mixing *vacha*, *kustha*, *shankhapuspi* (Fig:5) powder and fresh *brahmi kalka* (Fig:6).



Fig 4 Kalka



Fig 6 Fresh Brahmi Kalka

### Preparation of ghrita:

*Goghrita* was taken in a stainless steel vessel and heated over gas in low flame. Paste (*kalkadravya*) was added to, and the liquid (*dravadavya*) was added. *Ghratapwak* was done according to the classical *ghrita pwak* method. The duration of *pwak* for each sample is 3 days.(4 hours/day).The *paw*k was done until the appearance of *samayaksiddhilakshan* of

**Table 4** Final yield of *Ghrita*

|          | Total yield | Loss | Percentage of loss |
|----------|-------------|------|--------------------|
| Sample 1 | 970 ml      | 30ml | 3%                 |
| Sample2  | 905 ml      | 95ml | 9.5%               |
| Sample3  | 950 ml      | 50ml | 5%                 |

**Table 5** Organoleptic parameters of *Ghrita*

| Name     | Colour          | Taste           | Odor                           |
|----------|-----------------|-----------------|--------------------------------|
| Sample 1 | Yellowish green | Slightly bitter | Characteristic smell of ghrita |
| Sample 2 | Green           | Bitter          | Characteristic smell of ghrita |
| Sample 3 | Dark green      | Bitter          | Characteristic smell of ghrita |

## DISCUSSION

*Fresh Brahmi* plant is not available in all the regional area of our country throughout the year. In some parts of India *Centelaasiatica*

*ghritapwak*. The *ghrita* was strained through a cotton cloth.

## OBSERVATIONS AND RESULTS

- During *pwak* the was observed 90<sup>0</sup>c -95<sup>0</sup>c in the first day, and 100<sup>0</sup>c -105 <sup>0</sup>c for last two days .
- Reduction of material was noticed 1 inch / hour (The stainless steel vessels were previously graduated)
- The *snehasiddhi lakshans* like *phenashanti*, *sabdahinta* of *kalka*, preparation of *varti* were perceived on the third day.
- The *ghrita* was strain in *madhyampwak* stage by observing the criteria of *madhyampwak*.
- The final yield of the *brahmighrita* preparation was described in the *Table 4*
- The organoleptic parameters are described in the table no 5

is also known as brahmi. The dried *brahmi* (*Bacpamoneri*) is abundantly available in local market of every state. In *Sharangadharsamhita* there was a reference



of preparing *swaras* by dry herbs. In the present study the decoction of *brahmi* and *shankhapuspi* was made by that principle. Again the third sample is more green and bitter than the other two samples, may be it has more chlorophyll content due to preparation with fresh juice of the *brahmi* plant.

## CONCLUSION

Out of the three samples the 3<sup>rd</sup> sample may be the best, as it was prepared by using the fresh *brahmiswaras*. The active principle of the drugs is present in *swaras* more than the decoction form. *Swarasis guru* than the other primary formulation<sup>4</sup>. It can be concluded that the third sample may be more efficacious. But whenever fresh *brahmi* is not obtainable, the first and second sample can be prepared. Further the 3<sup>rd</sup> sample is not suitable for children for internal administration due to its bitter taste. It can cause vomiting in children due to its bitter taste and *vacha*. In the present study we also judiciously add a smaller amount of *vacha*, as it is itself a *vamanopag dravya*. The first and second sample was more palatable to the patient due to their less bitterness. It can be concluded that any of the above procedure can be performed during preparation of *brahmighrita*

according to the availability of the raw material.





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