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# A GLIMPSE ON PHARMACEUTICO-ANALYTICAL STUDY OF SWETA PARPATI

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**ABSTRACT**

*The Parpati kalpana is a thin flake form of mercurial preparation which is unique in the field of Rasashastra. It is one among the Chaturvidha Rasayana and Agnisthayi Murchhita Parada Bandha i.e., Pota Bandha of Parada. Sweta parpati is an Ayurvedic medicine that comes under Parpati kalpana, used in the treatment of difficulty in urination, urinary calculi, etc. There are two different references of Sweta Parpati where the ingredients and method of preparation are different. In the present work an attempt has been made to prepare Sweta parpati along with its analytical study. It is mainly indicated in Mutrakricchra (Dysuria) and other diseases like Mutraghata, Ashmari, etc.*

**KEYWORDS:** *Parpati kalpana, Chaturvidha Rasayana, Sweta Parpati, Mutrakricchra* (Dysuria)

## INTRODUCTION

In Ayurveda system of medicine, the *Rasashastra* branch which deals with the herbal, mineral and herbo-mineral formulations with the different method of preparation like *Kharaliya*, *Parpati*, *Pottali* and *Kuppipakwa Rasayana*. As *Rasaushadhi is* gaining importance in this modern era due to the low dose form, potent in action and easily absorbed in the body due to its minute form. Here the *Parpati* which has the different method of preparation based on the amount of *Agni* given during the preparationand based on the number of ingredients used.

*Parpati* is a kind of *Murchana* of *Parada*. It is the ***Agnisthayi Murchita Avastha*** of the *Parada Bandha*, as *Kajjali* is the base for the preparation of the *Parpati* by the application of the proper quantum of *Agni* it makes the preparation *Laghu* in nature. Hence the name indicates *Parpati* means Lightness.

*Parpati Rasayanas* have the high therapeutic Value, potency, less toxicity and cost-effective preparations. Here the materials required for the preparation are easily available & cost effective. The *Parpati* Prepared is having the longer shelf life as explained in the classics, the *Rasaushadhi* older the better in the context of the*Saviryata Avadhi*.

"*Parpati kalpana*" are unique formulation categorized under the murchita parada yoga. The formulation is named as parpati as the end product resembles the shape, consistency of the "parpata" –papad shape (wafer). First reference of parpati is mentioned in Grahani chikitsa of Chakradatta written by Acharya Chakrapanidutta of 11$^{th}$ century.

Mainly two types of parpati are explained, which includes Sagandha parpati and Nirganda parpati. Sagandha parpati are formulations which includes Gandhaka (Sulphur) as an ingredient. Nirganda parpati are the formulations which do not contain Gandhaka (Sulphur) as an ingredient.

*Parpati Kalpana* (Flakes) is a well-known and successfully used preparation for the management of *Grahani* (Malabsorption/sprue syndrome). Before the invention of *Parpati, Grahani* was considered difficult to cure but after the invention of *Parpati* it became easily curable. The use of *Parpati* was found beneficial for alleviating associated symptoms of *Grahani* as well as various other diseases like *Rajayakshma, Kustha, Gulma* etc. Later various scholars derived different types of *Parpatis* by adding one or the other ingredients like Gold, Silver, Iron, Copper, Mica, Pearl and other precious stones. Some of them are *Tamra Parpati (Rasa Prakasasudhakar), Panchamruta Parpati (Rasendra Sara sangraha), Swarna Parpati (Rasapaddhati), Loha Parpati (Rasa paddhati), Vijaya Parpati (Bhaisajya Ratnavali),* etc. ***Sweta parpati*** is an Ayurvedic medicine coming in *Parpati kalpana*, used in the treatment of difficulty in urination, urinary calculi, dysuria etc. This is also known as *Ksharaparpati, Seetala parpati*. *Sweta*

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*Parpati* is different from other *Parpati kalpanas* since it does not contain *Parada* and *Gandhaka* as its ingredient. It contains S*uryakshara*, S*phatika* and *Navasadara* as main ingredients as per AFI and Sidhha yoga sangraha.

The present study includes mainly the preparation of Sweta parpati with its detailed pharmaceutical processing.
All the required drugs were collected from local market and traders. They were identified as genuine samples by the expert faculties of department of Dravyaguna & Rasashastra, Gopabandhu Ayurveda Mahavidyalaya, Puri, Odisha. All the practicals were done in the Mini pharmacy attached to the P.G Deptt. of Rasashastra & Bhaisajya kalpana, Gopabandhu Ayurveda Mahavidyalaya, Puri.

## PREPARATION OF SWETA PARPATI

According to Siddha Yog Sangraha (SYS): Sweta parpati is named as Kshara Parpati.

**Materials and Methods**

Gas stove, Loha Darvi (Iron pan), Spoon, Khalwa yantra

**Ingredients:**

- Suryakshara– 16 parts (300 grams)
- Kankshi- 2 parts (40 grams)
- Navsadar- 1 part (20 grams)

**Method of preparation**

- All ingredients were taken as per in khalwa yantra and powdered to form a homogeneous mixture.
- After it turned into homogenous mixture, about 1 TSF from it was taken in darvi.
- Then heated on madhyamagni with continuous stirring by spoon till it turned liquid.
- On heating, it started melting from the bottom.
- When the complete mixture was melted, it was then Spread on the steel tray and left to solidify.
- It formed into a thin flake soon after pouring, which was allowed to cool.
- Then it was collected and powdered & kept it to air tight container for further use.

**Observations**

- It gives yellow-coloured flames while melting, which are mildly irritative.
- On pouring over the Steel tray, the flakes cool down with crackling sound and sometimes even break.
- Colour of the parpati was White.
- Flakes of parpati had a smooth surface.
- Hardness - Breaks easily with a sound. It was brittle on breaking.
- A cooling sensation was felt.

**Table 1: Observations on Sweta Parpati Nirmana**

| | |
|---|---|
| Total quantity taken | 360 gm |
| Total quantity obtained | 356.25 gm |
| Loss | 3.75 gm |
| Total time duration | 25 minutes |

**Precautions**

- The preparation if made in louha patra becomes brown in colour as iron particles get mixed with the parpati, hence Properly cleaned vessel should be used.
- The most important precaution is to control the intensity of the fire, which was done very carefully and thus the trial drug should not get burnt at any stage.
- During boiling, ammonia and sulphur gases pass out in the form of yellow fog which should be avoided to inhale or use mask.
- During the boiling, pot gets very hot so should not touch directly.

**Packaging and Labelling**

- Aim: For protection, convenience and information transmission for use, transport, dispose etc. of the package or product.

The final product is stored in a clean, dry, airtight glass container and dried completely before packing and kept in a dry & cool place with a view to protect the product from the invasion of microorganism.

The finished product was filled in glass container and sealed. The container was labelled with required details of Sweta parpati and kept ready for Analytical study.

**Dosage**: 6-12 ratti

**Anupana**: Seetala jala (cold water)

**Indication**: Mutrakruchhra, Mutrarodha, Mutraghata, Mutradaha, Ashmari

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## ANALYTICAL STUDY

In this chapter the Physico-chemical characters had been evaluated out in "ALN Rao memorial ayurvedic medical college & PG Centre, Koppa, Karnataka".

All the modern parameters were adopted for quality assessment of the trial drug as per the guidelines framed for quality assessment of Ayurveda and Siddha drugs by CCRAS, Ministry of AYUSH, Govt. India, New Delhi.

## EVALUATION

It can be done on following parameters

- Organoleptic Evaluation
- Physico-chemical
- Quantitative Estimation
- Biological

## GENERAL /ORGANOLEPTIC EXAMINATION

1. Colour
2. Odour
3. Touch
4. Taste

## PHYSICO-CHEMICAL EVALUATION

It includes the following parameters

1. pH Value
2. Loss on drying at 105°C / Moisture content
3. Total Ash
4. Water soluble Ash
5. Acid insoluble Ash
6. Water soluble extractive
7. Alcohol soluble extractive

**BIOLOGICAL EVALUATION** - It includes

1. Microbial limit test

## RESULTS

### A. Organoleptic Characters

| Sl. No. | Parameters | Appearance of Specimen Sample |
|---|---|---|
| 1. | Colour | White |
| 2. | Odour | Characteristic |
| 3. | Taste | Kashaya (Astringent) |
| 4. | Texture | Crystalline Amorphous Powder |

### B. Physico-chemical parameters

| Sl. No. | Test Parameters | Results |
|---|---|---|
| 1. | Loss on Drying at 105°C | 1.31 % |
| 2. | Total ash | 96.96% |
| 3. | Acid insoluble ash | 1.63% |
| 4. | Water soluble ash | 4.12% |
| 5. | Alcohol soluble extractives | 12.37% |
| 6. | Water soluble extractives | 5.97% |
| 7. | pH (5% aqueous solution) | 4.10 $\pm$ 0.10 |

### C. Quantitative Estimation

| Sl. No. | Test Parameters | Results |
|---|---|---|
| 1. | Potassium | 38.25% |
| 2. | Chloride | 3.14% |
| 3. | Sulphate | 4.08% |
| 4. | Sodium | 0.21% |

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**D. Microbial contamination**

| Sl. No. | Test Parameters | Results |
|---|---|---|
| 1. | Total aerobic count | Nil |
| 2. | Total fungal count | Nil |

## DISCUSSION

Parpati kalpana is one among the four murcchita parada yogas that are unique and highly evolved pharmaceutical preparations with a wide range in therapeutics. Parpati is sagandha/ nirgandha, sagni, pota bandha. Agni samskara plays an important role in Parpati preparation. It helps in altering the physico- chemical properties. Parpati is a popular and successfully used preparation for the management of Grahani, Mutraghata, Mutrakrichra, Rajayakshma, Gulma, Kusta, etc. diseases.

Preparation of Sweta parpati follows slightly different pattern of making than usual Parpati preparations. It does not contain Parada and Gandhaka as its ingredient. And in therapeutic use it is mainly used in Mutrkrichra, Mutraghta etc when compared with other Parpati preparations like Rasa parpati which is used mainly in Grahani. The melting point of the ingredients used in Sweta parpati is high when compared with other Sagandha-parpatis which has Parada (38.820c) and Gandhaka (115.20c) as main ingredient. There is no need of smearing ghee in the vessel since Kshareeya ingredients will not stick on the pot or vessel.

In organoleptic examination, it is found the Colour of Sweta Parpati is White, Odour is Characteristic, Taste is Salty & Texture is Crystalline amorphous Powder.

In Physico-chemical tests, the result of loss on drying at 105 °C is 1.31%, total ash is 96.96%, Acid insoluble ash is 1.63%, Water soluble ash is 4.12%, Alcohol Soluble extractives is 12.37%, Water soluble extractives is 5.97% & pH value is 4.10 ± 0.10.

In Quantitative Estimation of Sweta parpati, it is found the Quantity of Potassium is 38.25%, Chloride is 3.14%, Sulphate is 4.08% & Sodium is 0.21%.

In Microbial contamination Test, Result of Total aerobic count is Nil & Total fungal count is Nil.

## CONCLUSION

*Sweta parpati* is one of the unique *parpati yoga*, which does not contain *parada* in it. The method of preparation of *Sweta parpati* is different than the other *parpati kalpanas*. Among three references, the method of preparation mentioned in SYS was felt easier. Usually most of the *parapti kalpanas* are indicated in *grahani* and related *rogas*. But this is specially indicated in *mutrakricchra* and *mutravarodha*. Since *suryakshara* is *atiushna, tikshna, dahaka, shoshaka, vatanashaka, pittakaraka* one should not use in large dose and for long time.

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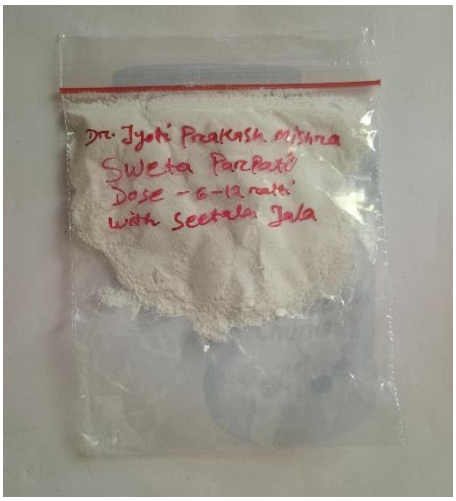


## INGREDIENTS





## PHARMACUTICAL PROCEDURE


## FINAL PRODUCT