

PHARMACEUTICAL STANDARDIZATION OF PRADARANTAKA YOGAAlukuru Harsitha¹, G. Ramesh Babu², Badari Narayana³, Ch. Sridurga⁴

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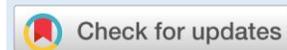
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**ABSTRACT**

Rasa Shastra is the pharmaceutical branch of Ayurveda. As with any other medical system, the success of Ayurvedic treatment also depends upon the quality of medicine prescribed to the patient. An integral part of *Rasa Shastra* lies in the successful pharmaceutical process. *Rasaoushadis* are the potent Ayurvedic preparations mainly containing metals and minerals. These *Oushadis* possess a wide range of therapeutic efficacy and are considered superior because of their qualities like small dose, quick action, palatability and longer shelf life. *Pradarantaka Yoga* is an important *Rasa Oushadi* described in *Rasa Tantra Sara Va Siddha Prayoga Sangraha (part_2)-Streeroga Prakaranam* indicated in *Rakta Pradara*. *Pradarantaka Yoga* contains *Gairika* and *Amalaki Swarasa*. The pharmaceutical procedures adopted in this study are *Shodhana*, *Bhavana*, *Swarasa Nirmana* and preparation of *Vati* of *Pradarantaka Yoga*. The specific pharmaceutical blend of these contents can result in a more effective formulation. Till now, no research work has been carried out to standardize this formulation. Therefore, the present study has been planned to standardize the method of preparation of *Pradarantaka Yoga* according to the method explained in the classical literature.

Keywords: *Pradarantaka Yoga*, *Shodhana*, *Swarasa Nirmana*, Standardization.

INTRODUCTION

Nature possesses immensely valuable and powerful medicines in the form of metals, minerals and plants. However, most of the drugs as such are not absorbable into the biological system, until and unless they undergo certain modifications. Some specialized techniques are adopted to make these drugs absorbable and therapeutically viable. The drug manufacturing processes of Ayurveda are included in the discipline of *Rasa Shastra* and *Bhaishajya Kalpana*. Mineral materials as such are claimed to be toxic by Ayurvedic *Rasa* texts. By adopting specialized pharmaceutical procedures like *Shodhana*, *Marana*, *Jarana*, *Murchhana* etc, they are converted into nontoxic, safe and potent therapeutic forms.

Pradarantaka Yoga is one of the Herbo-mineral formulation mentioned in *Rasa Tantra Sara Va Siddha Prayoga Sangraha(part_2)- Streeroga prakaranam*,^[1] which contains *Gairika* and *Amalaki Swarasa*. *Shodhana*, *Bhavana*, *Swarasa Nirmana* and the preparation of *Vati* of *Pradarantaka Yoga* are the main pharmaceutical procedures adopted in the preparation of *Pradarantaka Yoga*. Standardization of Ayurvedic drugs at various levels starting from the selection and collection of raw material to the final product is essential to produce a safe and efficacious drug. Therefore, in the present study, an effort has been made to highlight the significance of these pharmaceutical procedures and to standardize the method of preparation of *Pradarantaka Yoga*.

AIM AND OBJECTIVES

Pharmaceutical standardization of various steps involved in the preparation of *Pradarantaka Yoga*.

MATERIALS AND METHODS

Chief reference: *Rasa Tantra Sara Va Siddha Prayoga Sangraha (part_2)- Streeroga prakaranam*.

The entire preparation of *Pradarantaka Yoga* was carried out in the Department of *Rasa Shastra* and *Bhaishajya Kalpana*, TTD's S.V. Ayurvedic College, Tirupati, Andhra Pradesh.

The entire pharmaceutical study was carried out in four stages

Stage-I

- *Gairika Shodhana*

Stage-II

- *Amalaki Swarasa Nirmana*

Stage-III

- *Bhavana* of *Shudha Gairika* with *Amalaki Swarasa*

Stage-IV

- Preparation of *Vati* of *Pradarantaka Yoga*

Pradarantaka Yoga preparation

- **Materials:** *Gairika* - 1400g

Amalaki Swarasa - Q.S

- **Method/ Principle:** *Shodhana*, *Amalaki Swarasa Nirmana*, *Bhavana*.
- **Apparatus:** *Khalwayantra*, Gas stove, Iron ladle, Steel vessel, Cloth, Spoon steel vessel, tray and steel cutter.

Procedure

Shodhana of *Gairika* was carried out by taking fine powder of *Gairika* in a stainless-steel vessel and added with sufficient quantity of ghee and placed over a mild fire. It is fired properly until it attains a brick red colour (*Istika varna*). It is then taken in *khalvayantra*, made of fine powder and stored in an airtight container. Fresh *Amalaki* was collected and washed it was then cut into small pieces, seed should be discarded and pounded in *khalvayantra* to make a paste. *Swarasa* was extracted by squeezing the paste of *Amalaki* through a clean cloth. *Amalaki Swarasa* was collected in a beaker. *Shodita Gairika* was taken in *Khalwayantra* and *Amalaki Swarasa* was added and triturated. *Bhavana* was carried out 21days Triturated was done until it attains *Vatilakshana*. Paste of Homogenous mixture was made into 750mg *Vati* by rolling the mixture between thumb and index finger. *Vati* was dried under shade and stored in a glass container.

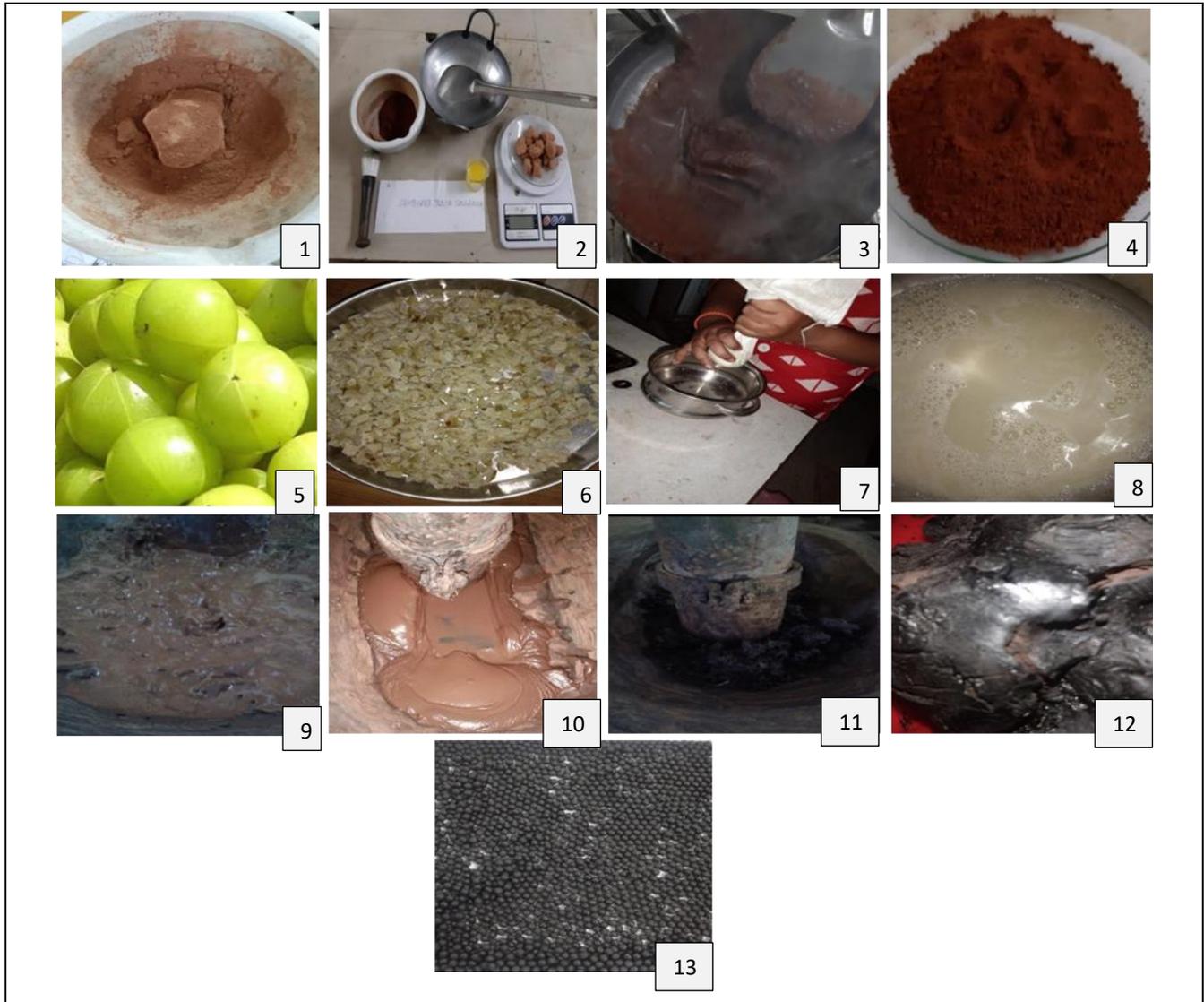
OBSERVATIONS:

Asuddha Gairika was light brick red colour; its consistency was rough, lustrous and solid. After 1st *Bhavana* with *Amalaki Swarasa*, consistency changed into soft, bright and semisolid. After 21st *Bhavana* with *Amalaki Swarasa*, the consistency obtained was soft, bright, very sticky and semisolid. *Shuddha Gairika* was brick red in colour, soft, lustreless and fine inconsistency.

After *Bhavana* the final product was smooth, blackish-red in color. The paste was nonsticky when

rolled between the thumb and index finger. Blackish red-coloured small pills were prepared.

Images Showing the Preparation of Pradarantaka Yoga



- 1- Asudha Gairika
- 2- Sambhara Dravya Sangraha
- 3- Ghrta bharjana of Ghrta
- 4- Shoditha Gairika
- 5- Amalaki
- 6- Amalaki pieces
- 7- Squeezing of Swarasa
- 8- Amalaki Swarasa
- 9- Day 1 of Bhavana with Amalaki Swarasa
- 10- 11th day of Bhavana with Amalaki Swarasa

- 11- 21st day of Bhavana with Amalaki Swarasa
- 12- After completion of Bhavana with Amalaki Swarasa
- 13- Vati of Pradarantaka Yoga

Precautions

- Trituration should be carried out slow and steady to prevent spillage of the material.
- Pills are to be preserved in absolute sterile and moisture-free glass containers.

RESULTS:

Table 1: Showing the change in weight of various practices in the preparation of Pradarantaka Yoga

Name of the practical	Initial weight(g)	Final weight(g)	Gain/Loss in weight (g)
Gairika Shodhana	1400	1300	Loss 100g
Amalaki Swarasa	1.5kg	850ml	Loss 650g

Table 2: Showing the result of Preparation of Vati of Pradarantaka Yoga

Weight of Pradarantaka Yoga	No. of Total Vati (Each 375 mg)	Loss
2000g	5300	20g

DISCUSSION

Most of the materials of *Rasa Shastra* are obtained from mineral sources containing various impurities which are responsible for causing toxic effects to body tissues. Therefore, as a rule, the *Rasa dravyas* are purified first by a specialized processing technique known as *Shodhana* before subjecting them to the main processing. It is done to remove visible and invisible impurities, reduce toxicity and enhance the therapeutic property.

Gairikashodhana

Gairika Shodhana was done according to the method that was mentioned in *Rasa Tarngini* [2] Fine powder of *Swarna Gairika* is taken in a clean *kadhai* (iron vessel) placed over a mild fire. It is added with the needed quantity of *ghee* and fired properly. The dry powder obtained at the end is stored as *suddha Gairika* for further pharmaceutical use. *Shodhita Gairika* showed features like i.e., *Nischandrika*, *Rekhapurna* and *Varitara* which indicate the reduction in particle size due to the trituration process.

Swarasa Nirmana⁽³⁾

Fresh *Amalaki* was collected, washed and pulp should be removed. *Swarasa* was extracted by squeezing the paste of *Amalaki Swarasa* through a clean cloth, according to the reference mentioned in *Sharangadhara Samhita Madhyama Khanda*.

Bhavana of Shodhita Gairika with Amalaki Swarasa

The homogenous mixture was taken in *Khalwayantra* and *Amalaki swarasa* was added and triturated until it attains *Vatilakshanas*. [4] By *Bhavana* process, the mixture gets properly mixed, and the material becomes soft, smooth and nonsticky. *Bhavana* facilitates particle size reduction and homogenization leading to modification of properties (*Gunantatradhana*) of the end product

Preparation of Pradarantaka Yoga Vati

According to *Rasa Tantra Sara va Siddha Prayoga Sangraha (part 2)* dosage of *Pradarantaka Yoga* is 750mg (twice a day). [5] *Bhavana* of a Homogenous mixture of 750mg was taken and rolled between thumb and index finger.

CONCLUSION

Pharmaceutical standardization of *Rasa Oushadis* is an important requisite for the establishment of their efficacy and consistent biological activity. The pharmaceutical procedures involved in this study are *Shodhana*, *Amalaki Swarasa*, *Bhavana*, and the preparation of *Vati* of *Pradarantaka Yoga. Bhavana* with herbal liquids helps bring minute particles of materials in contact with each other as well as with liquid media, so *Bhavana* with *Amalaki. Swarasa* is considered a best choice

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