



Review Article

A CRITICAL REVIEW ON METHOD OF PREPARATION OF TRIDHATHU GARBHA POTTALI RASAYANA

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Article info

Article History:

Received: 19-04-2023

Revised: 15-05-2023

Accepted: 20-05-2023

KEYWORDS:

Pottali Rasayana,  
Gandhaka  
dravapaaka,  
Pottali,  
Chathurvedha  
Rasarasyana.

ABSTRACT

In *Rasashastra* all the formulations are primarily divided into four groups viz., *Kharaliya rasayana*, *Parpati rasayana*, *Kupipakwa Rasyana* and *Pottali Rasayana*. *Pottali kalpana*, one of the above-mentioned *rasa rasayanas*, has many qualifications, including minimal product waste, minimal drug dosage, rapid efficacy, and high potency in comparison to other *Rasayogas*. *Tridhatu Garbha Pottali* is a *Sagandha*, *Sagni*, *Gandhakajarita*, *Kajjali bandha Pottali Kalpana* containing *Swarna*, *Naga Bhasma*, *Vanga Bhasma*, *Yashada Bhasma*, *Parada* and *Gandhaka* processed in appropriate temperature. As described by *Pandit Hariprapannaji* in *Rasa Yoga Sagar*, this is a rare, one of a kind, potent, cost-effective, novel molecule with highly prospective therapeutic applications, particularly in *Prameha*, *Putimeha*, *Pradararoga*, and *Shukradosha*.

INTRODUCTION

*Rasashastra*, during its golden age, was responsible for the introduction of various pharmaceutical preparations, including *Khalwiya rasayana*, *Parpati rasayana*, *Kupipakwa rasayana*, and *Pottali rasayana*.<sup>[1]</sup> *Khalwiya rasaya* are the medicines which are mainly prepared using the *Khalwayanta* with *Mardhana* and *Bhavana* process. *Parpati kalpana* are the plaque like end product obtained by pressed molten *Kajjali* with other ingredients. *Kupipakwa rasyana* are the preparations obtained by cooking the raw materials in *Kacha kupi*. *Pottali Rasayana* is a potent emergency drug due to its advantages over conventional Ayurvedic medications, including immediate action, stability, extended shelf life, portability, dosing simplicity, and remarkable effect in emergency medical situations. However, *Vaidya* continues to view the pharmaceutical manufacturing process as a challenging endeavour. It belongs to the category of formulations for which a standard operating procedure is required.

Traditional techniques for assessing process quality are still used in the production of *Pottali*, but

standardized production requires validation, standardization, and uniform expression of the parameters.

In the *Rasaratnakara* of *Nityanatha* from the 12<sup>th</sup> century AD *Pottalikalpna* is first mentioned. The definition of *Pottali* is to consolidate dispersed materials into a compact and comprehensive form<sup>[2]</sup>. *Pottali* is the technique or processing that compacts the dispersed particles. The *Pottali kalpana* was designed to facilitate transport, administration, dose fixation, preservation, and enhancement of properties.<sup>[3]</sup> Variations in their form, appearance, manner of preparation, ingredients, therapeutic indications, etc., have been discussed and mentioned in a number of classical *Rasashastra* texts. In the *Rasashastra* classics, various procedures for preparing *Pottali kalpas* are described.<sup>[4]</sup> *Pottali kalpashave* three distinct processing techniques viz. *Bhavana samskara*, *Putapaka samskara*, *Pottali/Gandha kapaka*. In the *Rasa Prakasha Sudhakara*, which dates back to the 13<sup>th</sup> century A.D., there is documentation of the process by which *Gandhaka Dravapaka* prepared *Pottali* for use in the context of *Vajra Pottali*. In the 18<sup>th</sup> century, *Yogaratanakara* made reference to the preparation of *Gandhaka Drava* using an iron vessel. In *Rasayogasagar* there is mention of a concept named as *Pottali Rahasyam*,<sup>[5]</sup> where there is mention of different *Pottali kalpana* which are prepared by using *Gandhaka dravapaaka* technique. *Tridhatugarbha Pottali* is one among them, which is a classical *Pottali rasayana* having *Shuddha Parada*, *Shuddha Gandhaka*, *Naga*

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<https://doi.org/10.47070/ijapr.v11i5.2815>

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*Bhasma, Vanga Bhasma, Yashada Bhasma* and *Suvarna Tanushakalani* as ingredients.

### Method of Preparation of *Tridhathu Garbha Pottali*<sup>(6)</sup>

The ingredients of *Tridhathugarbhapotaali* as shown in table No 1, are to be processed first to obtain suitable form to proceed with the preparation of *Pottali kalpana*. That includes purification of *Paradha, Gandhaka* and *Swarna* and *Bhasmikiranana* of *Naga, Vanga* and *Yashdha*.

**Table 1: Showing Ingredients of *Tridhathu Garbha Pottali***

S.No	Name of the ingredient	Quantity
1.	<i>ShudhaParada</i>	1 Karsha
2.	<i>ShudhaGandhaka</i>	1 Tanka
3.	<i>Suvarnatanushakalani</i>	6 Rattika
4.	<i>Naga Bhasma</i>	1 pala
5.	<i>VangaBhasma</i>	1 pala
6.	<i>YashadhaBhasma</i>	1 pala

The method of preparation of *Tridhathugarbha pottali kalpana* can be divided into following steps based on the pharmaceutical process involved in the

preparation – *Pishti Nirmana, Kajjali nirmana, Bhavana* to the *Kajjali*, Achieving *Pugakar* shape to the *Kajjali*, wrapping the *Pottali* in four layered silk cloth containing sulphur and subjecting it to *Gandhaka drava paaka*.

*Shuddha Parada* and *Swarna Patra* are to be taken in a clean *Khalva yantra* and made into *Dhatu Pishti*, (Pic-1) It is then subjected for proper *Pishtiprakshalana. Shodhita Gandhaka* is to be added to above *Dhatu Pishti* and triturated till *Kajjali Lakshanas* appears. (pic-2) Then *Bhasmas* of *Naga, Vanga* and *Yashada* are to be added to the *Kajjali* and triturated well to secure *Pottali* mixture. After that 7 *Bhavanas* are to be given with *Kumari Swarasa*, (Pic-3) and shaped into *Poogaphala (Arecanut)* (pic-4) and later dried under shade. The dried *Poogakara Pottali* is to be tied in four layered silk cloth which is spread with *Shodhita Gandhaka*, (Pic-5) then subjected to *Gandhakapaka* (pic-6) till *Pottali siddhi lakshanas* appear i.e., colour of *Gandhaka* should be *Vyomavarna*, silk cloth should be burnt. (pic-7)

**Indications:** *Prameha, Putimeha, Pradararoga* and *Shukradosha*.

**Dose:** ½ to 2 Ratti

**Anupana:** *Haridra, Tulasiswarasa, Dugda*



Picture- 1



Picture- 2



Picture- 3



Picture-4



Picture-5



Picture- 6



Picture- 7

### DISCUSSION

- Most *Pottalis* produced using the *Gandhakadravapaka* method include *Swarna* and mercury as one of the ingredients. Both the *Bhasma*

form and the foil form of gold are utilized therapeutically. When making *Pottali*, some authors recommend using *Swarnavarka* (thin gold flakes),

while others advise using gold in the form of *Bhasma*. When it comes to *Parada*, some authors recommend taking *Astasam skarita Parada*, while other sources recommend *Paradabhasma*. *Rasa Sindhoora* is accepted as a *Paradabhasma* by a different set of *Vaidyas*, who utilize it to make *Pottali*.

- After the components have been rubbed and mixed together, a liquid medium is applied to the mixture in order to connect the components and give the *Pottali* its shape. For the binding of *Pottali*, some authors suggest using *Ghritakumariswarasa*, *Isbgol*, *Babbula Nirayasa*, *Tulasiswarasa*, and *Chitraka*.
- Because of its *Shikharakara* (pyramid shape), the T.G.P. *Kajjali* is able to preserve the integrity of its constituents and create a concentrated, dense mass of therapeutic substance. Silk is one of the most durable naturally occurring fibres, and it also contains sericin and fibroin. Both of these characteristics of natural silk help to add more organic substances to the *Pottali*, which allows for the production of a medication that is biocompatible during the *Gandhkapaka* process.<sup>[7]</sup> In addition to this, silk is unaffected by the majority of mineral acids, with the exception of sulfuric acid, which can dissolve it.
- The *Paka* of *Pottali* was deemed complete when the colour of the sulphur changed to *Vyomavarna* or *Neelashyama* (black with a bluish tint).<sup>[8]</sup> Initially, heating sulphur produces a yellow liquid that flows easily. As the temperature rises, sulfur's colour changes to red and ultimately becomes even darker. A small quantity of red S3 and S4 molecules are responsible for the colour. At temperatures between 160 and 195 degrees Celsius, sulphur turns dark crimson and its viscosity increases dramatically.
- *Pottali* produces a metallic sound when struck against a container. This may be due to the prolonged polymerization of sulphur that gives *Pottali* its hardness. In addition to elements present in the *Pottali* and the addition of silk cloth fibres. During the heating procedure, the fabric containing *Pottali* was burned. This sign was regarded as one

of *Pottalispakalakshanas*. Due to the protracted influence of heat, the varying viscosity of sulphur, and the standing heat through sulphur media, silk fabric caught fire.

## CONCLUSION

In a nut shell *PottaliKalpana* can be understood as a specific Pharmaceutical technique which is intended for keeping different constituents in their purified, processed, incinerated, form into a unique complex formula. This specific technique developed for potentiating the constituents, stabilising firm bonding between the constituents forming a coordinating complex with high therapeutic efficacy. When the constituents are individually prescribed, naturally the recipe becomes more in quantity. When all these constituents are kept in a complex form with suitable *samskara*, dose can be minimised with a wide spectrum of therapeutic actions. Tridhathu garbha pottali kalpana is therapeutically very significant because of its wide range of therapeutic applicability as it is indicated in *Prameha*, *Putimeha*, *Pradararoga*, and *Shukradosha*.

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### Cite this article as:

Giramalla Patil, Shobha G Hiremath. A Critical Review on Method of Preparation of Tridhathu Garbha Pottali Rasayana. International Journal of Ayurveda and Pharma Research. 2023;11(5):78-80.

<https://doi.org/10.47070/ijapr.v11i5.2815>

Source of support: Nil, Conflict of interest: None Declared

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