CRITICAL REVIEW ON IMPORTANCE OF BHAVANA IN RASOUSHDHI

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ABSTRACT

Samskara is a process in which the Svabhava (nature) of raw drug is converted according to the requirement of the formulation. Bhavana is one among such Samskara which is defined in different literatures of Rasashastra. In general, the raw material will be augmented with specific liquids for specific duration with specific method. Different modes of processes where Bhavana is used are Shodhana (purificatory measures), Marana (incineration), Amritikarana (inducing nector like properties), Satwapatana (metal extraction) and Kalpana like Kharaleeya rasayana, Parpati kalpana, Kupipakwa rasayana and Pottali rasayana. The benefits of Bhavana are many. It potentiates the final product by using the similar dravya for Bhavana. It leads to particle size reduction of molecules subjected for the Bhavana by repeated movement and pressure of pestle. Bhavana with organic juices improves the bioavailability of the drugs thereby enhances their rate of absorption. It includes the herbal juices which may have neutralizing effect on the substance used thus helps in decreasing their toxicity or impurities and so on. The substance and purpose of Bhavana decides the efficacy of final product. Multi-dimensional utility of Bhavana is supported by many research studies.

Keywords: Bhavana, Samskara, Shodhana, Marana, Amritikarana, Rasausadhhi

INTRODUCTION

Conversion of undesired properties of a raw material into desirable properties is an important skill of a physician. The safety and efficacy of a formulation totally depends up on this skill. The scholars of Ayurveda have stated that “a person having a proper knowledge of this skill becomes a successful physician¹. Further it is stated that with Yukti (skill) a physician becomes competent enough to convert the properties of potent poison also into properties of ideal medicine and vice versa².

For the successful implementation of Yukti in converting a raw drug into Medicine, Samskara (various procedures) are important tools. The Samskara is defined as a method with which one property of a substance is converted in to other property³. Bhavana is a sub type of Samskara.

MATERIAL AND METHODS

Description of Bhavana

Bhavana is defined as a procedure in which the powder drugs are mixed with some specific liquids and are triturated to dry them⁴. In this the raw material will be taken in powder form which is called as Bhavya Dravya and the liquid which is used along with is called as Bhavana-Dravya. Khalvyantra (pestle & mortar)
made up of stone or porcelain is ideally used for trituration.

*Bhavana* is also explained as a procedure of soaking the *Churna* (powders) with liquid overnight and triturate in day time in the presence of sunlight. The *Bhavana* of a substance with its *Swarasa* (expressed juice) or *Kashaya* (decoction) helps in potentiating the substance which shows desired result in reduced dosage.

The ideal quantity of *Bhavana-dravya* is mentioned as that which is sufficient to make the powder drug moist or homogenous submerged with *Bhavana-dravya*.

The ideal parameters of *Bhavana* are termed as *Subhavita Lakshana*. The substance after *Bhavana* will be able to be rolled in between fingers without being sticky. There will not be any cracks produced on outer surface when the rolled paste is pressed in between the fingers. These features are suggestive of *Subhavita lakshana*. If the paste is sticky, watery or produces cracks on pressing between the fingers it indicates that the *Bhavana* is to be continued.

Authoritative books of *Ayurveda* do not advocate *Bhavana* in rainy season, whereas winter and summer season are suitable. This may be probably because of the presence of the moisture in atmosphere during rainy season. If the duration of *Bhavana* is not specified, it can be continued up to seven days.

**Mechanism of Bhavana**

By the process *Bhavana* the *Bhavya dravya* looses the molecular cohesiveness and breaks into fine particles. This is because of rubbing action and the pressure applied during the process. The materials will be rubbed between the rough surface of mortar and pestle which leads to attrition of substance which helps them to break down in to smaller particles.

The continuous movement of pestle on hard surface also helps in adding the pressure on the substance. The weight of the pestle with the vibratory movement will further enhance breakdown of molecules.

**Significance of Bhavana**

The toxic effects if any, in a *Bhavya dravya* will be neutralized because of influence of *Bhavana dravya*. Therefore, selection of *Bhavana dravya* has an important role, in reducing the impurities/toxic effects of the substance. *Bhavana* makes the drug easily digestible and assimilable. Completion of *Bhavana* results in smoothness of the drug leading to non irritability.

Usually metals and minerals are processed with help of *Bhavana*. The addition of *Swarasa*, *Kashaya* or water helps in easy grinding of hard drug materials specially metals and minerals. The vegetable-drugs in the form of decoction or juice impart their own therapeutic effects to these metals during processing.

The mineral raw materials need to be processed before internal use to make them absorbable and digestible. Total outcome of *Bhavana* depends on number of factors like *Bhavanadravya*, *Bhavya dravya*, *Bhavana vidhi*, Number and duration of *Bhavana* and *Subhavita Lakshana*.

**OBSERVATION**

The process of *Bhavana* is seen in many contexts in the books of *Ayurveda*. Its role and significance varies according to the context of its use. The different perspectives of *Bhavana* are shown in Table no 1.
Table 1: Role of Bhavana in Rasoushadhi as per different context

<table>
<thead>
<tr>
<th>S.N</th>
<th>Context</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Shodhana</td>
<td>Hingulashodhana – Ardrakaswarasa Bhavana- 7 times(^18)</td>
</tr>
<tr>
<td>02</td>
<td>Marana</td>
<td>Abhrakamarana – Bhavanawith 64 dravadravya 17 times each(^19)</td>
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<tr>
<td>03</td>
<td>Amritikarana</td>
<td>Tamra Amritikarana- Bhavana with Nimbu Swarasa(^20)</td>
</tr>
<tr>
<td>04</td>
<td>Lohitikarana</td>
<td>Abhraka Lohitikarana- Bhavanawith Nagabalaswarasa,Musta,Vatadudha,Vatamula, Haridra , Manjistha(^21)</td>
</tr>
<tr>
<td>05</td>
<td>Satwapatana</td>
<td>AbhrakaSatwapatana– by Bhavana withMusali swarasa(^22)</td>
</tr>
<tr>
<td>06</td>
<td>PishtiNirmana</td>
<td>Manikyapishti- Bhavanawith GulabJala(^23)</td>
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<tr>
<td>07</td>
<td>Parpatikalpana</td>
<td>Rasa parpati- Gandhakashodhana by giving Bhavana with Bhringrajaswarasa as purvakarma(^24)</td>
</tr>
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<td>08</td>
<td>Kupipakva- Rasayana</td>
<td>Rasasindura - Bhavana of Kajjaliwith Vatankura swarasa(^25)</td>
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<tr>
<td>09</td>
<td>PottaliRasayana</td>
<td>Hemagarbhapottali -Bhavana of Kajjali with Nirgundi or Dhatturaswarasa(^26)</td>
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<tr>
<td>10</td>
<td>Khara- leeyaRasayana</td>
<td>Sootashekhara Rasa -Bhavana with Bhringrajaswarasa(^27)</td>
</tr>
</tbody>
</table>

**DISCUSSION**

*Bhavana* of a raw material with specific liquid needs a special emphasis as it has an ability to alter the original properties of a substance. At specific instances it adds some special properties without altering the original properties. Hence, the final result of *Bhavana* depends on the specific purpose.

**Role of Bhavana in Shodhana**

*Shodhana* is a process of removal or destruction of impurities of a raw material. The process of *Shodhana* requires a special and specific attention as far as the Mineral medicines are concerned. Many minerals are processed with *Bhavana* for their purification. It is hypothetically believed that the *Bhavana dravya* acts as an antagonistic to the *Bhavya dravya* thereby destroying or neutralizing the toxic properties of a raw material. Further there will be addition of organic compounds to the mineral in process leading to potentiation\(^28\). This phenomenon helps in removing the soluble impurities and addition of useful material to the drug. This could be detected with chromatographic studies. \(^29\)

**Role of Bhavanain Marana**

*Marana* is a process of incineration of a mineral there by making the final product (Bhasma) bio-available. The process of *Bhavana* is essentially required as a *poorvakarma*(pre requisite) for *Marana*. The process of continuous grinding makes a mineral substance to become soft, fine and exposing the mineral for greater surface area. The organic residue of *Bhavanadravya* acts as a catalyst for the process of *Marana* and there will be addition of few trace elements from herbal juice\(^30\). In a research study done on *Ya-shadabhasma* prepared by *Bhavana* with *Kumari Swarasa*, it is found that the *Ya-shadabhasma* has the presence of Mg(1.000020ppm),Cu, Co and Mn<0.5ppm which was added from the herbal source\(^31\). The site of action of *Bhasma* also will be dependent on the *Bhavanadravya* used\(^32\).

Due to repeated *Bhavana* used before every *Puta*(unit of heat), there will be the exposure of the un-reacted particles to
more interaction with herbal compounds. This is to further help in complete conversion and enhancement of therapeutic potential.

It is hypothetically opined that, Sodium silicate present in Abhraka imparts some lustre to it. Most probably by repeated levigation before Puta process a part of it will be converted into sodium sulphate which helps in making silicate into soluble form. This is how the Chandratao of Abharakabhasma is reduced.

**Role of Bhavana in Amritikarana**

The Bhasma (Ash) obtained from the process of Marana is further detoxified by Bhavana process as it infuses active principles of Bhavanadravya to it. This increases the bioavailability of Bhasma and makes it more suitable for internal use.

**Role of Bhavana in Lohitikarana**

Lohitikarana is a process of giving colour to the Bhasma. The literatures of Ayurveda have guidelines given for identification of a Bhasma based on its color. Hence having proper color is an essential requirement of a Bhasma.

For Lohitikarana, the coloring agents areaugmented to the Bhasma with the help of Bhavana. Ex. usage of Rakta-vargadravya kashaya like Manjisthakashaya imparts brick red color to Abhara-kabhasma.

**Role of Bhavana in Satwapatana**

Every mineral will have one or more metals as elements in the chemical composition. Extraction of an element from the mineral is termed as Satwapatana. In this process Bhavana acts as destructor of bondage between a cation and anion.

**Role of Bhavana in other Formulations (Rasayoga)**

Bhavanais also an important step in the preparation of the formulations like Parpati, Pottali,Koopipakva and Kharaleeyarasayana. Even though Bhavana has no direct role to play in former three varieties of preparations, it has a direct role in last one. Efficacy of the final product however directly depends on nature, number and duration of Bhavana. Probably the process of Bhavana imparts the properties of each Bhavanadravya into the final product and enhances the potency. This further helps in reducing the dosage. It also increases the shelf life of final product. It is observed that increase in number of Bhavana increases the efficacy and reduces dosage.

As per a research study conducted on Dhatrilauha prepared with different duration of Bhavana revealed that the Dhatrilauha with maximum Bhavana contains maximum amount of berberine better in comparison with other samples. SEM-EDAX (scanning electron microscope-energy dispersive X ray spectroscopy) analysis indicates iron in all samples. Quantity of zinc was found to be maximum in Dhatrilauhawith more number of Bhavana(5.39%) which seems to be added contribution of Guduchikashaya(Bhavanadravya).

In another research work on Shilagarbhapottali, increased percentage of calcium, potassium and magnesium was seen, which may be due to the role of Ardraka and Kumariswarasa Bhavana done to Kajjali before Pottali preparation, in which both juices have these elements in large quantities.

**CONCLUSION**

The role of Bhavana on Rasoushadhi could be,

- Essentially, it is a Samskara which alters the original properties of raw material and induces the new properties into the main drugs through the various liquids(extracts and juices) which act as catalysts to direct the alchemical transformation of original ingredients.
• It leads to possible formation of organ metallic compounds and converts heterogeneous form into homogenous form, macro to micro form, rough to smooth form of drugs.

• It is an important procedure in Shodhana, Marana, Amritikarana, Satvapatana, Lohitikarana and preparation of other Rasayoga.

• This process of impregnation helps in reducing the particle size of the drugs thus increasing their capacity for absorption into the system.

• The Bhavana with specific organic liquid helps to induce trace elements in the Bhasma and to target it on a particular site of action.

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