



CRITICAL REVIEW ON BHAVANA

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ABSTRACT

Bhavana is a unique traditional method of transformation of raw material/substances into the drug by levigation or wet grinding of powdered drugs with juice/decoction/solution of plant, animal, or mineral origin. *Bhavana* is a process of wet grinding in which a powdered drug of herbal, animal or mineral origin are levigated with particular liquid media (expressed juice, decoction, urine etc.) for a specific period of time. It affects the physicochemical and biological properties of a drug, making the drug quicker, augmented, and persistent action with minimal dose. Despite the fact that *Bhavana* has a wide range of applications in Ayurvedic pharmaceuticals, there is only a limited amount of knowledge of its fundamental notions.

KEYWORDS : *Bhavana*, Levigation, Liquid media, *Samskara*.

INTRODUCTION

Bhavana Samskara is an important concept mentioned in the ancient Ayurveda texts and is defined as the levigation i.e. mixing the solid matter with a liquid media for the particular time with sufficient pressure. Here the material is triturated with the prescribed liquid till it becomes dry. *Bhavana* is an important *Samskara* which, not only potentiates but also induces additional therapeutic properties of the drug.⁽¹⁾

METHODOLOGY

Information extracted from various Rasa classics and other Ayurvedic treatises, textbooks of Ayurvedic and modern pharmaceuticals, alchemy, Pharmacopoeias (Ayurvedic Formulary of India, Ayurvedic Pharmacopoeia of India). A search was undertaken in Google scholar, MEDLINE, PubMed database, and other relevant databases.

Amount of liquid for *Bhavana* :

The liquid added should be optimum in quantity so as to form soft or soggy mass and to keep the material wet throughout grinding. Quantity of liquid should be sufficient to fulfill the following criteria (observed in the drug under *Bhavana*):

Ardrata (wetting)

Kardmabha (mire like consistency)

Samplavana (immersion)

Ekibhoot (becoming homogeneous mixture).

The process is carried out till attainment of *Subhavit Lakshana* (confirmatory test for completion of levigation).⁽²⁾

Effect of Nature of drug in varying quantity of liquid:

In case of many *Rasaushadhi*'s before *Marana*, *Bhavana* for *Rasagandha Kajjali* and *Dhatu Kajjali* in *Kharaliya Rasayana*, the quantity of *Bhavana drava* (Liquid media) varies greatly due to huge change in requirement of liquid; hence the *Subhavit Lakshana* should be carefully watched which majorly decides quantity and duration of *Bhavana* and possibly the nature of final formulation. In case of drugs of plant origin, usually they require more quantity of liquid.

Number and duration of *Bhavana*

Different number of *Bhavana* is mentioned in classics ranging from one to even thousand times. In *Marana*, number of *Bhavana* may vary infinitely as per number of *Putra* e.g. 20, 60, 100, 500 etc. When any specification about duration of *Bhavana* is not mentioned, then it should be carried out for seven days.⁽³⁾ Sometimes, instead of numbers (repetitive cycles) of *Bhavana*, duration of *Bhavana* in days or hours is quoted in texts under various terms such as *Yama* or *Prahara* or *Divas*.^(4,5)

Variety of liquid media for *Bhavana*

Various types of liquid media are mentioned for *Bhavana* in Ayurvedic formulations, such as juice or decoctions of herbs, urine, milk etc. The liquids found are of plant, animal or mineral origin. Liquids in *Bhavana* for *Gunantaradhana* (change in properties) or *Gunotkarsha* (augmentation of qualities) of drug are selected as per therapeutic indications. *Swarasa/Kwatha* or any other liquid used for *Bhavana* should be equal or similar in properties of *Bhavya Dravya*.

According to *Dalhana*, *Kwatha* is also called as *Swarasa*; therefore, it can be assumed that when *Swarasa* is not available for *Bhavana*, it may be replaced by *Kwatha*.⁽⁶⁾

Role of liquid media in *Marana*

Bhavana is an essential pretreatment of *Marana*. It is the process of transformation of *Rasavarga Dravya* by which *Shodhita* (purified) drugs are subjected for cycles of *Bhavana* and *Putra* (Incineration), thus transformed to efficacious, safe, absorbable and bio-assimilable form (*Bhasma*). In this transformation, liquid media plays an important role which helps the process of *Marana*. Metals or minerals which have undergone the process of *Shodhana* are ground with specified liquid, the process can be repeated several times and successive *Bhavana* are given after complete drying of previous one. Every liquid media possess some inorganic material. In *Bhasma* preparation, these inorganic contents are transferred to *Bhasma*. Besides, various herbal juices or decoctions, which are used in the process rendering metallic poison innocuous.

RESULTS AND DISCUSSION

The *Bhavana* process is done in two phases. In first phase, continuous grinding is done with specific liquid media for particular time limit. In second phase the levigated mass is allowed to complete dryness, changes during the *Bhavana* process make it a useful *Samskar*.

Physical changes e.g. Reduction in hardness (due to continuous grinding the hard material turns to soft); Increase in weight (due to impregnation of the organic and inorganic contents of the media); Binding action (due to proper mixing, material becomes soft, smooth and sticky, resulting into better binding); Trace element supplement (due to transfer of the inorganic contents of the liquid media to the *Bhasma*). Reduction in particle size (due to the mechanical force applied during continuous and repeated rubbing action and homogenization leading to modification of properties of the drug). The Chemical changes are observed due to Chemical reaction (due to levigation, the minute drug particles come in contact with the liquid media and during grinding heat is produced resulting into chemical reaction between the material and media); Better palatability (attained through proper selection of media); Formation of the intended compound (due to *Marana* process, the metals and minerals are mixed with the drug for incineration and thereafter levigated by liquid media); Nimajjan (to reduce the toxic properties); *Bhavana* (the different drugs offer different colours to the *Bhasma* of the same substance). Similarly the Biological changes include Reduced particle size (helps in absorption of the materials and increase bioavailability); Induction of trace elements (helps to fulfill the body requirement of those elements); Improved therapeutic efficacy (due to formation of desired compounds during the process of *Bhavana*), Transfer of organic components of the liquid media to the drug material (to make it organo-metallic or organo mineral compounds). The rationale behind selecting a proper *Bhavana* indicates the scientific thinking process of our Rasashastra Gurus. One can find maximum *Bhavana* medium from herbal origin. The incorporation of the inherent properties of the herbal, mineral or plant origin drugs into the drugs is the idea behind this *Bhavana* process. The selection and rationale behind selecting the *Bhavana Dravyas* was determined by considering the physical, chemical and biological properties of the *Bhavana Dravyas* which in turn enhance the therapeutic efficacy of the finished product. Thus from pharmaceutical point of view, *Bhavana* process has immense significance and utilized for various dosage forms.

CONCLUSION

Bhavana is one of the most unique and distinct pharmaceutical procedures in Ayurvedic Pharmaceuticals, which involves processing of the herbomineral drugs with liquid media of plant, animal or mineral origin. This ensures the incorporation of desired therapeutic activity. This transformed drug becomes fit to prescribe as a medicine. The active principles of the *Bhavana Dravyas* are retained by the drug.

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