



## Research Article

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### EFFECT OF BHAVANA SAMSKARA ON EXTRACTIVE VALUE

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#### ABSTRACT

Samskara (therapeutic processing) is given prime importance in Ayurveda. There are many Samskaras mentioned in Ayurveda to increase the potency of the drug as well as to improve the efficacy of the drug. Bhavana Samskara (trituration) is one such procedure by which the Gunas of a given dravya can be modified. The efficacy of a drug is due to its active principles and the concentration of active principles can be estimated by its extractive value. The aim of this study was to observe the effect of Bhavana Samskara on extractive values of Vibhitaki (*Terminalia bellerica* Roxb.). Here a drug sample is taken and given Bhavana (trituration) with plain water to observe changes in the extractive values. The sample of Abhavita Vibhitaki (un-trituated *Terminalia bellerica* Roxb.) choorna and Bhavita (trituated) Vibhitaki (*Terminalia bellerica* Roxb.) choorna was taken for extraction of both water soluble and alcohol soluble active principles in cold maceration method. Then the extractive values obtained were noted. The study found that Bhavana Samskara did not significantly affect the extractive values of the drug taken.

**Key words:** Bhavana Samskara, Trituration, Vibhitaki, Extractive Values, Guna, Processing.

#### INTRODUCTION

Samskara (therapeutic processing) is a process by which the nature of given Dravya (drug) can be modified<sup>1</sup>. Ayurveda gives references of different Samskaras (processing) to be given to a drug for desired results. Among these, Bhavana Samskara (trituration) is followed commonly to improve the effectiveness of drug. Bhavana Samskara (trituration) is a process where a powdered drug is triturated with a specified liquid in a specific quantity till it dries up<sup>2</sup>. Bhavana Samskara (trituration) is followed in general to get Kalka from a dry drug<sup>3</sup>. Effect of a given drug is directly proportional to the amount of active principles in it. The amount of active principles is directly dependant on the extractive value of a drug. A number of research works have emphasized that by doing Bhavana (trituration) there is particle size variation<sup>4,5</sup>, whereas very few have emphasized its effect of extractive values<sup>6</sup>.

#### Aim

To observe the effect of Bhavana Samskara on extractive values.

#### Objective

To assess any variation in the yield of Vibhitaki after subjecting it to Bhavana.

#### MATERIALS AND METHODS

Vibhitaki raw drug was collected from the SDM College of Ayurveda, Hassan herbal garden, and authenticated in the Dept.

of Dravya Guna, SDMCAH. 10 g Vibhitaki choorna (*Terminalia bellerica* Roxb.) was taken and given Bhavana with 20 ml of distilled water. Bhavana (trituration) was continued for 3 days till it became dry powder (Figure 1-4).

Four gm each of Abhavita Vibhitaki choorna (un-trituated *Terminalia bellerica* Roxb. Powder taken in 2 conical flasks) and 4g Bhavita Vibhitaki choorna (trituated *Terminalia bellerica* Roxb. powder taken in 2 conical flasks) were taken. One flask each of Bhavita (trituated) and Abhavita (un-trituated) Vibhitaki (*Terminalia bellerica* Roxb.) choorna were taken and filled with 100 ml of distilled water and the other flask of Bhavita Vibhitaki choorna (trituated *Terminalia bellerica* Roxb. Powder) and Abhavita Vibhitaki choorna (un-trituated *Terminalia bellerica* Roxb. Powder) were filled with 100 ml of ethanol. Cork was placed on all the 4 samples (Figure 5 & 6).

They were then stirred frequently for the first 6 hrs and later left undisturbed for 24 hours. Then they were filtered separately using a filter paper and funnel (Figure 7). 25 ml filtrate from each was taken in pre-weighed crucibles and subjected to drying in hot water bath till the contents in the crucible become completely free from moisture (Figure 8 & 9). Then they were cooled in a desiccator. After cooling they were again weighed. The obtained weights were negotiated with the pre-weights of the crucible and the extractive values noted. The extractive values were taken according to Ayurvedic Pharmacopoeia of India<sup>7</sup>.

**OBSERVATIONS AND RESULTS**

During Bhavana process the powder became very fine. The Bhavita drug readily mixed with the solvent. The Abhavita drug showed settled particles as a layer immediately when kept undisturbed after stirring the bottle (Figure 6). The colour of Bhavita Vibhitaki was darker brown, whereas the color of Abhavita Vibhitaki was light brown with respect to water soluble extract. The alcohol soluble extract of Bhavita Vibhitaki was greenish whereas as Abhavita Vibhitaki was yellowish in colour. The extractive values obtained were approximately the same.

**DISCUSSION**

The increase in number of Bhavanas is said to increase the potency of drug, whereas on Bhavana with plain water no effect was seen on the extractive value. Though there was no effect

with respect to extractive values, it increased the drug dissolving capacity in the solvents, due to decrease in the particle size evinced by the finer powder of the drug. There was settlement of particles at the bottom of the flask in case of Abhavita drug (Figure 6) due to large particle size. This also indicates the Bhavita group particles became lighter which in turn gives us an idea that it may be light for digestion compared to Abhavita group. The colour change in the Bhavita Choorna is due to change in the nature of chemical properties of the drug. Further details can be assessed by TLC and HPTLC methods.

Further studies can be carried out to see the effect when done in larger volumes of drug. Estimation of the extracts for their phytochemical principles may give further light on Bhavana Samskara (trituration). A study on the time taken for extracting the active principles from the drug after Bhavana Samskara can also be done.

**Table 1: Extractive values**

	<b>Standard value<sup>8</sup></b>	<b>Abhavita Vibhitaki</b>	<b>Bhavita Vibhitaki</b>
Water soluble extractive value	Not less than 35%	40%	42%
Alcohol soluble extractive value	Not less than 8%	9%	11%



**Figure 1: 1-10 gm of Vibhitaki choorna was taken**



**Figure 2: Water was added**



**Figure 3: Bhavana Samskara**



**Figure 4: Drying in shade to remove moisture**



**Figure 5: Bhavita**



**Figure 6: Abhavita**



**Figure 7: Filtering through Whatman Filter paper**



Figure 8a: Obtained, alcohol extract of Abhavita vibhitaki



Figure 8b: Obtained, alcohol extract of Bhavita vibhitaki



Figure 9a: Obtained, water extract of Abhavita vibhitaki



Figure 9b: Obtained, water extract of Bhavita vibhitaki

## CONCLUSION

By the study, we can come to a conclusion that Bhavana Samskara has no significant effect on the extractive value of a drug when done with plain water.

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