

## OBSERVATIONAL STUDY OF GANDHAK SHODHAN PROCESS OF AFI

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### ABSTRACT

*Rasashastra* broadly means the science which mainly deals with *Parad* (mercury), *maharasa varga*, *uprasa varga*, *sadharan rasa varga* (i.e. *minerals*), *loha varga* (*metals*) etc. including their preparation either in mineral or herbomineral (*Rasaushadhis*) form. The various forms of preparations like *Kupipakva*, *Parpati* and *Bhasma* are used to treat diseases which mainly contains *Parad* and *Gandhak* as ingredients. Moreover *rasshastra* denotes, the efficacy of *Parad* is more when used with *Gandhak*. For the preparation of these formulations, *Parad* & *Gandhak* are subjected to various steps like *Shodhan*, *Murchana*, *Jarana*, *Marana* etc to increase their therapeutic properties. Prior to *Bhasm* preparation, *Shodhan* is the primary step which is done for all formulations. According to classical references, it is believed that this

process of *shodhan* removes impurities (*ashudhta*) and enhances its therapeutic value. This highlights the importance of *Gandhak shodhan* process to remove its impurities like *shila* (silica, stone etc.) and *vishtav lakshan*. In case, if *ashudh gandhak* is used it may cause *kushath*, *taap*, *bhram* & various *pittaj vikar*. Hence, there is need of *Gandhak Shodhan* to avoid these *ashudhta janya* symptoms. *Dhalan process* is common procedure which is done using *goghrita* and *godugdha*. Regarding the concept of *gandhak shodhan*, equal quantity of

goghrita was described by Ayurved Prakash, Ras tarangini, Ras Rattan Samuchya. In Rasayansaar and Rasamrita, one-fourth quantity of goghrita was mentioned. Now a days, *Ayurvedic formulatory of India (AFI)* is widely accepted book for the preparation, shodhan of all ayurvedic formulations either they are mineral, herbomineral or simply herbal. The description of this book is based upon all classical references of Ayurveda. Taking reference from *Rasamrita* (chapter 2), *AFI Part II (Part B P.22)* has described quantity sufficient of Goghrita for Gandhak shodhan. To know the changes that occur during shodhan and quantity obtained, this study was carried out.

**KEYWORDS:** *Gandhak, shodhan, dhalan, AFI (Ayurvedic Formulatory of India), Ayurved prakash.*

## INTRODUCTION

*Rasa-aushadhi* preparations are herbomineral preparations which mainly contain *Parad* and *Gandhak* either in same proportion (kajjali) or six times (shadgunvalijarit) vary upon the preparations. They are effective within smallest dose of 60mg to maximum dose of 250mg, having properties like Nano particle, tastelessness, easily absorption and assimilation. In Ayurveda, gandhak is included in uprasa varga. The classification behind these dravya may be the utility towards its properties, uses, effectiveness against diseases. It is also known as sulphur which is included in minerals. Keetnashan, kushthari, putigandh, keetghan etc. are the synonyms of the gandhak. As the name indicates it may acts against microbes and when burned pungent smell was came out i.e. due to burning of sulphur in the presence of oxygen gas released is sulphur dioxide. The human body contains approximately 140 gm of sulphur – mainly in the form of proteins. Although it is not much essential like other minerals because its deficiency doesn't cause any visible symptoms. The keratin protein which mainly present in the skin, hair, and nail is particularly high in amino acid called cysteine in which sulphur is found. Being as ingredient in various ayurvedic formulations for internal use, it is advised for shodhan by godudh & goghrit in sufficient quantity. If ashudh gandhak is used, it may cause kushath, taap, various paitik vikar. But after shodhan of Gandhak, acharyas have highlighted many therapeutic uses like krimidoshhar, jantughan, aamdoshhar, kushathhar, even also enhances its rasayan properties. The various studies which was done on gandhak, implies its effectiveness against microbes especially on fungus. In the reference of shodhan process, *Dhalan* process is usually applied for *Gandhak shodhan* by *goghrita* and *godugdha*. For same *dhalan* procedure, *Ayurved Prakash, Rastarangini, Rasrattansamuchya,*

*Sidhbheshajmanimala etc.* have described equal quantity of goghrita. Here some modification was done acc. to AFI reference, regarding goghrita.

## MATERIALS

Ashudh amlasaar gandhak 500gm

*Goghrita* (Cow Ghee) q.s. (1/10 =50gm)

*Godugdha* (Cow Milk) q.s.

**MACHINERY /EQUIPPMENTS:** Lpg stove, iron ladle, stainless containers, muslin cloth, stainless steel trays, spatula.

## METHOD

The *Dhalan* process was done for *Gandhak shodhan* by using *goghrita* and *godugdha*. It was repeated for three times as per *AFI* method.

- First of all, ashudh *Gandhak* was powdered in pestle and mortar.
- Thereafter, 1000ml of *godugdha* was taken in stainless steel container and boiled over mild flame.
- Then, white muslin cloth was used to cover the mouth of container.
- 50gm of *goghrita* was taken in iron ladle, and heated over low flame till *goghrita* was completely melted.
- Then powdered *Gandhak* was added and heated over mild flame, after 5minutes *Gandhak* was completely molten.
- This molten *gandhak* was poured through muslin cloth which was placed over container having *godugdha* and continuous stirring was done.
- After 10 minute, *dhalit Gandhak* was taken out from *godugdha* and washed with warm water for 3 times till it gets free from *goghrit* and *godugdha*.
- Then, it was kept for dryness and repeated the same procedure for two more times.

Dravya taken	1 <sup>st</sup> dhalan	2 <sup>nd</sup> dhalan	3 <sup>rd</sup> dhalan
Ashudh gandhak	500gm	495gm	490gm
Goghrita	50gm	50gm	50gm
Godugdha	1000ml	1000ml	1000ml

**OBSERVATIONS**

Parameters	Before Shodhan	On heating	After Shodhan
Colour	Bright yellow	Reddish brown	Dark yellow
State	Crystalline solid	Liquid	Granular
Touch	Khar	-	Snigadh
Taste	Bitter	-	Tasteless
Odour	Pungent	-	Goghrita
Yield	500gm		490gm
Percentage loss	-	-	2%

**PRECUATIONS**

- *Temperature* should be strictly maintained upto 120 degree celusis.
- *Continuous stirring* should be done.
- For each dhalan *fresh go-ghrita* and *godugdha* should be taken.
- The whole yield may be depends upon the *muslin cloth*, which we are using for pouring of *Gandhak*. *Very fine* pored cloth quickly *blocks* the pores and *Gandhak* cannot passed easily.
- *Gandhak* catches fire easily, it should carried out on *mandagni* (low flame).
- Properly *safety aspects* should be maintained from molten *Gandhak*.

**DISCUSSION**

The study was carried out to observe the changes in during *gandhak* shodhan and also to know the yield of *Gandhak after shodhan*. The shodhan process includes heating of ghee, then melting of *gandhak*, pouring in *godudgh* through *muslin cloth*. There are so many methods described in *Ayurveda* for shodhan process. Among all of them, *dhalan* is commonly used procedure because of easily availability of material like *godudh* & *goghrit*. The sheet *virya* and *pittshamak* property of *godudh* and *goghrita*, preferably reason for use may be they *neutrilises* the *tikshnata* of *ashudh* *gandhak*. *shudh Gandhak* have many therapeutic indications mostly for skin disorders as it is best antimicrobial agent. Due to its effectiveness in skin disorders it is also known as *kushthari*.

**CONCLUSION**

*Gandhak* is widely used drug in *Rasashastra*, but it should be used after *shodhan* i.e. *shuddha gandhak*. In scientific language *Gandhak* is nothing but it is known as sulphur. And Sulphur is included in mineral which is basically not fit for internal administration in crude form (*ashudh*). They contain impurities, some toxins which may cause many untoward side effects in the body. In order to neutralize these toxins, the minerals are subjected to purification

process. In nature native sulphur is available in huge quantity, but sometimes it is found in ore form combined with many other metals like iron, copper, lead, silver, mercury. *Dhalan* process is used for *Gandhak shodhan* using goghrita and godugdha. Except Rsayansaar all acharyas which I have mentioned in introduction described equal quantity of goghrita but Rasayansaar have mentioned one- fourth. Shodhan is the main procedure for the ayurvedic preparation. Changes that occur during shodhan process regarding its structural, yield may affect the whole procedure of formulations. The benefits for the documentation of shodhan process may help to calculate the ratio of formulations i.e. how much crude drug should be taken for shodhan to obtain a particular quantity.

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