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OBSERVATIONAL STUDY OF GANDHAK SHODHAN PROCESS OF AYURVED PRAKASH AND RASAYANSAR METHOD

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ABSTRACT

Rasashastra is most important and popular branch of Ayurveda related to *Herbo*-mineral (*Rasaushadhis*) preparation techniques with their therapeutic uses. *Rasashastra* classical texts have mentioned that every *Rasavaidya* should know *parada* (mercury) *shodhan* (therapeutic purification), *gandhak* (sulphur*) shodhan, parada murchana, gandhak jarana, snehapaka* etc. This denotes the importance of *gandhak shodhan* process in *Rasashastra*. *Kupipakwa, pottal-li, parpati, khalwirasa* containing *gandhak* are very popular and most demanding medicines in India due to their advantage like instant action even in small dose, tasteless, long life and fast relief. Hence requirement of *shuddha gandhak* for preparing different *Rasaushadhis* is of large quantity. *Dhalan* process is widely accepted method using *goghruta* and *godugdha* and by same *dhalan* process Ayurved Prakash and *Rasayansar* have described equal and one fourth quantity of *goghruta* for *gandhak shodhan*. Change in materials quantity during *sho-dhan* process may affect whole process and structural changes in drug. To know this, present study was carried out on the observations found during *dhalan* on the basis of required time for *dhalan*, melting point, structural changes in *gandhak*, and organoleptic properties of *shuddha gandhak* after three *dhalan* for each method. Time required was 10-15 minutes, melting point at 1150C, similar structural changes in *gandhak* at same temperature with same organoleptic properties for both *shuddha gandhak*. Above results indicate that *gandhak sho-dhan* process of Ayurved Prakash and *Rasayansar* methods were shown same observations even though different quantity of *goghruta* used.

Keywords: *Gandhak, shodhan, dhalan*, Ayurved Prakash, *Rasayansar*

INTRODUCTION

Rasashastra is most popular and demanding branch of Ayurveda as it is related to complete knowledge of alchemy (*Lohavedha*-conversion of mercury to noble metals gold and silver) and preparation techniques with therapeutic indications of *Rasaushadhis* for *Deha-vedha* (internal use of mercury for therapeutic uses). These *Rasaushadhis* are prepared by using plant and animal origin products to get in edible form and absorbable form. Rasa-*ratnasammucchaya* have mentioned that every *Rasavaidya* should know *parada* (mercury) *shodhan, parada marana, para-da murchana, gandhak jarana, snehapaka, abhraka marana, hirak maran,* and *upara-sa* shodhan1. As *gandhak* comes under *uparasa* group2, every Rasa-*vaidya* should

know theoretical, practical and therapeutic knowledge *of gandhak. Gandhak* is most important drug in *Rasashastra* and used to prepare *kajjali*, different *bhasma*, and with the help of these used for preparation of *Kupipakwa, pottalli, parpati, khalwirasa*. These preparations are most demanding and used by large population in India, so requirement of *gandhak* is on large quantity. But *gandhak* should be used after *shodhan* i.e. *shuddha* form as impure or raw *gandhak* contains impurities like *shila churna* and vishatatva3, causes some disorders in body like giddiness, burning sensation4 etc. Many processes are mentioned in *shodhan* process as *mardan* (trituration), *swedana, bhavana, dhavana* (washing), *avapa, nir-vapana, dhalan* etc. *Shodhan* process has half weightage to whole process of medicine prepa-ration. *Dhalan* process is widely used process for *gandhak shodhan* using *goghruta* and *godugdha*. Ayurved Prakash5 and Rasayansar6 have mentioned equal and one fourth quantity of *goghruta* for *gandhak shodhan* by using same *dhalan* method. Change in materials quantity during *shodhan* process may affect whole process and structural changes in drug. This is needed to know this present study was carried out for above mentioned *shodhan* method of *gandhak* having different quantity of *goghruta* on the basis of observations regarding time, melting point, structural changes and organoleptic properties of *shuddha gandhak* (purified sulphur).

MATERIALS AND METHODS

Materials

Raw *gandhak, Goghruta* (Cow Ghee), *Godugdha* (Cow Milk) were purchased from local market. Raw *gandhak* was taken 1000 gm. and divided into two batches each for Ayurved Prakash and *Rasayansar* method. *Goghruta* was used of *Agmark* standard of *Gowardhan* Company. *Godugdha* was taken of *Mahananda* Company having *Agmark* standard and *spe-cific* gravity of 1.030. All materials were taken as shown in [Table 1].

Table 1: Materials Taken For Gandhak Shodhan

Sr. No	***Dravya* Taken**	***1st Dhalan***		***2nd Dhalan***		***3rd Dhalan***	
		Ayurved Prakash	***Rasayansar***	***Ayurved Prakash***	***Rasayansar***	***Ayurved Prakash***	***Rasayansar***
1.	Raw *Gandhak*	500gm	500gm	470gm	480gm	465gm	470gm
2.	*Goghruta*	500gm	125gm	470gm	120gm	465gm	120gm
3.	*Godugdha*	1500ml	1000ml	1500ml	1000ml	1500ml	1000ml

Method

Dhalan process was done for *gandhak shodhan* by using *goghruta* and *godugdha*. This was done three times for Ayurved Prakash as well as *Rasayansar* method. For each method, 500gm powdered *gandhak* was taken. *Godugdha* was taken in a cylindrical pot i.e. *ketley* covered with dry clean cotton cloth tied at neck. Required *goghruta* was taken in a steel pot, heated on slow fire and when *goghruta* completely melted then powdered *gandhak* was add-ed to it. Melted *gandhak* and *goghruta* were poured through cloth in *ketley* containing *godugdha*. Stones and clay like structure were remained on cloth and *gandhak* filtered in *godugdha*. Mixture was continuous stirred

to avoid blockage of cloth pores due to cooling of *gandhak*. Temperature was maintained between 1100C- 1200C during each *dhalan* process. After 15 minutes *dhalit gandhak* was taken out from *godugdha* and appeared as fresh yellow *bundi* like structure. *Shuddha gandhak* was washed out with hot water of 800C temperature till it gets free from *goghruta* and *godugdha*. This process was repeated for twice i.e. three *dhalan* was completed for each method. For one *dhalan* 15 minutes of time was required. For each *dhalan* new and fresh *goghruta* and *godugdha* were used. *Godugdha* was used each time for Ayurved Prakash and *Rasayansar* method was 1500ml and 1000ml respectively [Table 1].

OBSERVATIONS

For each *dhalan* process of both methods following observations were found [as shown in figures 1 and 2].

900C to 950C - hardening of *gandhak* started and small yellowish stony structures were found.

1000C to 1050C - yellowish big sized stone like structures were found with some reddish tint.

1050C to 1100C - melting of *gandhak* were initiated.

1150C to 1200C - *gandhak* was melted completely.

PRECAUTIONS

1) Raw *gandhak* and *dhalit gandhak* was used in powder form

2) Cotton cloth was clean dry and not having any layer of soap on it. As cloth remains wet *gandhak i*s accumulated on that wet portion and causes blockage of cloth pores results in difficulty in filtering *gandhak* through cloth. Hence *shodhan* is not carried properly as *gandhak* does not get poured in *godugdha.*

3) *Gandhak* should be melted in *goghruta* properly.

4) Temperature was noted during each *dhalan* process for both methods.

5) During *dhalan* process, pouring of melted *gandhak* was done quickly with continuous stirrer till *gandhak* was get poured through cloth.

6) *Shuddha gandhak* was washed carefully to remove *goghruta* and *godugdha* completely.

RESULTS

Table 2 - Organoleptic Properties of Gandhak

Sr. No.	Parameters	*Ashodhit Gandhak*	*Shuddha Gandhak of Ayurved Prakash*	*Shuddha Gandhak of Rasayansar*
01	Colour	Yellow	Yellowish red	Yellowish red
02	Odour	Original	*Goghruta*	*Goghruta*
03	Taste	Bitter	Tasteless	Tasteless
04	Touch	*Khar*	*Snigdha*	*Snigdha*

DISCUSSION

This study was carried out to know whether lesser quantity of *goghruta* is beneficial for *gandhak shodhan* as mentioned by *Rasayansar* or equal quantity of *goghruta s*hould be used

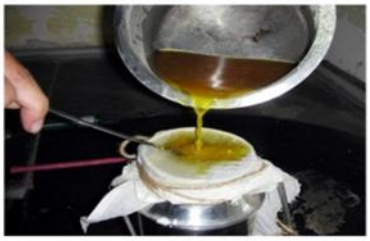
1 Raw Materials Taken for ***Gandhak Shodhan***

2 Adding Powdwered ***Gandhak*** in melted ***Goghruta***

3 Stonelike strcture of ***Gandhak***

4 Melted Gandhak & Goghruta after stonelike strcture Gandhak

Figure 1
Observition form during *Gandhak Shodhan* by *Dhalan* process



5 Pouring of melted ***Gandhak*** & ***Goghruta*** in ***Godugdha***

6 ***Dhalit Gandhak*** in ***Godugdha***

7 Obtained ***Gandhak*** after ***Dhalan***

8 Shuddha Gandhak after Dhawan (Wash)

Figure 2 Observations found during *Gandhak Shodhan*

as described by Ayurved Prakash. But as material quantity changes may cause procedural observations changes regarding time, structural form of drug as well as therapeutic indications of drug. Hence this present study was taken on the basis of observational study during *shodhan* process for above two methods having different quantity of *goghruta*. *Gandhak* has many therapeutic indications mostly for skin disorders as it has best antimicrobial action especially against fungal infections. It is largely used drug for preparation of many formulations in *Rasashastra*. Many methods and materials are mentioned in classical texts of *Rasashastra* in which widely accepted method is *dhalan* using *goghruta* and *godugdha*. *Tila taila*, Errand *taila Sarshap taila, Karanj taila, Bhallatak taila etc* are mentioned substitutes for *goghruta* and *Aja dugdha, Takra, Bhrungraj swarasa, Adraka swarasa, Triphala kwath* are mentioned as a substitute for *godugdha*. Preferably *goghruta* and *godugdha* are used due to their *pittashamak, oaksatmya, vishaghna, shitavirya, laghu guna. Gandhak* is having impurities *shila churna* and *vishatatv*a, so *godugdha* and *goghruta* are commonly used to do *shodhan* of *gandhak.* As per modern aspects *gandhak* is soluble in fat and very essential for metabolism in hu-

man physiology and it may contain arsenic as a toxic substance which detoxify with hydrocarbons of *goghruta* and *godugdha*. The same explanation has been given by classical texts of *Rasashastra* that by *dhalan* process *shila churna* remains filtered on cloth and detoxification of *visha* occurs in *goghruta* and *godugdha.*

During this study powdered *gandhak* was added to melted *goghruta* then melted firstly and showed hard stone like structures and then melts completely after some time. This was seen in every *dhalan* of each method. Required complete time for *dhalan* was 15 minutes with similar structural changes for *gandhak. Gandhak* was melted at 1150C-1200C temperature for each *dhalan* of each method. Organoleptic properties of *shuddha gandhak* of above methods were yellowish red coloured, tasteless, *goghruta* odour and *snigdha* touch as shown in [Table 2].

CONCLUSION

Gandhak has most important role for preparing *Rasaushadh* is in *Rasashastra. Shuddha gandhak* should be used to prepare medicines and for that *dhalan* process is widely accepted method with *goghruta* and *godugdha.* Ayurved Prakash and *Rasayansar* have mentioned equal and one fourth quantity of *goghruta. Shodhan* process is main process in preparing medicines and has half weightage to whole procedure of medicine preparation. Change in materials quantity during *shodhan* process may affect whole process and structural changes in drug. So to know the observations during process in *gandhak* by using above two methods differ in *goghruta* quantity and *goghruta* can be used in lesser quantity as mentioned by *Rasayansar*. Hence results were indicating that both methods were shown similar observations for *shuddha gandhak* of Ayurved Prakash and *Rasayansar* method with equal time requirement and same organoleptic properties.

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