



Experimental Study of *Shweta Parpati Nirman* w. s. r. to *Ashodhit*, *Shodhit* and *Nirmalikruta* Ingredients

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Abstract

There are various forms of *Ras-aushadhi Nirman*. One of the most popular form is *Parpati kalpana Nirman*. In which *Shwetaparpati* is specially mentioned for Urinary disorders in *Sidhhayog Sangraha*. It is one of the most popular formulation commonly used by practitioners. In every experimental study, only theoretical knowledge is not sufficient, it should be practically analyzed as per standard analytical procedures. Detailed procedure of *Shweta Parpati Nirman* is not mentioned properly in textual references. There is lack of explanation about whether the ingredients should be *Ashodhit* (Impure), *Shodhit*(Internalpurification), or *Nirmalikruta* (External purification). So it is very important to do the experimental study on such unexplained pharmaceutical procedure. This study is a humble effort to establish the standard operating procedure for *Shweta Parpati nirman* by using *Ashodhit*, *Shodhit* & *Nirmalikruta ingredients*.

Keywords

Shweta Parpati Nirman, *Kshar Parpati*, *Kalmisora*, *Shital parpati*



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INTRODUCTION

Rasashastra is the science of herbs & mineral preparations associated with applied pharmaceutical procedures which is based on experimental studies. There are various forms of *Ras-aushadhi nirman*. One of the most popular form is *Parpati kalpana nirman*. The superposition of *Parpati kalpana* over other preparations is that the required dose is minimum, where as the effect is maximum. All these are essential characters of a good pharmaceutical index. It is also called as *Pot Bandha*, i.e. 8th *Bandha of Parad*. Most of *parpati kalpana* consists of *Parad* (Mercury) & *Gandhak*(sulfur) , but some are prepared without using *Parad* & *Gandhak*. In which *Shwetaparpati* is specially mentioned for Urinary disorders in *Sidhhayog Sangraha*. It is also called as *Shital Parpati*, *Kshar Parpati*, *Vajra Kshar*, as its all ingredients are *Kshariya* i.e. Alkaline in nature.

In every experimental study, only theoretical knowledge is not sufficient, it should be practically analyzed as per standard analytical procedures. Detailed procedure of *Shweta Parpati nirman* is not mentioned properly in textual references. There is lack of explanation about whether the ingredients should be *Ashodhit* (Impure), *Shodhit*

(Internal purification), or *Nirmalikruta*(Externalpurification). So it is very important to do the experimental study on such unexplained pharmaceutical procedure. Comparative Physical analysis of final product prepared by above three methods is also helpful for discovering the standard operative procedure for *Shweta Parapati nirman*. This study is a humble effort for the same.

Shodhan is a process of purification of drug. It can be divided in two parts, one is external i.e. Physical purification and another is internal i.e. Chemical purification. *Nirmalikaran* is one of the important procedure of external purification of *Rasadavyas* which is specially mentioned in classical text book of *Rasashastra* that is *Rasatarangini* mainly for three *dravyas Kalmisora, Tankana, & Tutha*.

AIM

To Preapare *Shweta Parpati* by using *Ashodhit* ,*Shodhit* & *Nirmalikruta* ingredients.

OBJECTIVES

1. To review the literature of *Shweta Parpati* & its ingredients in Ayurveda classics.



2. To prepare *Shweta Parpati* by using *Ashodhit* ingredients.
3. To prepare *Shweta Parpati* by using *shodhit* ingredients.
4. To prepare *Shweta Parpati* by using *Nirmalikruta* ingredients.
5. To do the Physical Analysis of the *Shweta Parpati* prepared by above three methods

MATERIALS

This session includes literary review of

- a) *Shwetaparpati* b) *Kalmisora* c) *Kankshi*
- d) *Navsagar*.

a) Literary review of *Shweta Parpati* -
Reference:- *Sidhayog Sangraha, Ashmari Mutrakrichha Adhikar AFI vol II, 12:2*

Shweta Parpati¹- It is white coloured *parpati* devoid of *Parad* & *Gandhak*, specially acting on *Mootravaha Sansthan*. It is mentioned in *Sidhhayoga Sangraha*, a classical ayurvedic text. It is also called as *Shital Parpati, Kshar Parpati, Vajra Kshar*, as its all ingredients are *Kshariya* i.e. Alkaline in nature¹.

Uses - *Mutra- ashamari*(Urinary calculi), *Mutradaha*(Burning urination), *Mutra ghata*, *Mutrakrichha*(difficulty in Urination), *Amplapitta*(Hyperacidity)¹.

Dose: 725mg to 1.250gm, **Anupan:** Cold water and

b) Literary review of *Kalmisora (Nitrate of Potash)*²

It is described under *Kshar vidnyaniya* specially in *Rastarngini* text, having chemical formula- KNO_3 .(Potassium nitrate)

Physical properties

It is needle shaped, white to dirty gray coloured crystalline powder of ionic salt of Potassium nitrate. It is also called as *Surya kshar Soraka*. Molecular weight 101.102g/mol. It is soluble in water. May explode under prolonged exposure to heat or fire. It melts at $334^{\circ}C$ ².

Medicinal Properties

Ras- Katu, Lavana, Tikshna, Virya- ushna, sparsha- shita, *Rechak, Mutral(diuretic), Vrana shodhak, Vishaghna, Asmarighna, Dahashamak* & useful in *Mutradaha* (burning micturation), *Mutrakruccha* (Painful urination), *Mutra-ashmari* (urinstone), *Agnimandya, Pandu, Amlapitta, Kamla, Snake bite*. Dose – 2 to 10 ratti².

c) Literature of *Kankshi (Potash Alu)*⁵ –

It is described under *Uparas varga dravyas*, having chemical formula – $K_2SO_4 \cdot Al_2(SO_4)_3 \cdot 24H_2O$ (Double sulphate of potash & Alum).

Physical properties - It is white coloured crystalline drug. It is soluble in water. It



melts at 92⁰c to 95⁰c. Its molar mass is 474.3884g/mol.

Medicinal Properties - Ras- katu, kashaya , amla & madhur, virya- ushna, guru, snigdha, tridoshgna, keshya, vishaghna, netrya, vranashodhak , stambhak, etc. & useful in Yonirog, Mukharog, Kasa, Kshaya etc. Dose- 2 to 4 ratti ⁵.

d) Literature of Navsagar –

(Ammoniumchloride)⁷

It comes under *Sadharan rasa varga dravyas*, having chemical formula – NH₄Cl⁷.

Physical properties - It is white coloured ammonium choride powder. It is highly soluble in water. When it dissolved in water exothermic reaction occurs & water becomes chilled. It melts at 338⁰c. molecular weight 53.489g/mol ⁷.

Medicinal Properties - Ras- amla, lavana- kshariya, shita virya, snigdha, Agni Deepak, Mutral (diuretic) sarak, pachak, tridoshaghna, netrya, kapha nissarak, Vrushcchik vishanashak etc. & useful in Kasa, shwas, udar, Vrushcchik dansha, hrudaya rog, adhman, gulma, mukhashosh, pliha, kushta roga , Mutravikar etc. Dose – 2-8 ratti ⁷.

METHODS

Reference –Siddhyoga Sangraha

Generally *Shweta Parpati* is prepared by using *Ashodhit* ingredients¹, but *Shodhan* is important procedure to remove the impurities from the raw materials. *Nirmalikaran* is also another process of external purification mentioned for *Kalmisora* in *Ras tarangini* text³. So in this study *Shweta Parpati nirman* was done by using following three different methods. Three samples of each method were prepared.

1. Method I- *Ashudha* Ingredients
2. Method II – *Shodhit* Ingredients
3. Method III - *Nirmalikiruta* Ingredients

1) **METHOD I** - *Shweta Parpati nirman* by using *Ashodhit* Ingredients

Ingredients - As shown in Table no 1.

Table 1 - Method I - Ingredients

Sr. no.	Ingredients	Sample A	Sample B	Sample C
1	<i>Ashodhit Kalmisora</i>	16 gm	16gm	16 gm
2	<i>Ashodhit Kankshi</i>	02 gm	02 gm	02 gm
3	<i>Ashodhit Navasadar</i>	01 gm	01gm	01 gm

Equipment required: Weighing machine, Mortal pestle, Pan, Spoon, Gas stove, Pyrometer & air tight jar.

Procedure :

- All ingredients were weighed accurately.
- Fine powder of each drug was done individually.



- All ingredients were ground well in mortar and pestle to get the homogenous mixture.
- Powdered mixture was heated in pan to get liquid form of the drug.
- Temperature & Observation was recorded with pyrometer.
- The liquid mixture is thrown on clean tiles vigorously, to get the thin shield of *Shweta Parpati*.
- Final product was weighed, stored in air tight container & subjected to physical analysis ¹.

Method II – *Shweta Parpati nirman* by using *Shodhit Ingredients*. This method consists of following two steps

- a) *Shodhan* procedure of *Kalmisora*, *Kankshi* & *Navsagar*
- b) *Parpati Nirman*

Table 2 - Method II - Ingredients

Sr.no	Ingredients	Sample A	Sample B	Sample C
1	<i>Shodhit Kalmisora</i>	16 gm	16gm	16 gm
2	<i>Shodhit Kankshi</i>	02 gm	02 gm	02 gm
3	<i>shodhit Navasadar</i>	01gm	01gm	01gm

b) *Parpati Nirman*

Ingredients :- As shown in Table no. 2

Procedure:

- All procedure was done same as method I.

a. *Shodhan procedure of Kalmisora*, *Kankshi* & *Navsagar*

- ***Kalmisora Shodhan***:- Reference – *Rastarangini*⁴

Procedure : *Shodhan* of *Kalmisora* done by giving three *bhavana* of *Ellaichi Hima* ⁴.

- ***Kankshi Shodhan*** : Reference – *Rasatarangini*⁶

Procedure: It is done by heating the powder of *ashudha Kankshi* in pan, upto evaporation of all liquid to get *shudhha kankshi* ⁶.

- ***Nausagar Shodhan*** : Reference : *Rastarangini* ⁸

Procedure: Powder of *ashudhha Nausagar* was added in 3 times of cold water. The mixture was filtered & heated to evaporate the water to get *shodhit Nausagar* ⁸.

- Final product was weighed, stored in air tight container & subjected to physical analysis.

3. Method III - *Shweta Parpati nirman* by using *Nirmalikruta* Ingredients .This method consists of following two steps.

- a. *Nirmalikaran* of *Kalmisora*, *Kankshi* & *Navsagar*



b. Parpati Nirman

a. Nirmalikaran of Kalmisora, Kankshi & Navsagar

Reference: Rastarangini

❖ **Nirmalikaran of Kalmisora:** -
Procedure - Nirmalikaran of Kalmisora was done as per given in Rastarangini text³.

Hot water method:

Ingredients:

- Impure Kalmisora - 20 grams
- Hot water - 60 ml

Procedure:

- 1) Hot Water was added in fine powder of Kalmisora to get dissolved solution.
- 2) The solution then allowed filtering through filter paper in a stainless steel vessel.
- 3) Filtered solution was allowed to cool at room temperature in a dish³.

❖ **Nirmalikaran of Kankshi :-**
 Nirmalikaran of Kankshi was not mentioned

Table 3 - Method III - Ingredients

Sr no.	Ingredients	Sample A	Sample B	Sample C
1	Nirmal Kalmisora	16 gm	16 gm	16 gm
2	Nirmal Kankshi	02 gm	02 gm	02gm
3	Nirmal Navsadar	01gm	01 gm	01 gm

❖ **b. Parpati Nirman**

Ingredients: As shown in Table no.3

Procedure

- All procedure was done same as method I.

in textual references but to achieve the uniformity in procedure, Nirmalikaran of kankshi was done.

Procedure:-

- The powdered Kankshi was added in three times of water i.e. up to complete dissolution.
- The dissolved solution is filtered & subjected to heat to get semisolid mixture
- Semisolid mixture is dried at room temperature to evaporate excess moisture.
- Nirmalikruta dried powder of Kankshi obtained.

❖ **Nirmalikaran of Navsagar :**
 Principles of shodhan process of Navsagar is same as Nirmalikaran i.e. Dissolution, Filtration & Evaporation, only it is titled as a Shodhan process in textual references. So Nirmalikaran of Navsagar was done as per mentioned method II.

- Final product was weighed, stored in air tight container & subjected to physical analysis.

OBSERVATIONS & RESULTS



❖ Weight of Samples in grams - As shown in Table no. 4

❖ Weight Chart (Before, After and Loss) – As shown in Graph no .4

❖ Physical Analysis of Method I - *Shweta Parpati* Prepared by *Ashodhit* Ingredients- As shown in Table no. 5

Table 5- Physical Analysis of Method I - *Shweta Parpati* Prepared by *Ashodhit* Ingredients

<i>Panchendriya parikshan</i>	<i>Sample A</i>	<i>Sample B</i>	<i>Sample C</i>
<i>Shabda</i>	<i>Kat Kat</i>	<i>Kat Kat</i>	<i>Kat Kat</i>
<i>Sparsha</i>	<i>Mrudu</i>	<i>Mrudu</i>	<i>Mrudu</i>
<i>Rupa</i>	<i>Shweta varna</i>	<i>Shweta varna</i>	<i>Shweta varna</i>
<i>Rasa</i>	<i>Kshariya</i>	<i>Kshariya</i>	<i>Kshariya</i>
<i>Gandha</i>	-	-	-

❖ Physical Analysis of Method II - *Shweta Parpati* Prepared by *Shodhit* Ingredients - As shown in Table no.6

❖ Physical Analysis of Method III - *Shweta Parpati* Prepared by *Nirmalikruta* Ingredients - As shown in Table no.7

❖ Temperature pattern wise observations by using pyrometer, during

Shweta Parpati procedure- As shown in Table no.8

❖ Temperature required for total melting - As shown in Graph no 2

❖ pH Analysis of *Shweta Parpati* – As shown in Table no 9 and Graph no 3

Table 4 - Weight of Samples in grams

S r. n o f o r	Method	Sample 1 wt in gms			Sample 2 wt in gms			Sample 3 wt in gms		
		B	A	L	B	A	L	B	A	L
1	<i>I - Ashodhit Ingredients</i>	19gm	12.5gm	6.5gm	19gm	12gm	7gm	19gm	16gm	3gm
2	<i>II - Shodhit Ingredients</i>	19gm	16gm	3gm	19gm	15.5gm	3.5gm	19gm	17.5gm	1.5gm
3	<i>III - Nirmalikrut Ingredients</i>	19gm	15gm	4gm	19gm	13.5	5.5gm	19gm	14gm	5gm

Table 6- Physical Analysis of Method II - *Shweta Parpati* Prepared by *Shodhit* Ingredients

<i>Panchendriya parikshan</i>	<i>Sample A</i>	<i>Sample B</i>	<i>Sample C</i>
<i>Shabda</i>	<i>Kat Kat</i>	<i>Kat Kat</i>	<i>KatKat</i>
<i>Sparsha</i>	<i>Eshat Kathin</i>	<i>Eshat Kathin</i>	<i>Eshat Kathin</i>
<i>Rupa</i>	<i>Eshat-pitabh Shweta varna</i>	<i>Eshat-pitabhShweta</i>	<i>Eshat-pitabh Shwetavarna</i>



<i>Rasa</i>	<i>Kshariya</i>	<i>Kshariya</i>	<i>Kshariya</i>
<i>Gandha</i>	-	-	-

Table 7- Physical Analysis of Method III - Shweta Parpati Prepared by Nirmalokruta Ingredients

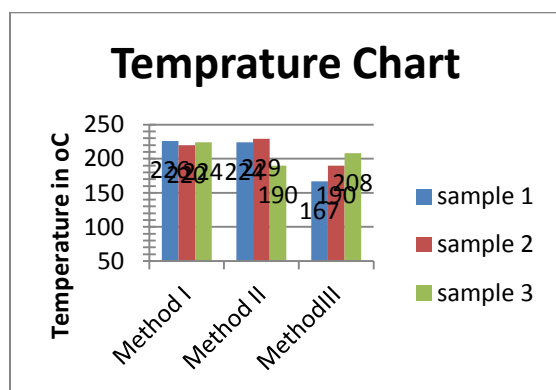
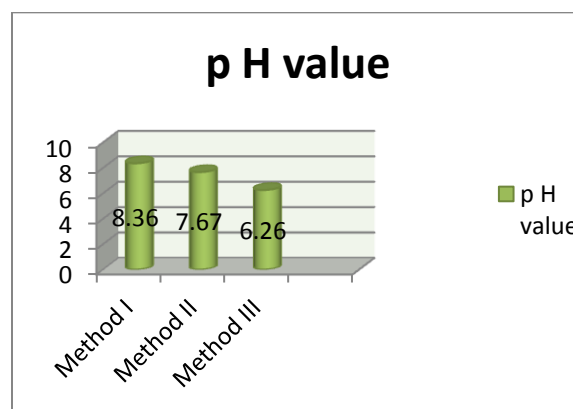
<i>Panchendriya parikshan</i>	<i>Sample A</i>	<i>Sample B</i>	<i>Sample C</i>
<i>Shabda</i>	<i>Kat Kat</i>	<i>Kat Kat</i>	<i>Kat Kat</i>
<i>Sparsha</i>	<i>Mrudu</i>	<i>Mrudu</i>	<i>Mrudu</i>
<i>Rupa</i>	<i>Eshat-pitabh Shweta</i>	<i>Eshat-pitabh Shweta</i>	<i>Eshat-pitabh Shweta</i>
	<i>Varna</i>	<i>varna</i>	<i>varna</i>
<i>Rasa</i>	<i>Kshariya</i>	<i>Kshariya</i>	<i>Kshariya</i>
<i>Gandha</i>	-	-	-

Table 8 - Temperature pattern wise observations by using pyrometer, during Shweta Parpati procedure

Method	Sample	Temperature wise observation			
		Melting start at temp.	Fullita stage at temp	Again melting start at temp.	Totally melt at temp.
<i>I (Ashodhit)</i>	Sample 1	132 ⁰ c	154 ⁰ c	174 ⁰ c	226 ⁰ c
	Sample 2	119 ⁰ c	170 ⁰ c	200 ⁰ c	220 ⁰ c
	Sample 3	125 ⁰ c	160 ⁰ c	198 ⁰ c	224 ⁰ c
<i>II(Shodhit)</i>	Sample 1	129 ⁰ c	154 ⁰ c	185 ⁰ c	224 ⁰ c
	Sample 2	124 ⁰ c	160 ⁰ c	190 ⁰ c	229 ⁰ c
	Sample 3	120 ⁰ c	155 ⁰ c	195 ⁰ c	218 ⁰ c
<i>III(Nirmalokruta)</i>	Sample 1	65 ⁰ c	115 ⁰ c	130 ⁰ c	167 ⁰ c
	Sample 2	81 ⁰ c	120 ⁰ c	132 ⁰ c	190 ⁰ c
	Sample 3	62 ⁰ c	100 ⁰ c	120 ⁰ c	208 ⁰ c

Table 9 pH Analysis of Shweta Parpati

Method	<i>I-Ashodhit</i>	<i>II- Shodhit</i>	<i>III- Nirmalokruta</i>
pH value	8.36	7.67	6.26

**Graph No. – 2** Temperature required for total melting**Graph no 3.** Showing p H value variation.

DISCUSSION

Ras shastra is a branch of herbomineral preparation so deep theoretical and practical



knowledge of pharmaceutical procedure like *Shodhan*, *Maran* etc is required. Most of *Ras Kapla's* consists of *Parad* and *Gandhak*, but *Shweta parpati* is a form of *Parpati kalpana* prepared without using *Parad* and *Gandhak*. In *Siddhayog sangraha*, *Shwetaparpati* is mentioned as one of most important drug of choice for Urinary disorders¹. In this textual reference, procedure of *Swetaparpati nirman* is mentioned but there is no description available about the form of raw material i.e. it should be *Ashodhit*, *Shodhit*, or *Nirmalikruta*. So to perform experimental study on such unexplained procedures is very important. Therefore this study was undertaken to do the experimental study on *Shweta Parpati nirman* by using *Ashodhit*, *Shodhit* & *Nirmalikruta* ingredients.

Generally *Shwetaparpati* is prepared by using *Ashodhit* ingredients but *Shodhan* process is most important procedure to remove impurities from drug. *Shodhan* process is a type of chemical purification called as internal purification whereas *Nirmalikaran* is a type of physical purification called as external purification. So purification procedure (*shodhan* & *Nirmalikaran*) should be done before preparation of every drug formulation.

Nirmalikaran is a procedure mentioned in *Ras tarangini* text especially for *Kalmisora*, *Tankan*, *Tutha* & *Ahiphen*³. Amongst the raw materials of *Shweta parpati*, *Kalmisora* is a main ingredient which is in large quantity. For external purification of *Kalmisora*, *Nirmalikaran* is mentioned. And for internal purification, it should be triturated (*Bhavanasanskar*) with *Ellaichi Hima* for three times⁴.

Raw material like *Kalmisora*, *Kankshi* & *Navsagar* were purchased from local market & authentication done. *Shwetaparpati nirman* was done as per following three methods, method I) with *Ashodhit* ingredients, II) with *Shodhit* ingredients III) with *Nirmalikruta* ingredients. Three samples of each method were prepared, observations & temperature was recorded time to time.

In first method all ingredients taken were *Ashodhit* & procedure was done as per textual reference i.e. all ingredients were ground well in mortar n pestle, then taken in pan, heated, melted & poured on clean, even surface to form a white thin shield of *shweta parpati*¹. Sample was stored in air tight container. In the same way three samples of method I, were prepared and observation with temperature was recorded.



In second method all ingredients taken were *Shodhit*. *Shodhan of Kalmisora* was done after *nirmalikaran* process. *Nirmalikiruta Kalmisora* was triturated with *Ellaichi hima* for three cycles of *Bhavana sanskar*⁴. *Kankshi shodhan* was done by heating *Kankshi* powder in pan to total evaporation of all water content of it, to get pure *shodhit Kankshi Lahi*⁶. In *Navsagar shodhan* three times of water is added in it and the mixture was filtered and evaporated on heat to get semisolid form. Semisolid *Navsagar* was dried at room temperature to get *shodhit Navasagar*⁸. Rest *Parpati nirman* procedure was done same as in method I. Three samples of Method II were obtained & observations with temperature were recorded time to time.

In method III, *Nirmalikaran* of all ingredients were done. *Nirmalikaran* of *kalmisora* was done by using hot water method as per *Ras tarangini* text³. *Nirmalikaran* procedure is based on three principles i.e. Dissolution, Filtration & Evaporation. So as per these three principles, *Nirmalikaran* of *Kankshi* was done, though *Nirmalikaran* of *Kankshi* was not mentioned in any textual references. But to achieve the uniformity in procedure *Nirmalikaran* of *Kankshi* was done. There is

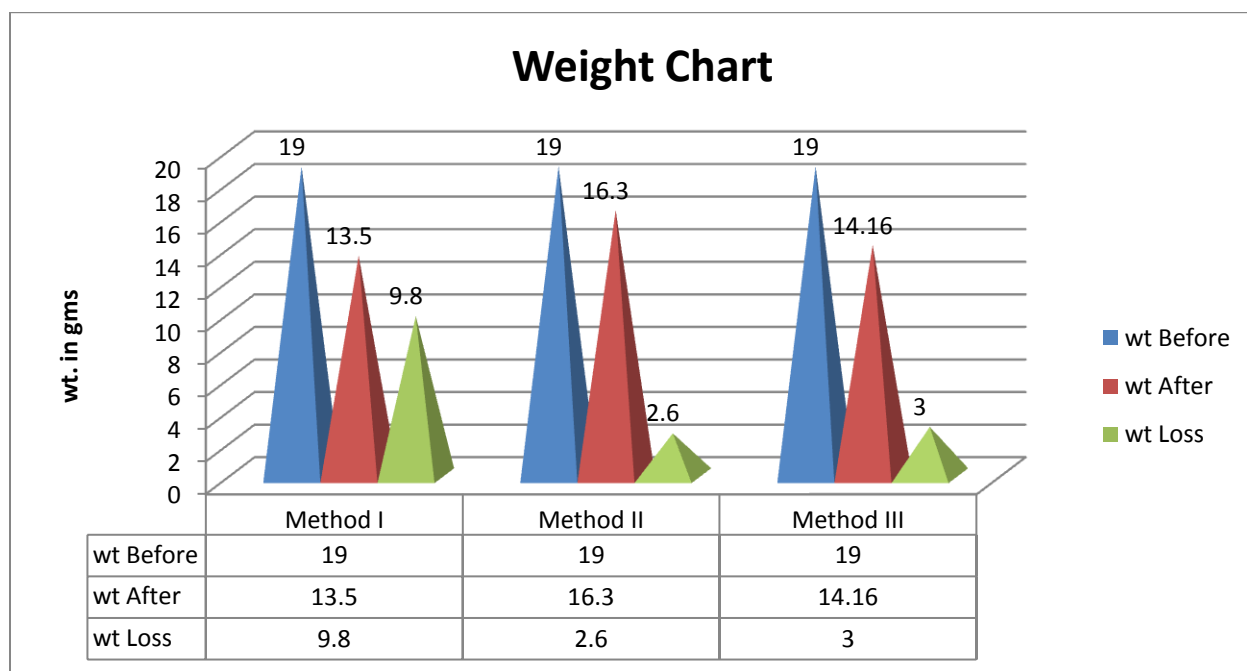
a difference in *Shodhan & Nirmalikaran* process of *Kankshi*. In *Nirmalikaran* total water content of *Kankshi* was not evaporated as like *shodhan* of *Kankshi*. In *Nirmalikaran*, the semisolid mixture of *Nirmalikiruta kankshi* was allowed to dry at room temperature. In *Navsagar Nirmalikaran*, powder of *Ashudhha Navsagar* was added in 3 times of cold water. The mixture was filtered & heated to evaporate the water contents of it, to get *Nirmalikiruta Navsagar*. Principles of *shodhan* process of *Navsagar* is same as *Nirmalikaran* i.e. Dissolution, Filtration & Evaporation, only it is titled as a *Shodhan* in textual references. *Parpati Nirman* was done by using *Nirmalikiruta* ingredients same as method I. Three samples were prepared & observations with temperature were recorded time to time. All sample prepared were subjected for physical analysis, i.e. *Panchbhautik parikshan- Shabda, Sparsha, Roop, Rasa, & Gandha*. Weight before, after, & loss in weight was analyzed, as shown in table no 4 & graph no.1. Temperature required for total melting of samples were observed & compared as shown in table no.8 & graph no2. Results were discussed according to above observation. There was slight difference in



colour and appearance of final product i.e. *eshat pitabh shweta varna parpati* by second & third method (*Shodhit* & *Nirmalikruta* respectively). In first method the colour of *parpati* was bright white though ingredients used were *Ashudha*. This is one of the important observation. During the procedure melting point variations were observed and recorded in all three methods by using pyrometer. In method I (*Ashodhit*), temperature required for total melting ranges from 220⁰c to 226⁰ c, while in method II (*Shodhit*), temperature required for total melting ranges from 218⁰c to 229⁰c and in method III (*Nirmalikruta*), temperature required for total melting ranges

from 167⁰c to 208⁰c. (as shown in table no8 & graph no 2) Above observations suggest that temperature required for total melting of method II (*Nirmalikruta*) ingredients was low as compare to method I (*Ashodhit*) and method III(*Shodhit*) .

Before and after weight of each sample was done, it suggest that method II (*Shodhit*) sample showed very small loss in weight after preparation as compared to rest two methods , as *shodhit* sample contains very low amount of moisture in it, as shown in table no 4 & graph no.1. Method II *parpati* is quit hard than method I and III. Method I *Parpati* smoother than II & III.



Graph no .1 – Weight Chart (Before , After and Loss)



Analysis of pH shows significant difference in all samples, as shown in table no 9 & graph no 3. Method I (*Ashudha*) shows alkaline Ph of 8.3, method II (*Shodhit*) shows slightly alkaline pH of 7.6, while method III (*Nirmalikruta*) shows pH of 6.2. This variation of pH shows that *Shweta Parapati* prepared by method I (*Ashudha*) was most Alkaline in nature as compare to other methods, and method III

(*Nirmalikruta*) was least alkaline *Shwetaparapati*. As *Shwetaparapati* was being used as alkalizer in Burning micturation it should be prepared by method I (*Ashudha*) for getting best alkalizer efficacy. This is a very important finding observed during this study. So may be because of this reason *Shwetaparapati* was being prepared by using *Ashodhit* ingredients.

A) *Ashudha* Ingredients

B) Method I – Procedure (melting)

C) Method I *Shweta parapati*D) *Shodhit* Ingredients

E) Method II – Procedure (melting)

F) Method II *Shweta parapati*

G) *Nirmalikruta* Ingredients

H) Method III -Procedure(melting)

I) Method III- *Shweta Parpati*J) pH-8.3 of *Ashodhit* sample
(Method I)K) pH-7.6 of *Shodhit* sample
(Method II)L) pH -6.2 *Nirmalikruta*
(Method III)

CONCLUSION

1. This research work concludes that *Shweta Parpati nirman* by all three methods i.e. using *Ashodhit*, *Shodhit* & *Nirmalikruta* ingredients could be possible.
2. *Shwetaparpati Nirman* by Method II & III was time consuming procedure as compare to method I (*Ashodhit*).
3. Temperature required for all samples was near about same i.e. there was non significant deference in temperature required for all methods. Temperature required for

total melting of all sample ranges from 167⁰c to 229⁰c. It suggests that maximum temperature required for total melting of *Shwetaparpati* was in between 167⁰c to 229⁰c .

4. Colour of sample changes according to method of preparation i.e in method I – *Shweta varna* (white colour) and in II & III it was *eshat pita shweta varna*.(yellowish colour).
5. There is very small loss in weight of *Parpati* in Method II (*Shodhit*) as compare to method I & III.



6. Method II Parpati was quit hard than method I and III. Method I *Parpati* smoother than II & III.

7. Analysis of pH shows significant difference in all samples. Method I shows

alkaline Ph of 8.3, method II shows slightly alkaline ph of 7.6 , while method III shows ph of 6.2. This variation of ph shows that *Shweta parapati* prepared by method I (*Ashudha*) was most Alkaline in nature as compare to other methods, and method III (*Nirmalokruta*) was least alkaline *Shwetaparapati*.

8. So finally this research work concludes that, as *Shwetaparpati* was being used as alkalizer in *Mutravikar* like *Mutra daha* (Burning micturation), it should be prepared by method I (*Ashudha*) for getting best alkalizer efficacy.

This work is not a complete research work, one can do the further chemical analysis of all samples and evaluate which method is best standard operating procedure for *Shweta parpati* *Nirman*.



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