

## AN IMPROVED METHOD FOR THE MANUFACTURE OF ANNABHEDI SINDURAM

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**ABSTRACT:** *Ayurvedic bhasmas are still prepared by the age old methods using earthen pots and cow dung cakes. It is a laborious and costly method consuming a lot of time. This paper deals with a modern method of preparation using electric Bunsen. It is a convenient, and cheap method consuming less time. Chemical analysis of the samples prepared by the both methods did not show much difference.*

### INTRODUCTION

Ayurveda, our ancient system of medicine has a rich heritage. In olden days, due to the high efficacy of the system people had faith in it and followed it for their ailments, but lack of quality medicine and the high cost of it made the people to turn to the modern system of medicine which provides quicker relief at a lower cost, this affected the popularity of ayurveda. But the side effects of modern medicine prompted the people to retune to the ancient system of medicine. Production of quality medicine at a low cost will certainly help to revive the popularity of this ancient system of medicine. In other words the standardization of ayurvedic medicine<sup>1</sup> is quite inevitable to keep up the efficacy of the system.

Standardisation of Ayurvedic drugs comprises of the standardization of single drugs, finished products and method of manufacture. Standardization of method of manufacture includes the development of some modern economic, convenient methods of manufacture without prejudice to its therapeutic value either by modifying or replacing the age old methods of ayurveda. This standardization also helps to give scientific explanation to the basic

principles of ayurvedic science and to reduce the cost of production of products to meet the needs of poor people, besides this, such a study will help the development, progress and propagation of ayurveda in and outside our country. This paper deals with the modification in the methods of manufacture of *Annabhedi Sindhuram*. *Annabhedi Sindhuram*<sup>2</sup> is one of the most widely used preparation for pandu (Leucoderma), Pitharoga, Hikka, pleeha, Urinary disorders etc, etc.

### Materials and Methods

Two samples of *Annabhedi Sindhuram* were prepared – one using the classical ayurvedic method and the other using modern methods. *Kasisam* for the preparation of *Annabhedi Sindhuram* was obtained from the local drug traders and identified. It was purified according to the traditional method any Bhavana with Lime Juice<sup>3</sup> and Bhringaraja<sup>4</sup> swarasa. Bhavana was also done with citric acid and water. Sodhitha *Kasisam* was ground with Lime Juice and Vadakam (Chakrikas) were prepared and dried. These were kept in sarava samphuta and sandhi lepa was done. This was

subjected to puta filled with 7 kg 680gm of varali (dried cow dung cakes). The puta was repeated till the bhasmas became bright red.

The same sample of sodhitha kasisam was subjected to electrical heating in an electric Bunsen. It was slowly heated to red hot and kept at red hot for 45 minutes and cooled.

Four samples of annabhedhi sindhuram were purchased from different firms in Trivandrum.

Iron content (both  $\text{Fe}^{+2}$  &  $\text{Fe}^{+3}$ ) of all these samples were estimated by the following method.

### Estimation of $\text{Fe}^{+2}$ & $\text{Fe}^{+3}$

About 0.3 – 0.4 gm of the sample was weighed accurately into a conical flask. 10mls of Con. HCl was added and heated. Dissolved material was quantitatively transferred to a 250ml standard flask and made up to the mark with 2N HCl.

#### $\text{Fe}^{+2}$

20 mls of the solution was pipetted into a conical flask. 5ml of Con. HCL was added and heated to 70-90°C. Stannous chloride solution was added dropwise from burette until the yellow colour had almost disappeared. Addition was then continued with the diluted solution until the solution became colourless or slightly green. The solution was cooled rapidly to room temperature and 10 ml of mercuric chloride was added. A small white silky looking precipitate should form. If not precipitate forms or the precipitate is grey or black it is to be discarded and the operation should be started afresh.

The precipitate formed was allowed to stand for 2-3 minutes and diluted to 300 ml with

distilled water, 5mls of phosphoric acid, 4-6 drops of diphenyl amine indicator are added and titrated with dichromate as before.

This gives the value for total iron and the difference gives the value for  $\text{Fe}^{+3}$

### Results and Discussion

The organoleptic characters of the three samples (traditional, modern and market) did not show much difference except in colour (Table No.1)

The preparation of Annabhedhi by the traditional method usually takes more than three days. While the modern method of heating takes only less than three hours. The chemical analysis of these two samples did not show much differences white powder obtained on treating with lime juice have 17%  $\text{Fe}^{+2}$  and 6% of  $\text{Fe}^{+3}$ . This on first puta have 22.31% and 14.87% while the sindhuram on 3<sup>rd</sup> puta have 0.55% and 65.80% (Table 2) This white powder on electrical heating gave the result 0.5% and 66.88. Similarly the sample treated with Kaithonni (Bhringa raja Swarsa) on first puta gave 12.80 and 19.72. This on third puta gave 0.60 & 65.90. The same material on electrical heating gave 0.5% and 67.20 % (Table 2). Citric acid is the main constituent of lime juice. Also vinegar was suggested for Bhavana in Siddha<sup>6</sup> preparation. Hence Bhavana was tried with citric acid and also with pure water. These on electrical heating gave 69.93 & 69.23 and the  $\text{Fe}^{+2}$  Content is 0.5%.

Four market samples were also analysed. The  $\text{Fe}^{+2}$  content in all these cases is between 0.5 to 1.12 and  $\text{Fe}^{+3}$  content is 31.10, 31.35, 53.06 and 55.47. All these samples contain sand but the concentration is different. The same sample of annabhedhi when subjected to electrical heating gave a

slight higher value of Fe content than that of traditional method. This may be due to use of earthen pot in the traditional method.

These results show that the percentage of iron content is more or less the same in the traditional method and modern method. The traditional method is laborious, time consuming, costly while that of electrical heating is very convenient and cheap. It involves less labour, time and cost. In modern method, preparation of sindhuram will be over with in hours while that of traditional method takes more than 3 days and lot of labour etc. In other words this method can be recommended for the preparation of the sindhuram until the

pharmacological and clinical screening of samples show their therapeutic inferiority.

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**Table -1**  
**Organoleptic Characters of the Different samples**

Test	Traditional method	Modern Method	Market sample
Colour	Reddish brown	Bright reddish brown	Dark Reddish brown (2) Reddish brown (2)
Smell	Faint	Faint	Faint
Touch	Fine	Fine	Fine
Taste	Tasteless	Tasteless	Tasteless

**Table – II**  
**Iron Content of the samples**

Constituent		Traditional method					Modern method			Market sample			
		Lime juice		Bringa raja		Swars	Bringa	Citric	Water	M1	M2	M3	M4
	Before Puta	I st Puta	III Puta	I st Puta	III Puta	Lime Juice	Raja Swaras	Acid					
Fe <sup>+2</sup> (%)	17.0	22.31	0.55	12.80	0.60	0.5	0.5	0.5	0.5	1.12	0.64	0.69	0.5
Fe <sup>+3</sup> (%)	6.00	14.87	65.80	19.72	65.90	67.20	67.20	69.93	69.23	53.06	31.10	31.35	55.47

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