

Physico-chemical Standardization of Agni Rasa

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Abstract

Agni Rasa is a Khalviya Rasayana mentioned under Agnimandya Rogadhikara in the text Bhaishajya Ratnavali. It is mainly indicated for Ajeerna Roga. The five key ingredients of Agni Rasa are Shuddha Vatsanabha, Vacha, Kushta, Musta and Maricha. Agni Rasa was prepared in three batches. The Analytical study was done for all the three samples. The study includes organoleptic characters, Physico - chemical characters like Loss on drying at 110°C, Water soluble extractive, Acid soluble extractive, Total ash, Acid insoluble ash, pH and Disintegration time.

Keywords

Agni Rasa, Agnimandya, Ajeerna, Khalviya Rasayana

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1. Introduction

Rasashastra through literally means the science of mercury, but it is a special branch dealing mainly with materials which are known as Rasadravyas. Bhaishajya Kalpana deals with the basic Pharmaceutical principles. Bhaishajya means the “Drug” and Kalpana means the “Processing”¹. There are four important techniques to prepare the Rasa Aushadhis. Among them Khalviya Rasayanas are the most prominent and useful medicines. Khalviya Rasayanas are innumerable and indicated in majority of diseases explained in Ayurvedic classics. Bhavana and Mardana samskaras are the main principles behind the preparation of Khalviya Rasayana by which its therapeutic safety and efficacies are determined. Hence Khalviya Rasayanas are most common in today’s general practice.

The major causative factor for the most of the diseases is Agnimandya² and it signifies the inadequate Agni in the body. Ajeerna is a disease which is caused by weakened digestive fire and incomplete metabolism. Agni Rasa is an important Khalviya Rasayana mentioned in the classical text Bhaishajya Ratnavali³ and indicated in Ajeerna Roga.

Table 1. Ingredients of Agni Rasa

Sl.No.	Ingredients	Latin Name	Family Name	Part Used	Swaroopa Process	Anupata Quantity
1	Vatsanabha	Aconitum ferox	Ranunculaceae	Tuberous root	Churna	1 Part
2	Vacha	Acorous calamus	Araceae	Root	Churna	1 Part
3	Kushta	Saussuria lappa	Asteraceae	Root	Churna	1 Part
4	Musta	Cyprus rotundus	Cyperaceae	Root	Churna	1 Part
5	Maricha	Piper nigrum	Piperaceae	Fruit	Churna	1 Part
6	Ardraka	Zingiber officinale	Zingibaraceae	Rhizome	Swarasa	Q.S.

2. Materials and Methods

Three batches of Agni Rasa was prepared as per the classical text. These were subjected to Physico-Chemical evaluation in terms of Organoleptic evaluation, Loss on Drying at 110°C, Total ash, Acid insoluble ash, Alcohol soluble extractive, Water soluble extractive, PH, Uniformity of weight, Average weight, Disintegration test and Friability test⁵.

3. Results and Discussion

- Organoleptic Evaluation
- Physico - Chemical Evaluation
- Average Physico - Chemical values of three Batches (Batch A, Batch B, Batch C)

Table 2. Organoleptic Evaluation of three Batches of Agni Rasa

Test	Agni Rasa (Batch A)	Agni Rasa (Batch B)	Agni Rasa (Batch C)
Appearance	Small round tablet	Small round tablet	Small round tablet
Colour	Brownish gray	Brownish gray	Brownish gray
Odour	Characteristic	Characteristic	Characteristic
Taste	Pungent	Pungent	Pungent
Touch	Rough	Rough	Rough

Table 3. Physico - Chemical Evaluation of Agni Rasa (Batch A, Batch B and Batch C)

Test	Agni Rasa (Batch A)	Agni Rasa (Batch B)	Agni Rasa (Batch C)
Loss on drying on 1100 C	3.8 % w/w	3.2 % w/w	3.9 % w/w
Water soluble extractive	22.77 % w/w	22.24 % w/w	22.43 % w/w
Alcohol Soluble extractive	3.876 % w/w	3.770 % w/w	3.816 % w/w
Ash	5.90 % w/w	5.88 % w/w	5.76 % w/w
Acid insoluble ash	1.04 % w/w	1.00 % w/w	1.02 % w/w
PH	5.1	5.20	5.12
Average weight of tablet	66 mg	69 mg	64.5 mg
DT	6.5 mins	6 mins	5.9 mins

Table 4. Average Physico - Chemical Evaluation of three Batches of Agni Rasa (Batch A, Batch B, Batch C)

Test	Average Evaluation of three Batches of Agni Rasa
Loss on drying on 1100 C	3.63% w/w
Water soluble extractive	22.48% w/w
Alcohol Soluble extractive	3.81% w/w
Ash	5.84% w/w
Acid insoluble ash	1.02% w/w
PH	5.36% w/w
Average weight of tablet	66.5 mgs
DT	6.13 mins

3.1. Organoleptic Characters

Organoleptic characters were, brownish gray colour, having characteristic odour and pungent taste for all the three Batches of Agni Rasa⁴.

3.2. Physico - Chemical Characters

3.2.1. Loss on Drying

It was 3.87%w/w in Batch A, 3.2%w/w in Batch B and 3.9 %w/w in Batch C. The average of all the three Batches is 3.63% w/w.



It can be stated that Agni Rasa possesses a very minute quantity of moisture and hence the chances of bacterial and fungal growth are very less. Due to this result the deterioration chances of Agni Rasa are very less.

3.2.2. Water Soluble Extractive

It is 22.77%w/w in Batch A, 22.42%w/w in Batch B, 22.23%w/w in Batch C. The average of the three Batches is 22.48%w/w. Water soluble extractive here indicates that this medicine is more soluble in water media i.e. the drug is having good solubility in water.

3.2.3. Alcohol Soluble Extractive

This is 3.876%w/w in Batch A, 3.770%w/w in Batch B, 3.816%w/w in Batch C. The average of the three Batches is 3.81%w/w. This denotes that water soluble extractives are more than alcohol soluble extractives. This clearly indicates that the water is the best suitable media for this formulation to show its pharmacological actions.

3.2.4. Total Acid Value

The total ash value is 5.90%w/w in Batch A, 5.88%w/w in Batch B and 5.7%w/w in Batch C. The average of the three Batches is 5.84%w/w. This indicates that the formulation has organic constituents. It is free from any inorganic material and hence the medicine is totally acidic.

3.2.5. Acid Insoluble Ash

It is 1.04%w/w in batch A, 1%w/w. In Batch B, 1.02%w/w in Batch C. The average value is 1.02% w/w. This value is very little and hence the formulation is easily and safely absorbable in the acid media of stomach.

3.2.6. PH

PH value is 5.1% in Batch A, 5.2% in Batch B, 5.8% in Batch C. The average value is 5.36%. It clearly indicates that all these products are acidic in nature, and they can be easily absorbed in stomach by passive diffusion.

3.2.7. Disintegration Time

The average Disintegration Time is 6.13 mins which was noticed within accepted limits.



Figure 1. Final Product of Agni Rasa

4. Conclusions and Future Scope

Agni Rasa is a Khalviya Rasayana and a most useful medicine for Agnimandya and Ajeerna. The tablets are round in shape, brownish grey in colour with characteristic odour and pungent taste. The Analytical study suggested that the moisture content present in Agni Rasa is minute and it will not be affected by fungus and bacteria. Hence its shelf life will be little longer. The results of the water soluble extractive suggested that it is easily absorbable in water media and also it is easily absorbable in the acid media of stomach. Total acid value 5.8%w/w in average suggested the absence of inorganic material and hence it is safe for consumption. Disintegration time is also within the acceptable limits. Hence the Khalviya Rasayana, Agni Rasa is standard and accurate. It is safe and also useful by many ways.

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