



# INTERNATIONAL RESEARCH JOURNAL OF HUMANITIES AND INTERDISCIPLINARY STUDIES

( Peer-reviewed, Refereed, Indexed & Open Access Journal )

DOI : 03.2021-11278686

ISSN : 2582-8568

IMPACT FACTOR : 7.560 (SJIF 2024)

## Preparation and evaluation of Ashmarihar arka

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DOI No. **03.2021-11278686**

DOI Link :: <https://doi-ds.org/doilink/09.2024-22879733/IRJHIS2409001>

### **Abstract:**

**Background:** According to arkaprakash book, arka Kalpana is consider among panchavidha kashay Kalpana. arka is the colourless, transparent form of liquid owing the property of low dosage compared to vati, kalka, kwath and other kashay Kalpana. Ashmarihar arka contains extraction of kushmanda Phala (arka) along with yava kshar and hingu. It is mentioned in arkaprakash for the treatment of renal calculi.

**Method-** Preparation of ashmarihar arka was carried out in two parts. In first part kushmanda phala arka was prepare with the help of arka patan yantra. In second part all the ingredients are mixed together in definite quantity. organoleptic and physico chemical parameters are applied for its analytical evaluation.

**Results and Conclusion-** from the present study it was found that formulated medicine has optimum standards and further standardization and Clinical screening will establish the efficacy of Ashmarihar arka.

**Keyword:** ashmarihar arka, arka Kalpana, Analytical evaluation, kushmanda phala arka. Ashmari, renal calculi.

### **Introduction:**

Ayurveda is a complete and holistic traditional health-care system of India that contains both preventive and therapeutic aspects. The drug treatment in Ayurveda primarily consists of many Ayurvedic formulations such as panchavidha kashay Kalpana, Sneha Kalpana, asava, arishta etc. some formulations mentioned in ayurveda lag behind due to lack of appropriate knowledge and research such as arka Kalpana.

According to arkaprakash, arka Kalpana is consider among panchavidha kashay Kalpana. arka is the colourless, transparent form of formulation owing the property of low dosage compared to

vati, kalka, kwath and other kashay Kalpana. Preparation of arka is carried out by two different methods which are traditional method and modern method. In traditional method arka is prepared with the help of arka patan yantra while distillation apparatus is used in modern method.

Ashmarihar arka contains extraction of kushmanda Phala (arka) consumed with yava kshar and hingu. It is mentioned in arkaprakash for the treatment of renal calculi.

An Ayurvedic formulation must confirm test for identity, potency, purity, safety and efficacy as per API guidelines. Quality assurance of arka relies on adequate analysis and standardized method of preparation.

The outcome of analytical evaluation of ashmarihar arka will lead to availability of good quality, potent, low dosage and effective drug in the market with patient compliance.

#### **Aim:**

Preparation and evaluation of Ashmarihar arka.

#### **Objective:**

1. To prepare and develop the standard manufacturing process of study drug
2. To analyze physico chemical properties of study drug to develop its standard

#### **Materials and methods:**

Herbs used in the preparation of Ashmarihar arka was purchased from local market.

#### **Instruments:**

1. Arkapatan yantra
2. Weighing machine
3. stirrer
4. Gas burner
5. Beaker

#### **Ingredients:**

Sr no	Contents	Form/Part used	Scientific name	Quantity
1	Kushmanda phala	Arka	Curcubita pepo	10ml <sup>[2]</sup>
2	Yava	Kshar	Hordeum vulgare	500mg <sup>[3]</sup>
3	Hingu	Gum-resin	Ferula narthex	125mg <sup>[4]</sup>

Table 1: Ingredients of Ashmarihar arka

#### **Method of preparation:**

Preparation of Ashmarihar arka was carried out in 2 parts

#### **Part 1: Preparation of kushmanda phala arka<sup>[5]</sup>**

In Arkaprakash various methods of Arka preparation according to consistency (Atyanta Kathina, Kathina dravya, Adra dravya, drava dravya etc) and type of drug (phala, pushpa, kashta etc) are explained well. For the preparation of kushmanda phala arka following method is applied.

Step 1: A well ripe fruit of kushmanda is taken, washed and weight is measured with the help

of weighing balance.

Step 2: fruit is chopped into small pieces and subjected in arka patan yantra without adding any water. (As per mentioned in arkaprakash) [5]

Step 3: heated for 3 hrs with temperature 200<sup>0</sup>-250<sup>0</sup> C. Vapours are condensed and arka is collected in receiver.

**Part 2: Mixing of all ingredients:**

Step 4: coarsely powdered hingu churna, yavakshar and kushmanda phala churna are taken in a beaker

**Analytical study of kushmanda arka and Ashmarihar arka [6]**

**A. Organoleptic Examination of kushmanda arka and Ashmarihar arka**

- 1. shabda, 3.rupa 5.gandha.
- 2. sparsha, 4. Rasa.

**B. Physico-chemical evaluation of kushmanda arka and Ashmarihar arka.**

- 1. p.H 2. Specific gravity
- 3. refractive index 4. density
- 5. wt/ml 6. boiling point

**Observation and results:**

**A. Organoleptic Examination.**

Sr no	Parameter	Results	
		Kushmanda arka	Ashmarihar arka
1	Shabda	Non-significant	Non-significant
2	Sparsha	Non significant	Non significant
3	Rupa	transparent liquid	Slightely red
4	Rasa	slightly sweet	Piquant and slightely sweet
5	Gandha	characteristic	Pungent and characteristic

Table 2-organoleptic Examinations

**B. Physico-chemical evaluation of kushmanda arka and Ashmarihar arka.**

Sr no	Test	Value	
		Kushmanda phala arka	Ashmarihar arka
1	Specific gravity	0.9988	1.0326
2	Refractive index	1.3308	1.3408
3	Ph	6.88	7.90
4	Wt/ml	0.9886	1.0230
5	density	0.9651	0.9978

6	Viscosity	1.0906	1.275
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Table 3- Physico-chemical evaluation

**Discussion:**

Arka Kalpana is one of the most elegant and efficient dosage form of ayurvedic pharmaceuticals. Most of the literature about arka Kalpana is found in arkaprakash by ravana.

In Arkaprakash various methods of Arka preparation according to consistency (Atyanta Kathina, Kathina dravya, Adra dravya, drava dravya etc) and type of drug (phala, pushpa, kashta etc) are explained well. In most of the methods water is added to the drug and the mixture is kept overnight for soaking. but the distinctive property of this method is no water used in the preparation.<sup>5</sup>

Ashmarihar arka consists of Kushmanda phala arka, yava kshar and hingu. All the ingredients were purchased from local market. Preparation of ashmarihar arka was carried out in 2 parts.

In part 1<sup>st</sup> kushmanda phala arka was prepared. 500gms of kushmanda phala was taken and chopped in small pieces. Then subjected in arka yantra and mandagni was given for 3hrs with temperature 200-250 degree Celcius. Vapours are condensed and collected in patra. Total 180ml of arka is obtained. Organoleptic examination and Physico-chemical evaluation are carried out on kushmanda phala arka. Results are shown in table 2 and table 3.

In 2<sup>nd</sup> part kushmanda arka, yava kshar and hingu are mixed together in the quantity of 10ml, 500mg and 125mg respectively. Organoleptic examination and Physico-chemical evaluation is carried out on ashmarihar arka. Results are shown in table 2 and table 3.

**Conclusion:**

Ashamarihar arka was prepared with the help of various herbs listed in table 1. organoleptic and physico chemical parameters are applied for its analytical evaluation. Results are enlisted in table 2 and table 3. Ph of Ashmarihar arka is alkaline which will be beneficial in the treatment of ashmari. Hence from the present investigation it was found that formulated medicine has optimum standards and further standardization and Clinical screening will establish the efficacy of Ashmarihar arka.

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