



PHARMACEUTICAL AND ANALYTICAL STUDY OF- DRAKSHARISTHA

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ABSTRACT

Background: Bhaishjyakalpana is the branch where Sanskaras are clearly mentioned like Snhepak, Sandhan, etc. Our Acharyas have always tried to make the preparations more palatable and potent. The present era demands scientific method and standardized protocol for any preparation. Here is an opportunity to revise the science using newer technologies in cost effective manner. Draksharistha is one of the most commonly used formulation in practice. Attempt has been made to carry out original research article on Draksharistha and to study the pharmaceutical and analytical aspect. **AIM:** To Study the Pharmaceutical and Analytical Aspect of Draksharistha. **Material & Methods:** The preparation of Draksharistha was done according to the reference of Sharangdhara Samhita. All the procedure was done systematically and observations were noted. **Discussion:** The study is aimed at setting a standard manufacturing procedure for Draksharistha through examination of pharmaceutical and analytical characteristics. The various analytical parameters like ph, specific gravity, alcohol content, solids content, total sugar percent, etc. were assessed. **Conclusion:** The detailed pharmaceutico-analytical study of draksharistha a detailed stepwise description and documentation in scientific, logical, sequential manner helps in developing a standard manufacturing procedure for Draksharistha. Many studies present on Draksharistha but to get original research article and as a part of pg curriculum study detailed procedure of Draksharistha attempt has been done.

KEYWORDS : Asav, Aristha, Draksha, Ayurved, Sandhan Kalpana

Introduction:

Bhaishajya Kalpana is the branch where drug collection, storage and their *samskaran* are clearly mentioned. *Sandhan Kalpas* are regarded as very important due to their long self-life, better absorption and efficacy. *Asav* and *Arishtha* are prepared by allowing the herbal juices or their decoctions to undergo fermentation with addition of jaggary and sugar^[1].

Arishtha is prepared with decoctions of herbs. *Draksharistha* is popularly used in the clinical practice. Many references of *Draksharistha* are available in different classical text. Chief ingredient of *Draksharistha* is *draksha* and *jaggary*^[2]. *Draksharistha* was prepared by reference of *Sharangdhara Samhita*^[3]. As mentioned in *samhitas ushnarutu* is best for preparation of *sandhan kalpas*^[4]. So, this formulation is prepared in between March to April month, in department of *Rasashastra* and *Bhaishajyakalpana*, government *Ayurved* college, Nagpur.

As a part of our PG curriculum to study the in depth insist of pharmaceutical and analytical aspects of the classical medicine like *Draksharistha*, the present study has been undertaken. In this study all the steps followed during preparation and quality parameter analysis of *Draksharistha* has been detailed explained & documented.

By this we can know the difference in the quality of the final product. Hence this article is an attempt to prepare best sample of *Draksharistha* on the basis of pharmaceutical aspects and study its physico-chemical characters.

AIM: To Study the Pharmaceutical and Analytical Aspect of *Draksharistha*.

Objectives:

1. To study the standard manufacturing procedure of *Draksharistha*.
2. Critical evaluation of quality parameter assessment.

Material and Methods: This study was carried out in two steps.

1. Pharmaceutical study.
2. Analytical study.

1. Pharmaceutical study:

Pharmaceutical study carried out in three steps:

A. Raw material Identification: All the raw materials of *Draksharistha* were procured from authentic source and identify by the experts of *Dravyagun* department to confirm the quality, identity, purity and strength.

B. In Process Quality Control: The preparation of *Draksharistha* was done according to reference of

Sharangdhara Samhita^[5]. द्राक्षातुलार्थं वृद्धोणे जलस्थ विपचेत सुरीं पशिषेणे कलायवे त पुणे शीते विविधक्षपेत || गुडस्थ वृद्धतुला तत्रज्ञ त्वगेलाफत्रके शरम् वरंयगुमरश्च कृष्णा विडंग वेत वुणधयेत || पृथकपलोत्त्तैर्भागवितो भाण्डे विर्रापयेत | समन्ततो यद्भवत्यत्वा वपबेज्जातरसं ततः || उरक्षतः क्षय ह्वन्त काशश्वासगलामयाि | द्राक्षाश्चटायः येत्कोबलकृितशोर्िः || शा. सं. म. १०

Table no. 1: Showing Ingredients and Prakshep Dravyas of Draksharistha:^[6]

Sr. No.	Ingredients	Latin Name	Quantity
1	Draksha	Vitis Vinifera	100gm
2	Guda	Jaggary	400gm
3	Jal	Water	2lit
4	Twak	Cinnamomum zeylanicum	4gm
5	Ela	Elettaria cardamomum	4gm
6	Tejapatra	Cinnamomum tamala	4gm
7	Maricha	Piper nigrum	4gm
8	Pippali	Piper longum	4gm
9	Nagkeshar	Mesua ferrea	4gm
10	Priyangu	Cllicarpa macrophylla	4gm
11	Vidanga	Embellia ribes	4gm

Procedure:**Method of preparation of Draksha Kawath**^[7]

- 100gm of dry *draksha* was procured from local market.
- It was washed and cleaned properly with water and kept in water for overnight.
- Then this soaked *draksha* taken in stainless steel vessel for making of decoction.
- 2lit of water was added to it and reduced to ¼ under *mandagni*.
- Then obtained *kwath* was filtered through a clean cotton cloth.

Method of preparation of Draksharistha^[8]

- Take prepared 500ml of *drakshakwath* in vessel and 400gm of jaggary added in it.
- Then this mixture was filtered and poured in earthen pot and kept

- for 24hrs.
- After that *Dhataki pushpa fant* and all *prakshap dravya* was added in it one by one.
 - Then mouth of earthen pot was tied by cotton cloth and kept for fermentation.
 - The onset of fermentation was observed after 7days, then proper *Sandhi Bhandhan* was done and kept for 1month.
 - After passing of all *siddhi pariksha* filtration was carried out with cotton cloth.
 - Filtered *Draksharistha* was stored in air tight container.

C. Finished Drug: After filtration process finished drug was stored in air tight container. Total obtained *Draksharistha* was 800ml.

Observations:

Table no.2: showing the organoleptic characteristics of *Draksharistha*:

Shabda	Nothing specific
Roopa	Dark Brown
Rasa	Amla, Madhura
Gandha	Gudgandhi
Sparsh	Mrudu

Precautions:

- Mandagni should be maintained during kashay preparation.
- Sandhibhandhan should be done properly for fermentation and to avoid contamination.
- Kept at room temperature to giving controlled manner heat.

2. Analytical Study:

Analysis of *Draksharistha*:

Table no.3: Showing the analytical parameters of *Draksharistha*

Parameters	<i>Draksharistha</i>	API values ^[9]
Total solids	30.95%	NLT 28.0 percent
PH	4.0	3.5 to 4.5
Specific gravity	1.082	1.08 to 1.20
Sugar content	18%	NLT 16%
Total Alcohol content	8%	[5 to 10 percent

Results and Discussion:

As a part of PG curriculum this study was carried out in sequential manner. To get original research article this study was done in department and all analytical parameters were tested in our lab.

Standard operating procedure is a set of stepwise description, all precautions to achieve uniformity of the performance. Standard operating procedure is set of written guidelines or instructions for the completion of a routine task, designed to increase performance, improve efficiency and ensure quality through systemic homogenization.^[10]

The preparation of *Draksharistha* was strictly carried out from the reference *sharandhar Samhita, sandhan Kalpana Adhyay*. As mentioned in reference *kwath* prepared by using 4times of water on *mandagni*. Maintained *mandagni* (i.e., 80^oc to 90^oc) throughout the procedure, so that all active ingredients should not be burned out. Then filtration of *kwath* was done. Equal amount of jaggary (procured from local market) was added in *kwath* and kept for 24hrs. *Dhatakpushpa fant* and all *Prakshap dravyas* were added in it. After fermentation process started proper *Sandhi Bhandhan* was done. *Sandhi Bhandhan* was removed after 1month and prepared *Draksharistha* was filtered & stored in air tight container. Analytical parameters assessment of prepared formulation was done in terms of colour, odor, taste and to authenticate the identity, purity of raw drugs & quality of sample. All inspection revealed similar observations in prepared drug as reported in the Ayurved Pharmacopoeia of India (table no 3).

PH-

Indicating acidity or alkalinity which can be assumed to be suitable for human use. Acidic and alkaline pH influence the rate of decomposition of most drugs. Many drugs are stable between pH 4 and 8. Ph of *Draksharistha* is 4.0 indicates that prepared *Draksharistha* is pharmaceutically stable.

Specific Gravity-

Specific gravity is the ratio of the density of a substance to the density of a reference substance. It gives the information about the concentration of formulations to evaluate the physical changes or determine the degree of uniformity between the molecules indicating characteristics of the substance at specific temperature.

Here the specific gravity of *Draksharistha* is 1.082. As it is self-fermented product. This indicates the *Siddhi lakshan* of *Aristha*. As it is denser than water, so it sinks in the water.

Sugar Content-

It includes total sugar, reducing sugar and non-reducing sugar. The term free sugar or total sugar is applied to simpler carbohydrates. Here total sugar percentage of *Draksharistha* is 18% because of adding equal amount of *Madhura dravyas*. As compared to other it is high in amount.

Alcohol Percentage-

Alcohol by volume is a standard measure of how much alcohol contained in a given volume of an alcoholic beverages. It containing self-generated alcohol. It is not more than 12% as mention in text. Total alcohol percentage in *Draksharistha* is 8%, because the presence of *Dhataki* and jaggary natural fermenter. Indicates the presence of active alcoholic components & shows that this formulation was pharmaceutically stable.

Total Solid Content-

Solid content means the non-solvent, non-water ingredients in the coating, which consist of pigments binders, that do not evaporate and have the potential to form cured (dry) film. The solid content can be expressed in terms of volume percent or weight percent.

Total solid content of *Draksharistha* is 30.95% which is under the limit as mentioned in API. It indicates the presence of active ingredients are more in quantity.

Conclusion:

Draksharistha is one of the most commonly used formulation in clinical practice. The pharmaceutical and analytical study of the formulation is done in this article. The above detailed stepwise description and documentation in scientific, logical, sequential manner helps in developing a standard operating procedure for *Draksharistha*. This will help other disciples of *ayurveda* to achieve exactly similar output when they follow the standard operating procedure for *Draksharistha*. This study can be first step of standardization. This analysis also helps in standardization of *Draksharistha*.

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