

PREPARATION AND ANALYTICAL STUDY OF GUDUCHYADI KWATHA GRANULES

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ABSTRACT

Ayurveda deals with various formulations with respect to various dosage form. In order to become granular, Guduchyadi kwatha, a traditional Ayurvedic formulation known for its medicinal properties in Yoni kandu (vaginal health), underwent pharmaceutical processing and analysis. The objective of this study was to optimize the formulation while maintaining its conventional therapeutic characteristics in order to improve convenience, efficacy, and stability. The manufacturing method for Guduchyadi kwatha started with the extraction of bioactive substances from its botanical elements. Next, using contemporary pharmaceutical techniques, the mixture was formed into granules. The granules underwent a thorough evaluation process to assess their physical attributes and their compliance with Ayurvedic pharmacopeial criteria by analytical

study. Analytical investigation employing tests that are indicative of their potential and efficacy, such as pH, alcohol soluble extractive, water soluble extraction, moisture content, total ash, and acid insoluble ash. Analytical study demonstrated that the granules are free from adulteration, contamination, ensuring their safety. In addition, the granular formulation showed better solubility than the conventional decoction form, which could increase therapeutic results and patient compliance. The goal of the project is to create novel dosage forms that satisfy safety and efficacy requirements. To sum up, the granular form of Guduchyadi kwatha is a noteworthy development in Ayurvedic medicine and gives a viable treatment option for Yoni Dhawan.

KEYWORDS: Guduchyadi Kwatha, Guduchyadi kwatha granules, Yoni kandu.

A) INTRODUCTION

Guduchyadi Kwatha is a classical Ayurvedic formulation indicated in Yoni Prakshalan for the management of *Yoni Kandu* (vulvovaginal itching), as described in Yogaratnakara. This condition is often associated with microbial infections, primarily bacterial vaginosis and fungal overgrowth. The formulation contains herbs with well-established antimicrobial, anti-inflammatory, and cleansing properties.

The traditional kwatha form, however, has limitations including short shelf-life, inconvenience in preparation, bulky dosage, and variability in potency. Converting the kwatha into granules offers improved stability, dose uniformity, portability, and patient compliance while preserving the therapeutic efficacy.

Given the clinical relevance of antimicrobial activity in Yoni leads to vaginal itching, discharge, smell, etc...

To overcome these problems one such formulation is Guduchyadi kwath which includes Guduchi, Amalaki, bibhitaki, haritaki and danti are among the kwathas named by Acharaya Yogratnakar that are regarded as shrestha (best) for yoni dhavana (vaginal wash). One of the Panchavidha kashaya kalpana in Ayurvedic pharmacy is kwatha; it has a 24-hour shelf life and becomes difficult to use on a daily basis if stored for an extended period of time due to fungal infestation.

Therefore, changing Kvatha to granules is a suitable choice as it is in ready to use form and more stability.

AIM AND OBJECTIVES

To prepare Guduchyadi kwatha granules and analyse it physico-chemically.

B) MATERIAL AND METHOD

a) Material

Stainless steel vessel	Gas stove
Weighing balance	Gas cylinder
Petridish	Muslin cloth
Tongs	Sieve No
Hot air oven	Desiccator
Whattman filter paper no 41	Muffle furnace

Chemicals used for analytical tests

1. Dilute hydrochloric acid
2. Distilled water

Ingredients

Sr. No.	Drug name	Latin Name	Part Use	Proportion	Quantity
1	<i>GUDUCHI</i>	<i>Tinospora cordifolia</i>	<i>KAANDA</i> (Dried matured stem)	1 part	50gm
2	<i>HARITAKI</i>	<i>Terminalia chebula</i>	<i>PHAL MAJJA</i> (Pericarp of dried ripe fruit)	1 part	50gm
3	<i>BIBHITAKI</i>	<i>Terminalia bellerica</i>	<i>PHAL MAJJA</i> (Pericarp of dried ripe fruit)	1 part	50gm
4	<i>AMALAKI</i>	<i>Embllica officinalis</i>	<i>PHAL MAJJA</i> (Pericarp of dried ripe fruit)	1 part	50gm
5	<i>DANTI</i>	<i>Baliospermum montanum</i>	<i>MOOL</i> (Rhizome)	1 part	50gm

Ingredients with properties

Sr. No.	Dravya	Rasa	Guna	Virya	Vipak	Karma	Doshaghnata
1	Guduchi	Tikta, Kashaya	Laghu	Ushna	Madhur	Vranshodha Dahahar, Krimighna	Tridoshghna
2	Amalaki	Amla, Kashaya	Laghu, Ruksha	Sheet	Madhur	Rochan, Grahi, Chakshushya	Tridoshghna
3	Bibhitaki	Kashay	Laghu Ruksha	Ushna	Madhur	Chardinigrahan, Krumighna	Kaphapittaghna
4	Haritaki	Kashaya, Amla, Madhur	Laghu Ruksha	Ushna	Madhur	Anuloman, Rasayan, Shothahar	Tridoshghna
5	Danti	Tikta Katu	Guru, Tikshna	Ushna	Katu	Krumighna, Kandughna, Vranashodhan	Tridoshashamak

(b) Method of preparation⁰

All the five ingredients were collected from the local vendor.

Preparation of kwatha

Kwatha is the filtered liquid obtained by boiling 1part of course powder of the drug with 16parts of water and reducing it to 1/8th part as per sharangdhar samhita.

All the five ingredients of above mentioned quantity were taken and washed with tap water. Ingredients were crushed into small pieces and kept in a vessel. Added water and kept it on low flame to extract medicinal properties until it reduced to 1/8th i.e., 500ml.

Then *kwatha* was collected by filtering with cotton cloth.

Preparation of Granules

500ml of fresh *kwatha* taken and subjected to heat On low flame for further boiling as shown in the figure Reduction was done up to semisolid stage with continuous stirring without covering the vessel. Then kept it on water bath then vessel was taken out from heat source.

This mass was prepared for granules and passed from sieve. Granules were prepared and dried at 35°C. Later on it was packed in air tight container.

c) Physico-chemical analysis of Guduchyadi kwatha granules

The *Guduchyadi kwatha* was evaluated for their physical and chemical characteristics, including their colour, taste, appearance, pH, moisture content, ash value, ASE, WSE, Acid insoluble ash.

i. Determination of pH

The buffer solution was prepared by Dissolving one tablet of pH 4 & 7 in 100 ml of distilled water.

The pH 4 solution was first introduced and the pH adjusted by using the knob to 4.02 for room temperature 28.6°C. The pH 7 solution was introduced and the pH meter adjusted to 7 by using the knob. Then the sample solution was introduced and reading was noted.

ii. Determination of moisture content

drying at 105°C: A hot air oven will be used for testing. The amount of water that evaporates from the drug will be tracked using this parameter. The medication will be carefully weighed and put in a tarred petri dish that will be baked in a hot air oven for five hours at 105°C. The petri dish will be dried using a desiccator. To assess the moisture content, the weight will be taken after five hours.

iii. Determination of total ash

Determination of total ash: This involves identifying the nonphysiological ash, which comes from extraneous matter, particularly soil and sand that sticks to the drug's surface, and the physiological ash, which comes from plants or tissue. Two grams of the material were added to an appropriate tared silica crucible that had been lit, weighed, and prepared for its detection. The sample was precisely weighed. The materials were burned by progressively raising the temperature up to 450°C until they were carbon-free. They were then cooled in a

desiccator, weighed, and the percentage of ash was determined by subtracting the crucible's empty weight from its total ash weight.

iv. Determination of Acid insoluble ash

The ash obtained as above was boiled for 5min with 25ml of dilute hydrochloric acid; then soluble matter was collected on an ashless filter paper, washed with hot water and ignited upto constant weight. The percentage of acid-insoluble ash with reference to the air-dried drug was calculated.

v. Determination of Water soluble extractive

To prevent solvent loss, 5 g of sample will be combined with 100 ml of chloroform water, and the mixture will be left undisturbed for 18 hours before being rapidly filtered. 25 milliliters of the filtrate will be extracted using a pipette, evaporated in a shallow dish with tared bottom, and dried to a constant weight on a water bath. The percentage of water soluble extractive will be determined in relation to the drug that is moisture free.

vi. Determination of Alcohol soluble extractive

A mixture of 5 g of sample and 100 ml of 90% alcohol will be agitated continuously for 6 hours, and then the mixture will be left undisturbed for 18 hours. It will be computed what percentage of the alcohol-soluble extractive is in relation to the moisture-free medicine.

C) RESULT AND OBSERVATION

Sr. No.	Observations	Guduchyadi kwatha granules
1.	Quantity of raw material	250g
2.	Quantity of water	4000L
3.	Praportion	1:16
4.	Date of preparation	30/11/25

Sr. No.	Parameters	Guduchyadi kwatha	Guduchyadi kwatha granules
1	Colour	Brownish	Dark Brown
2	Odour	Pungent	Not specific
3	Taste	Bitter	Bitter

Sr. No.	Parameters	Guduchyadi kwatha granules
1.	Ph	5.2
2.	Moisture content	7.58%
3.	Total Ash	7.82%
4.	Acid Insoluble Ash	2.10%
5.	Alcohol soluble extractive	11.32%
6.	Water soluble extractive	39.02%



a) Raw Materials



b) Preparation of guduchyadi kwatha



c)Preparation of guduchyadi kwatha granules

D) DISCUSSION

Authentication was done from Central research laboratory of the institute to avoid adulteration. Guduchyadi kwatha was prepared as per the reference mentioned in Yogratnakar then further it converted to granules as per the method of preparation of ghana as mentioned in sharangdhar samhita and then sieved through sieve. It took 1 day for the preparation.

Colour and odour was noted after preparation of *Guduchyadi kwatha* granules. Colour of kwatha was changed from brown to dark brown due to increased in concentration. There was no significant change in the odour. Total ash value of *Guduchyadi kwatha* granules was 7.82%. Ph value was 5.2, Moisture content was 7.58%. Acid insoluble ash was 2.10%. Alcohol soluble extractive was 11.32% and Water soluble extractive was 39.02%. *Guduchyadi kwatha* granules prepared by this method could be used for vaginal wash by dissolving into hot water.

CONCLUSION

It can be concluded that *Guduchyadi kwatha* granules could be Prepared. This formulation is quite affordable, stable and feasible than preparing *kwatha* frequently.