

PHARMACOGNOSTICAL AND PHYTOCHEMICAL STANDARDISATION OF VISHAGHNA GHANAVATI - AN AYURVEDIC POLYHERBAL FORMULATION

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ABSTRACT

In present study *Ghanavati Kalpana* is selected as an oral formulation. *Ghanavati* made from *Vishaghna Mahakashaya Gana* is selected for the study in abnormal vaginal discharge with the presence of microorganisms. Now-a-days, when human life is very fast, we should be ready to make necessary changes in our science according to the need of hour. The present study was aimed at setting up a standard profile of *Vishaghna Ghanavati* which was prepared using Pharmacognostical authenticated raw drugs followed by subjecting it to detailed Pharmacognostical and physicochemical analysis as per standard protocol. The observations were systematically recorded. Pharmacognostical findings (crystals, epicarp cells, trichome, etc.) confirm the ingredients present in the finished product. Identified phytochemical Parameters (Extractive values, Total ash, Acid soluble and water soluble, pH value) support the intended action of the formulation in vaginal discharge.

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INTRODUCTION

The vaginal discharge is commonly viewed as a general health problem or is considered as a symptom of an underlying gynaecological problem. It can be normally caused by many physiological factors like menstruation and different stages of womanhood i.e., puberty, pregnancy, lactation, menopause in which it is constantly produced by the vagina and the cervix for lubrication and protection of the vagina.

Vaginal discharge is indicative of some white creamy, yellowish, greenish discharge from vagina as abnormal or pathological process in the genital tract. It usually shows symptoms in association with other illness and commonly caused by fungal, parasitic, bacterial and sexually transmitted disease like trichomonas vaginalis. In Ayurvedic texts, though various conditions are described in which *Swetasrava* occurs but the *Swetapradara* as a special disease is not mentioned anywhere in Brihatrayee and Laghutrayee. For bleeding per vagina *Raktapradara*, *Pradara* and *Asrigdara* and for white discharge *Swetasrava* or *Yoni Srava*, *Slesmala Yoni* words have been used. The signs and symptoms of *Slesmala Yoni Vyapada* can be correlated with the term *Swetapradara* which is commonly seen in practice.^[1] Commentator Cakrapani, Sharngadhara Samhita, Bhavaprakasa and Yogaratnakara have used the word *Swetapradara* for white vaginal discharge. Commentator Cakrapani (11th century) has well narrated this term.^[2] In *Acharana Yoni* there is no direct description of vaginal discharge in classics, but due to uncleanliness and presence of microbes vaginal discharge along with severe itching is seen.^[3] *Vishaghna Ghanavati* made from *Vishaghna Mahakashaya Drvayas*^[4] is selected for the study in abnormal vaginal discharge with the presence of microorganisms. The selected compound in the present study i.e. Each ingredient of *Vishaghna Ghanavati* is very easily available in sufficient quantity, non – controversial and also economical. They have been reported as *Stambhaka*, *Krimighna*, *Kandughna*, *Vedanasthapana*, *Raktavikarhara*, *Krimighna*, and *Dahaprashamana*.^[5] They have Pharmacological activities like analgesic, anti-toxic, anti-inflammatory, antimicrobial, antiprotozoal, hypoglycaemic, antiviral and antifungal^[6] properties which leads to *Samprapti Vighatana* & also prevention of recurrence.

MATERIALS AND METHOD

Collection of raw drugs

Most of the raw drugs of *Vishaghna Ghanavati* were collected from the Pharmacy, ITRA, Jamnagar, Gujarat. *Katak Beeja*, *Sleshmatak fruit* & *Nirgundi patra* samples were collected from the Narayan Aushadha Bhandar, Jamnagar, Gujarat.

Preparation of *vishaghna ghanavati*

Drugs 1 part + water 16 times of it.

1 part of total drug and 16 times of water were subjected to Agni. When it reduced to 1/4th part, decoction was strained from the drugs. Then the decoction was again subjected to Agni till it became solidified to form tablets. 10% powder from each drug was added to form Ghanavati of 500 mg each. It was prepared in the pharmacy of ITRA, Jamnagar. Ingredients, part used and their required quantity for each *Vishaghna Ghanavati* of 500mg are given in Table-1.



Table 1: Showing contents of Vishaghna Ghanavati.

Sr. no.	Drug	Latin name	Part used	Quantity
1)	<i>Haridra</i>	<i>Curcuma longa</i> Linn.	Rhizome	1 part
2)	<i>Manjishtha</i>	<i>Rubia cordifolia</i> Linn.	Stem	1 part
3)	<i>Suvaha</i>	<i>Pluchea lanceolata</i> Oliver & Hiem.	Leaves	1 part
4)	<i>Sukshma ela</i>	<i>Elettaria cardamomum</i> Maton	Seed	1/4 part
5)	<i>Krishna Sariva</i>	<i>Ichnocarpus Fruitescens</i> R.Br.	Root	1 part
6)	<i>Chandan</i>	<i>Pterocarpus santalinus</i> Linn.f.	Heartwood	1 part
7)	<i>Katak</i>	<i>Strychnos potatorum</i> Linn.f	Seed	1 part
8)	<i>Shirisha</i>	<i>Albizia lebbek</i> Benth.	Bark	1 part
9)	<i>Sindhuvara</i>	<i>Vitex negundo</i> Linn	Leaves	1 part
10)	<i>Shleshmataka</i>	<i>Cordia dichotoma</i> Forst.f.	fruit	1 part

Pharmacognostical evaluation^[6,7,8]

As per API drugs which are used in the finished product of *Vishaghna Ghanavati* were identified and authenticated by the Pharmacognosy Laboratory. The identification was carried out based on the morphological, organoleptic features and microscopy of the prepared drug.

Pharmaceutical evaluation**Physico-chemical parameters^[9]**

Following parameters were analysed for different physico-chemical parameters by today's routine methods at the pharmaceutical chemistry lab ITRA, Jamnagar.

▪ Physico-chemical parameters for *Vishaghna Ghanavati*

- a. Uniformity of Weight
- b. Loss on drying
- c. Total ash
- d. Water soluble extract
- e. Methanol soluble extract
- f. PH

RESULTS AND DISCUSSION**Pharmacognostical study**

The initial purpose of the study was to confirm the authenticity of the drugs used in the preparation of *Vishaghana Ghanavati*. For that Finished product microscopy of the drugs was studied microscopically and microscopic characters of them were drowned. Results matched with the API and thus confirmed the genuineness of all the drugs used in the finished product.

Organoleptic findings












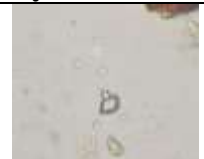








Vishaghana Ghanavati shows that dark brown in colour, taste *Kashaya*, characteristic aromatic odour and hard to touch.









Finished product microscopy

Microscopic evaluation finished product of *Vishaghna Ghanavati* was conducted, Characters were noted down and microphotographs were taken. Diagnostic characters of *Vishaghna Ghanavati* showed Acicular crystals of *Manjista*, Border pitted vessels of *Manjista*, Brown content of *Ela*, Calcium oxalate crystal of *Nirgundi*, Cork cells of *Shirisha*, Cork in surface

view of *Haridra*, Crystal fibre of *Nirgundi*, Epicarp cells of *Sleshmatak*, Fibres passing through medullary rays of *Sariva*, Lig Fib+Oil-Chandan, Lignified fibres of *Sariva*, Oil globule of *Katak*, Pitted stone cells of *Nirgundi*, Pitted vessel=Lig fib-Chandan, Prismatic crystal of *Ela*, Prismatic crystal-Chandan, Prismatic crystals of *Manjista*, Rhomboidal Crystal of *Sariva*, Rhomboidal crystal of *Shirisha*, Rosette crystal of of *Rasna*, Simple fibre of *Ktaka*, Simple fibres of *Haridra*, Simple starch grains of *Haridra*, Simple starch grains of *Rasna*, Stone cells of *Shirisha*, Stone cells of *Sleshmanthak*, Stratified fibres of *Ela*, Vessels of *Rasna*. Microphotographs are placed in (Plate-1).

Plate 1: Microphotographs of *Vishaghana Ghanavati*.

				
1.Simple fibres of <i>Haridra</i>	2.Simple starch grains of <i>Haridra</i>	3.Cork in surface view of <i>Haridra</i>	4.Acicular crystals of <i>Manjista</i>	5.Border pitted vessels of <i>Manjista</i>
				
6. Prismatic crystals of <i>Manjista</i>	7 Fibres passing through medullary rays of <i>Sariva</i>	8 Simple starch grains of <i>Rasna</i>	9 Rosette crystal of <i>Rasna</i>	10 Vessels of <i>Rasna</i>
				
11 Brown content of <i>Ela</i>	12 Prismatic crystal of <i>Ela</i>	13 Stratified fibres of <i>Ela</i>	14 Lignified fibres of <i>Sariva</i>	15 Rhomboidal Crystal of <i>Sariva</i>
				
16 Lig Fib+Oil-Chandan	17 Prismatic crystal-Chandan	18 Pitted vessel=Lig fib-Chandan	19 Simple fibre of <i>Ktaka</i>	20 Oil globule of <i>Katak</i>

				
21 Stone cells of Shirisha	22 Rhomboidal crystal of Shirisha	23 Cork cells of Shirisha	24 Calcium oxalate crystal of Nirgundi	25 Pitted stone cells of Nirgundi
				
26 Crystal fibre of Nirgundi	27 Epicarp cells of Sleshmantak	28 Stone cells of Sleshmantak		

Pharmaceutical evaluation

Physico-Chemical parameters of *Vishaghna Ghanavati* like pH, Loss on drying, water soluble extract, and methanol soluble extract all were found to be within the normal range. Details are given in Table 2.

Table 2: Physico-Chemical parameters of *Vishaghna Ghanavati*.

	Parameters	<i>Vishaghna Ghanavati</i>
1	Uniformity of weight (gm)	
	Maximum weight	0.512 gm
	Minimum weight	0.416 gm
	Average weight	0.477 gm
2	Loss on drying (%)	14.5 %
3	Ash value (%)	15.27 %
4	Water soluble extract % w/w	26.92 %
5	Methanol soluble extract %	9.26 %
6	pH Value (By pH meter)	6.5

CONCLUSION

Vishaghna Ghanavati was subjected to Pharmacognostical and pharmaceutical analysis. Pharmacognostical findings confirmed the ingredients of *Vishaghna Ghanavati*. Physiochemical studies confirmed that ingredients of drug formulation meet the good quality standards at primary level. Generated results are specific and may consider for the further research works.

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