

**PHARMACOGNOSTICAL AND PHARMACEUTICAL EVALUATION
OF SHWASAHARA YOGA IN THE MANAGEMENT OF TAMAKA
SHWASA**

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ABSTRACT

Tamaka Shwasa has been mentioned as *Pittasmudbhava Vyadhi*, caused due to the vitiation of *Kapha* and *Vata Dosha* and manifested through *Pranava Srotasa*. *Vata* predominantly associated with *Kapha* gets obstructed in the *Pranava Srotas* and gets more aggravated and in turn causes *Tamaka Shwasa*. *Tamaka shwasa* can be correlated with Bronchial Asthma. Prevalence of asthma is increasing day by day. *Shwasahara yoga* has *Vatakaphashamaka* properties. Till date there is no research work has been carried out regarding scientific evaluation of *Shwasahara yoga*. The present work has been carried out to standardise the drug to confirm its identity, quality, purity. *Shwasahara yoga* contains *Kantakari*, *Amalaki* and *Hingu*. Pharmacognostical

study reveals starch grains, septate fibers, epicarp cells, pitted vessels, simple and stellate trichomes, stone cells of *Kantakari*; mesocarp cells, silica deposition, group of scleroids of *Amalaki*. Analytical study showed 7 spots at 254nm and 3 spots at 366nm.

KEYWORDS: *Shwasahara yoga*, *Tamaka Shwasa*, Bronchial Asthma.

INTRODUCTION

Asthma is defined as a chronic inflammatory disease of airway that is characterised by increased responsiveness of the tracheobronchial tree to a multiplicity of stimuli. It is manifested as paroxysmal attacks of dyspnoea, cough and wheezing, resulting from narrowing of the air passages, which may be relieved spontaneously or as a result of therapy. In most of the aspects like, etiopathogenesis and symptomatology, Bronchial Asthma is similar to that of *Tamaka Shwasa* mentioned in *Ayurvedic* classics. In modern system of medicine antihistamines, bronchodilator etc are used for the the management of Bronchial Asthma. *Shwasahara yoga*^[1], an *ayurvedic* drug which is indicated in *shwasa roga* in *Sushruta Samhita*. Traditional Medicines^[2] are in great demand in the developed as well as developing countries for primary healthcare because of their wide biological activities, higher safety margins and lesser costs.^[3] It has been reported that there has been an alarming increase in number of diseases and disorders caused by synthetic drugs prompting a switch over to traditional herbal medicine.^[4] The WHO assembly in number of resolutions has emphasized the need to ensure quality control of medicinal plant products by using modern techniques and applying suitable standards.^[5] Selection of scientific and systematic approach for the biological evaluation of herbal formulations based on their use in the traditional systems of medicine forms the basis for an ideal approach in the development of new drugs from plants.^[6] But the most important challenges faced by these formulations arise because of their lack of complete standardization. Hence detail research on the chemistry and pharmacology of products of plant origin are very much essential. In the light of above background, the present study aimed to standardize the finished product of *Shwasahara yoga* using pharmacognostical and phytochemical parameters. The authenticity, quality and purity of herbal drugs are established by references given in pharmacopoeia.^[7]

MATERIALS AND METHODS

Collection of raw drug

All the ingredients of *Shwasahara yoga* were collected from the Pharmacy, Gujarat Ayurveda University, Jamnagar. The ingredients and part used are listed in Table-1.

Preparation of the drug

Shwasahara yoga was prepared in the Pharmacy, GAU, Jamnagar. For this in the beginning, raw materials of ingredients were taken in proportion as given by *Sushruta (Shwasapratishedha Adhyay 51/55)* and fine powder of was made.

Pharmacognostical study

The Pharmacognostical study comprises of organoleptic study and microscopic study of finished product. The contents of the *shwasaharayoga* were used in the dry powder form for this study.

Organoleptic Study

The Organoleptic characters of Ayurvedic drugs are very important and give the general idea regarding the genuinity of the sample. It is done with the help of *Panchagyanendriya Pariksha*. Powder characteristics of the sample were identified with the help of Pharmacognosy laboratory, I.P.G.T. & R.A., Gujarat Ayurved University, Jamnagar, Gujarat, India.^[8]

Microscopic Study

Shwasahara yoga is in the powder form which is then dissolved in water and microscopy of the sample was done without stain and after staining with Phloroglucinol + HCl. Microphotographs of *Shwasahara yoga* were also taken under Corl-zeiss trinocular microscope.^[9]

Physico-chemical analysis

Shwasahara yoga was analyzed using various standard physico-chemical parameters such as Loss on drying, water soluble extract, alcohol soluble extract etc.^[10]

High Performance Thin Layer Chromatography (HPTLC)

HPTLC was performed as per the guideline provided by API. Methanolic extract of drug sample was used for the spotting. HPTLC was performed using Toluene+ Ethylacetate+ Formic acid (7:2:0.5) solvent system and observed under visible light. The colour and Rf values of resolved spots were noted.^[11]

RESULTS

Organoleptic characters of *Shwasahara yoga*

Organoleptic characters of SY such as color, odour taste etc. examined by sensory organs and results are as shown in Table 2.

Microscopic characters of *Shwasahara yoga*

Diagnostic characters of *Shwasahara yoga* were observed under the microscope and presence of all ingredients showed their different characters such as Starch grains, septate fibers,

epicarp cells, pitted vessels, simple and stellate trichomes, stone cells of *Kantakari*; mesocarp cells, silica deposition, group of scleroids of *Amalaki*, lignified epicarp cells of *Kantakari*, Starch grains of *Amalaki* were observed under microscope. Plate-1(fig 1-15).

Physicochemical parameters of *Shwasahara yoga*:

Physicochemical parameters of *Shwasaharayoga* such as ash value, water soluble extract, alcohol soluble extract, pH etc. results are shown in Table 3.

HPTLC Study

Chromatogram shows 7 prominent spots at 254nm with maximum Rf value 0.04, 0.36, 0.44, 0.72, 0.77, 0.85, 0.94 and 3 spots at 366nm with maximum Rf value 0.03, 0.36, 0.74. (Plate 2 Fig 1-3).

Table-1: Ingredients of *Shwasahara yoga*.

Sr. no	Drug used	Botanical Names	Part used	Parts
1	<i>Kantakari</i>	<i>Solanum xanthocarpum</i> Sch.&Wendl.	<i>Panchanga</i>	1
2	<i>Amlaka</i>	<i>Embllica officinalis</i> Gaertn.	Fruit	1
3	<i>Shudhahingu</i>	<i>Ferula narthex</i> Boiss.	<i>Niryasa</i>	½

Table 2: Organoleptic characters of *Shwasahara yoga*.

S. no.	Character	Result
1	Taste	Astringent followed by sour
2	Odour	Slightly offensive
3	Touch	fine
4	Color	Light creamish brown

Table 3: Physicochemical parameters of *Shwasahara yoga*.

S. no.	Parameter	<i>Shwasahara yoga</i>
1	Loss on drying	4.154% w/w
2	Ash value	9.275% w/w
3	Water soluble extractive	41.4% w/w
4	Metanol soluble extractive	17.56% w/w
5	pH value	6

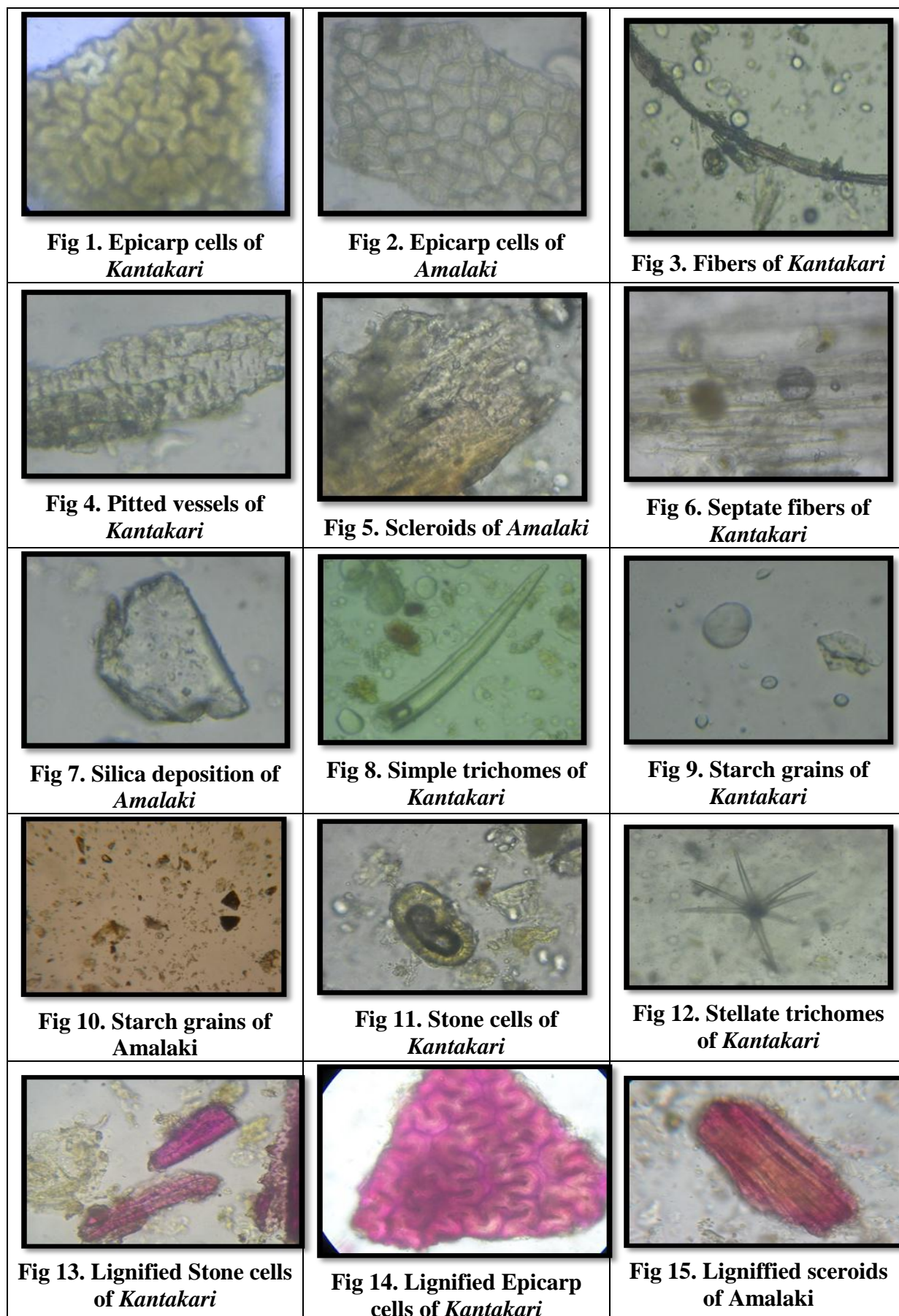
Plate 1: Microphotographs of *Shwasahara yoga*.

Plate 2: (fig 1-3) HPTLC: at 254 & 366nm of SY

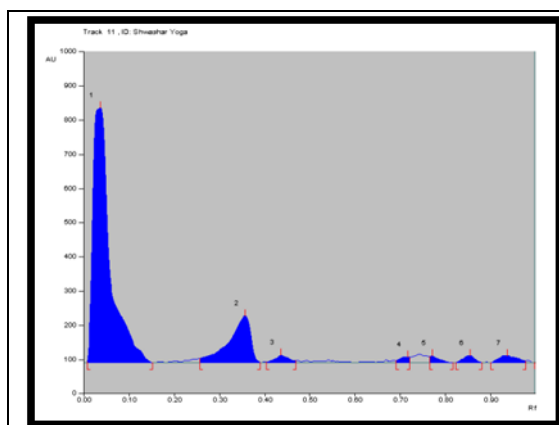


Fig 1. 254 nm Peak display

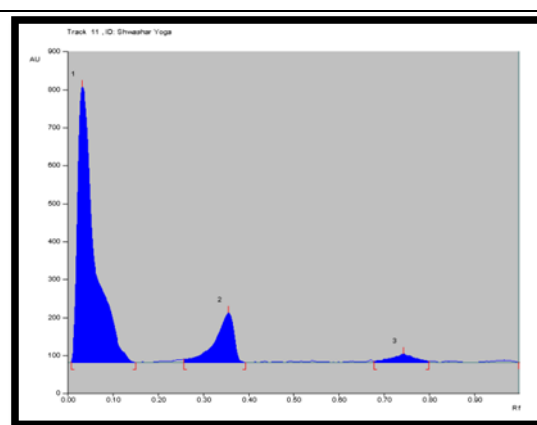


Fig 2. 366 nm Peak display

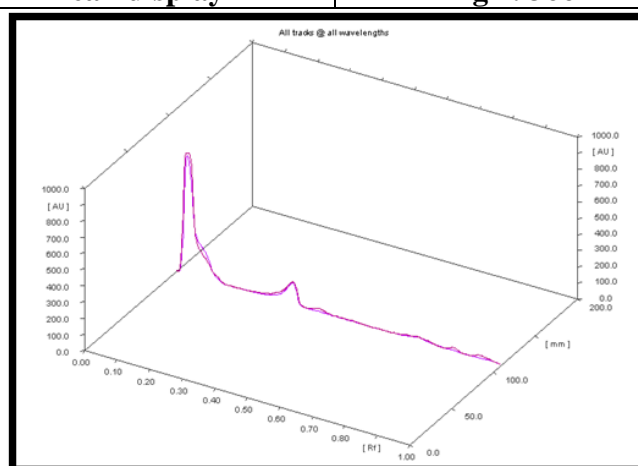


Fig 3: 254nm and 366 nm 3D.

DISCUSSION

Pharmacognostical study reveals authentication of *shwasaharayoga* was cross verified with standard reference API. The Starch grains, stone cells, epicarp cells, mesocarp cells, trichomes, scleroids, fibres, pitted vessels are observed under the microscope which were used as ingredients. All the physico-chemical parameters i.e. Loss on drying, Water soluble extract, Methanol soluble extract and pH value were analyzed and found to be within the normal reference range. The physicochemical analysis showed Loss on drying (4.154% w/w), Ash value (9.275% w/w) Water soluble extract (41.4% w/w), Methanol soluble extract (17.56% w/w), pH (6). HPTLC profile of the methanolic extract of the drug showed 7 spots at 254 nm and 3 spots at 366 nm, one common spot was observed in both the spectrum.

CONCLUSION

Pharmacognostical study findings confirm that all characters were found in ingredient drugs of *Shwasahara Yoga*. The physicochemical analysis are inferred that the formulation meets

maximum qualitative standards and all the parameters discussed here may be used as identifying tools for the quality assessment of *Shwasahara Yoga*.

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