

**PHARMACOGNOSTICAL AND PHYTOCHEMICAL
STANDARDISATION OF AAM PACHANA VATI – ANAYURVEDIC
POLYHERBOMINERAL FORMULATION.**

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ABSTRACT

Introduction: *Ayurveda* has given much importance to the *Agni* i.e. digestive power. So before doing any *sanshodhana* therapy, *Agni deepana* is necessary. *Virechana* is a biocleansing method meant for cleaning of micro channels. *Aam Pachana Vati* has given 3 days before start of *snehpana*. Till date no published data is available regarding evaluation the effect of *Aam Pachana Vati*. **Aim:** The present study was aimed at setting up a standard profile of *Aam Pachana Vati* which was prepared subjecting it to detailed pharmacognostical, physicochemical and phytochemical evaluation. **Materials and**

Methods: Raw drugs of *Aam Pachana Vati* were collected from the Pharmacy, G.A.U., Jamnagar, were identified and authenticated at Pharmacognosy laboratory, IPGT and RA, Jamnagar and Preparation of *Aam Pachana Vati* was prepared in The Pharmacy, GAU, Jamnagar. **Results:** Result of Pharmacognostical study shows that the presence of Oil globule, Starch grain of *Sunthi*. Alerone, grain, Lignified Trichomes of *Kupilu*. Pharmaceutical analysis showed that Loss on drying 11.15% w/w, pH 6.5. Analytical study showed 9 spots at 254 nm and 3 spots at 366 nm. **Conclusion:** The findings of the study will be useful in the identification and standardization of the *Aam Pachana Vati*.

KEYWORDS: *Aam Pachana vati*, *Deepana*, HPTLC, Pharmacognosy, *Virechana*.

INTRODUCTION

Ayurveda, being as ancient system of medicine, which comprises hundreds of *Kalpanas* of pharmaceutical preparations but only few of these *Kalpanas*, are in practice. In this modern

era many good preparations have been extinguished in the passage of time among these, *Vati Kalpana* is main one. 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. *Aam Pachana Vati* use for deepan of *Agni*. *Aam Pachana Vati* was Mation in *Chikitsa Pradip*, were in *Agnimanthya rogadohikar*.^[1] *Ayurveda* has given much importance to the *Agni* i.e. digestive power. So before doing any *sanshodhana* therapy, *agni deepana* is necessary. *Aam Pachana Vati* is given 3 days before start of *snehpana*.

MATERIALS AND METHODS

Collection of Raw Drugs

Raw drugs of *Aam Pachana Vati* were collected from the Pharmacy, G.A.U., Jamnagar, were identified and authenticated at Pharmacognosy laboratory, IPGT and RA, Jamnagar. Ingredients and the part used are given in Table no-1.

Aam Pachana Vati was prepared in The Pharmacy, GAU, Jamnagar.

Method of preparation *Aam Pachana Vati*

All the pre authenticated raw drugs were taken for the preparation. All components were taken in equal part in fine powder form. Were Added *Goghrita* and mixed properly then give *Kumari Swaras Bhavana*. Than make *vati* by pills cutting machine in equal size 125 mg.

Shape: Round.

Weight: App.125 mg.

Table 1: Showing contents of *Aam Pachana Vati*.

Drug	Botanical Name	Part Used	Ratio
<i>Haritaki</i>	<i>TerminaliChebulaa</i> Roxb.	Fruit Pulp	1 part
<i>Sunthi</i>	<i>Zingiber officinale</i> Roscoe.	Rhizome	1 part
<i>Marich</i>	<i>Piper Nigrum</i> Linn.	Fruit	1 part
<i>Pippali</i>	<i>Piper Longum</i> Linn	Fruit	1 part
<i>Suddha Kupilu</i>	<i>Strychnos Nux-Vomica</i> Linn.	Seed	1 part
<i>Sudhha Hingu</i>	<i>Ferula Foetida</i> Regel.	Exudates	1 part
<i>Goghrita</i>	<i>Cow's Ghrita</i>		1 part
<i>Saindhav Lavana</i>	<i>Rock Salt</i>		1 part
<i>Bhavana Dravya Kumari Swarasa</i>	<i>Aloe Barbedensis</i> Mill	Leaf	

Pharmacognostical Evaluation

As per API^[2] raw drugs were identified and authenticated by the Pharmacognosy department. The identification was carried out based on the morphological, organoleptic features and powder microscopy of the Finished Product. Here, pharmacognostical evaluation of *Aam Pachana Vati* in Powder form was carried out. Powder dissolved in small quantity of distilled water and studied under the Carl zeiss Trinocular microscope attached with camera, with stain and without stain. The microphotographs were also taken under the microscope.

Pharmaceutical Evaluation

Physico-chemical parameters

This *Vati* was analyzed using various standard physicochemical parameters such as, Loss on drying^[3], pH^[4], water soluble extract^[5], and methanol soluble extract^[6] as per API^[7] at the pharmaceutical chemistry lab, IPGT& RA.

Organoleptic Study

The Organoleptic characters of Ayurvedic drugs are very important and give the general idea regarding the genuinity of the sample. Organoleptic parameters like Taste, Colour, odour and touch were scientifically studied in Pharmacognosy laboratory, I.P.G.T. & R.A., Gujarat Ayurved University, Jamnagar, Gujarat, India.

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+ Acetic acid (14:4:2) solvent system and observed under visible light. The colour and Rf values of resolved spots were noted.^[7] Analytical study showed 9 spots at 254 nm and 3 spots at 366 nm.

RESULTS AND DISCUSSION

Microscopic Characters of *Aam Pachana Vati*

Microscopic evaluation of *Aam Pachana Vati* was conducted, Characters were noted down and microphotographs were taken they are Fig-01 *Churna* of *Aam Pachana Vati*, Fig-02 Lignified trichome of *Haritaki*, fig-03 Oil globular of *Sunthi*, fig-04 Simple fiber of *Sunthi*, fig-05 Scleride of *Haritaki*, fig-06 Stone cells of *Haritaki*, fig-07 Oil globule of *Pippali*, fig-08 Alerone grain of *Kupilu*, fig-09 Black debris of *Marich*, fig-10 Epicarp cell of *pippali*, fig-11 Black debris of *Pippali*, Fig-12 Simple fiber of *Kumari*, fig-13 Iodine stain starch grain

of *Sunthi*, fig-14 Lignifite trichomes of *Kupilu*, fig-15 Lignified simple fiber of *Sunthi*, fig-16 brown content of *Kumari*, Fig-17 Lignified fiber of Aloe vera, Fig-18 Stone cells of *Pippali*.

Pharmaceutical Evaluation

Organoleptic parameters of *Aam Pachana Vati Sparsha* - Consistency, *Rasa* – Taste, *Rupa* - Colour, *Gandha* - Odour were studied and details are placed in Table - 2.

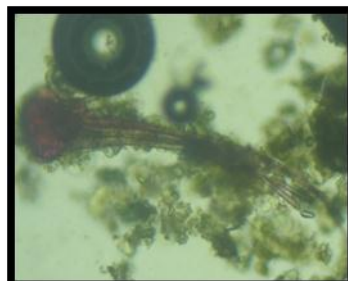
Table 2: Showing Organoleptic characteristics of *Aam Pachana Vati*.

Sr.No	Parameters	<i>Aam Pachana Vati</i>
1	Colour	Dull green
2	Odour	Characteristic
3	Taste	Bitter follow by <i>Kashaya</i> (Astringent)
4	Consistency	Solid

Physico-Chemical parameters of the *Aam Pachana Vati* like pH, Loss on drying, water soluble extract and methanol(Alcohol) soluble extract all were found to be within the normal range. Details are given in Table-3.



Churna of *Aam Pachana Vati*



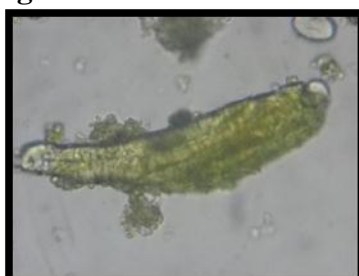
Lignified trichome of *Haritaki*



Oil globular of *Sunthi*



Simple fiber of *Sunthi*



Scleride of *Haritaki*



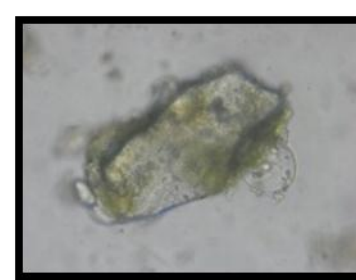
Stone cells of *Haritaki*



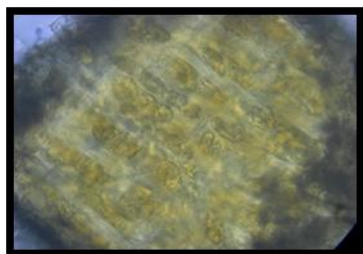
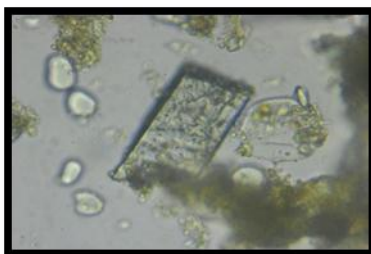
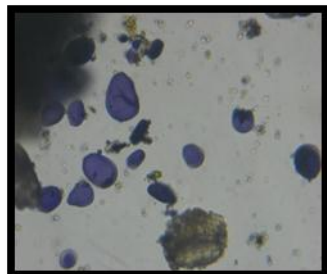
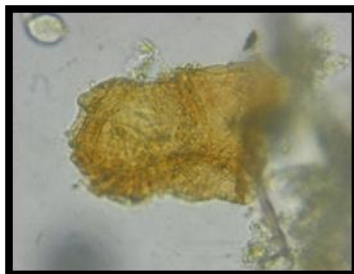
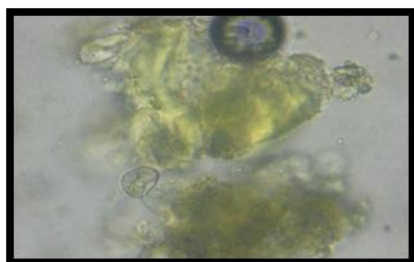
Oil globule of *Pippali*



Alerone grain of *Kupilu*



Black debris of *Marich*

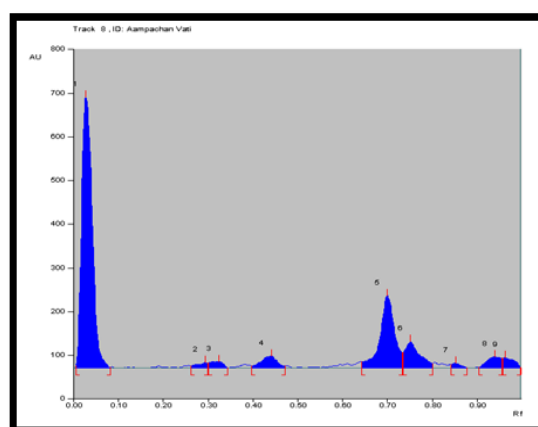
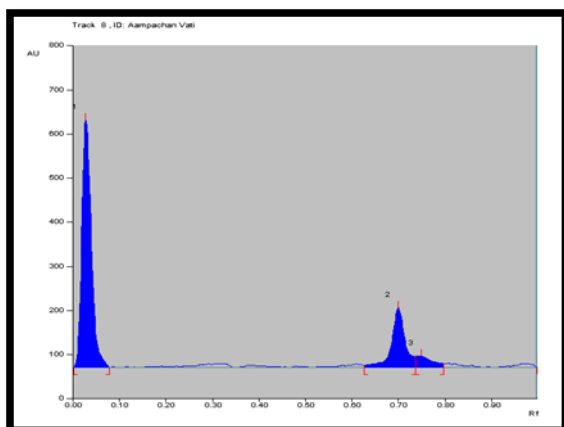
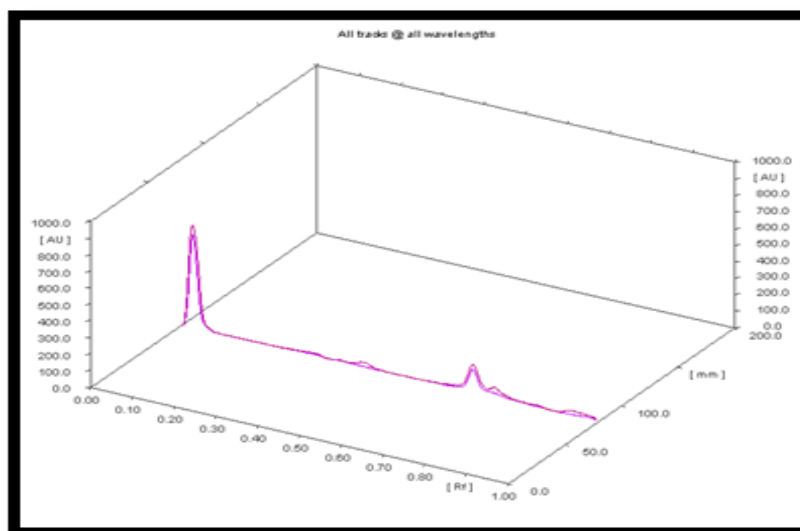
Epicarp cell of *Pippali*Black debris of *Pippali*Simple fiber of *Kumari*Iodine stain starch grain of *Sunthi*Lignified trichomes of *Kupilu*Lignified simple fiber of *Sunthi*Green content of *Kumari*Lignified fiber of *Aloe vera*Stone cells of *Pippali*Plate -1: Microphotographs of *Aam Pachana Vati*.Table 3: Showing Physico-Chemical parameters of *Aam Pachana Vati*.

Sr.No	Test	<i>Aam Pachana Vati</i>
1	Loss on drying	11.15% (w/w)
2	Water soluble extract	36% (w/w)
3	Alcohol soluble extract	17.2% (w/w)
4	pH(by pH meter)	6.5
5	Ash value	24.7% (w/w)
6	Acid insoluble	0.1% w/w
7	Tablet Hardness	Lowest 3Kg/cm ² Highest 5Kg/cm ²

HPTLC profile of methanolic extract of *Aam Pachana Vati* was done and details of number of spots and R_f value are given in Table-4 (Plate-2).

Table 4: HPTLC profile of *Aam Pachana Vati*.

Ultra Violet Rays	Number of spot	Rf value
254nm	9	0.03,0.29,0.32,0.44,0.70,0.75,0.85,0.94,0.96
366 nm	3	0.03,0.70,0.75

Plate-2: Showing HPTLC profile of *Aam Pachana Vati*.

DISCUSSION

Its pharmaceutical properties had to be studied; hence the formulation was subjected to minimum Pharmacognostical and Pharmaceutical analysis. Pharmacognostical evaluation of *Aam Pachana Vati* showed the specific characters of *Terminali chebulaa.*, *Ficus racemosa*, *Piper longum*, *Piper nigrum*, *Strychnos nux-Vomica*, *Aloe barbedensis* etc. present in the preparation. Features found in microscopy such as Oil Globular, Starch Grain, Iodine Stain

Starch grain, Lignified Simple Fiber, alerone regin of *Sunthi*. Aleron grain, Lignified Trichomes of Kupilu. Scleroide, Stone cells, brown contant of *Haritaki*. Oil Globule, Epicarp Cell, Black Debris, and Stone Cells of *Pippli*. Black debris of *Marich*. brownn contant and Lignified Fiber of *Kumari*. Considering the physicochemical parameters, pH of prepared drug was found Acidic i.e.6.5. The quantitative pharmaceutical analysis was in normal range and in accordance with those mentioned in reference books.

CONCLUSION

Pharmacognostical study findings confirm that all characters were found in ingredient drugs of *Aam Pachana Vati*. The physicochemical analysis 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 *Aam Pachan Vati*. It is inferred that the formulation meets minimum qualitative standards as prescribed by API at preliminary level. The results of this study may be used as the reference standard in further research undertakings of its kind.

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