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PHYSIOCHEMICAL ANALYSIS AND DRUG STANDARDIZATION OF TILADI YONIVARTI

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ABSTRACT

Sthanika chikitsa is having satisfactory results in *Yonivyapada.* Bhavprakash have mentioned drugs that are used in *Vrana* like *Tila, Yastimadhu, Nimba Patra, Haridra* and *Trivrut*. The presence of Therapeutic properties in herbs make them pharmacologically important. Those drugs were described as *Kalka* and here for *Garbhashaya Greevagata Vrana* those drugs are modified into *Varti. Tiladi Yoni Varti* was prepared in GMP certified Pharmacy and pharmaceutical and analytical study was carried out and results are- colour of *Tiladi Yoni Varti* is Greenish Brown, not having Odour and solid in consistency. Loss on drying value is 0.1%, total ash value is 14.6%, acid insoluble ash is 3.02%, water soluble extract is 15% and average weight is 3.09%. The HPTLC analysis of *Tiladi Yoni Varti* in the form of chromatograms shows several peaks which shows having much amount of phytochemicals which enhances therapeutic value of the drug. So, the study concludes that this formulation is safe to use.

Keywords: - Ayurved, *Tiladi YoniVarti*, Pharmacological Analysis, HPTLC, *Garbhashaya Greevagata Vrana*

INTRODUCTION: -

Ayurvedic texts, mentioned some *sthanika chikitsa* which have outstanding and satisfactory outcome in management of *Yonivyapada* like; *Yoni Dhawana, Yoni Pichu, Yoni Dhoopan, Yoni Varti,* etc. Although it is local treatment but their effect is very much acceptable and is capable of preventing reproductive track diseases or any complication.

Drugs for application on *Vrana* for *Vrana Shodhana* are mentioned in Ayurvedic texts. Like Bhavprakash Nighantu that wicks made up of purifying drugs are to be used in *Vrana* **[1]**. The drugs are *Tila, Saindhava, Yastimadhu, Nimba patra, Haridra, Trivrut, Ghrut* and are mentioned in the form of *kalka* **[2]**.

"**तिलसैन्धवयष्ट्याह्वनिम्बपत्रनिशायुः ।**
त्रिवृद्घृतयुतैः पिष्टैः प्रलैपो व्रणशोधनः ॥" [Bha. Ma. Kha. 47/57]

This *kalka* is converted into *Yoni Varti* (vaginal suppository). Therefore, in the present study, Pharmaceutical and Analytic study of *Tiladi yoni varti* was performed as a measure of quality control and standardization of finished product.

In Parul Instittue of Ayurved, a study has been carried out previously on Physiochemical Analsis and Drug Standardisation of *Panchakashaya Yoni Varti* **[3]**.

1. AIM AND OBJECTIVE: -

To standardize the *Tiladi Yoni Varti* prepared for clinical studies on the basis of physiochemical parameters.

2. MATERIALS AND METHODS: -

2.1 Collection of drugs: -

The raw drugs were produced by standard Raw Herbal Drug Suppliers, Vadodara, Gujarat. All the raw drugs were identified and authentication done by the Department of Dravyaguna, Parul Instittute of Ayurved, Limda, Vadodara **(Table 1) [4]**.

2.2 Preparation of *Tiladi Yoni Varti:* - (Figure 1)

Yoni Varti was prepared in GMP approved PIA Pharmacy.

- Ingredients of *Tiladi Yoni Varti* will be taken in equal quantity and will be pounded separately and sieved to obtain fine powders and then all powders will be mixed uniformly. To this, 4 times of water will be added and boiled.
- When the mixture will be reduced to 1/4th; heating should be stopped.
- Filter and will be heated again, till it becomes *Ghana* in consistency and then heating should be stopped.
- The obtained damp material is spread in 5-7mm thick layer in stainless steel

tray. This tray was kept in hot air oven at 550.C

- The mass will be made into *Varti* form of 3gm each.
- It will be dried in shade and stored in air tight container without moisture.

Table 1: Ingredients of *Tiladi Yoni Varti*

DRUG	LATIN NAME	RASA	GUNA	VIRYA	VIPAKA	KARMA	PART USED	PROPORTION
Tila	*Sesamum indicum*	*Madhura*	*Guru, snigdha*	*Ushna*	*Madhura*	*Vatashamak*	*Bija*	*1 PART*
Haridra	*Curcuma longa*	*Tikta, katu*	*Laghu, ruksha*	*Ushna*	*Katu*	*Kanduhara, vranahara*	*Rihzome*	*1 PART*
Trivruta	*Operculina turpenthum*	*Tikta, katu*	*Laghu, ruksha, tikshna*	*Ushna*	*Katu*	*Kaphahara, krumihara*	*Kanda*	*1 PART*
Nimba	*Azadiracta indica*	*Tikta, kashaya*	*Laghu, ruksha*	*Sheeta*	*Katu*	*Kaphahara, vranahara, krimihara, kandughna*	*Patra*	*1 PART*
Yastimadhu	*Glycyrrhiza glabra*	*Madhura*	*Guru, snigdha*	*Sheeta*	*Madhura*	*Kandughna*	*Kanda*	*1 PART*
Saindhava	*Rock salt*	*Lavana, madhura*	*Laghu, ruksha*	*Sheeta*	*Madhura*	*Tridosha hara*	-	-
Ghrita	*Ghee*	*Madhura*	*Snigdha*	*Sheeta*	*Madhura*	*Vatahara*	-	-

Figure 1: Preparation of *Tiladi Yoni Varti*

Table 2: Quantity of material

Quantity of raw drug	**5 kg**
Mess no-	**8**
Total quantity of water	**40 lit**
Total time of soaking	**18 hrs**
Quantity of kwatha obtained	**10 lit**
Ghana obtained	**1.2 kg**
Varti obtained	**640gm**

2.3 ANALYTICAL STUDY: -

The physio-chemical parameters of *Tiladi Yoni Varti* were analyzed at pharmaceutical chemistry laboratory of PIA, Vadodara.

2.3.1 Determination of loss on dry: - About 10gm of drug was taken in evaporating dish. After that dry at 105° C for 5 hrs. and weigh again.

2.3.2 Weight variation test: -Test of uniformity of weight is performed by weighing 10 *Varti* selected randomly from batch and determining their weights. The individual weights are compared with the average weight.

2.3.3 Determination of total ash: - About 3gm of pounded drug was taken in a silica dish and burnt at temperature below 450° C.

2.3.4 Determination of water-soluble Ash: - Ash was boiled with 25ml water for 5 minutes; insoluble matter was collected on ashless filter paper, washed with hot water and heated for 15 minutes straight at temperature below 450° C. weight of insoluble matter is subtracted from weight of ash; this difference in weight is Water-Soluble Ash.

2.3.5 Determination of Acid Insoluble Ash: -Ash obtained was boiled for 5 minutes with 25ml of diluted HCl, then the insoluble matter was collected on ashless filter paper. Then washed with hot water and heated straight for 15 minutes. The weight of insoluble matter is subtracted from weight of ash; this difference in weight is acid insoluble ash.

2.3.6 Determination of Alcohol Soluble Extractive: - 10 gm of drug, coarsely powdered was taken and 100ml of Alcohol added to it and was placed for 24 hours. Obtained mixture was filtered and 25ml of solvent was evaporated. The material was placed in bottom shallow dish and dried at 105° C at constant.

2.4 RESULT AND DISCUSSION

Table 3: Organoleptic properties of *Tiladi Yoni Varti*

Colour	**Greenish Brown**
Odour	**Not specific**
Consistency	**Hard-solid**

Table 4: physiochemical parameters of *Tiladi Yoni Varti*

PARAMETER	RESULT
Loss Of Drying at 105° C (%w/w)	0.1
Total Ash Value (%w/w)	14.6
Acid Insoluble Ash (%w/w)	3.02
Water Soluble Extractive (%w/w)	15
Avg. weight (gm)	3.09

2.5 HPTLC FINGERPRINTING

Table 5: HPTLC FINGERPRINTING

Applicator	CAMAG Linomat 5- Applicator
Chemicals used for sample	Methanol
Sample application volume	8 µL
Mobile phase	Toluene: Ethyl acetate: acetic acid (7:2:1 v/v)
Visualization	@ 245nm, @366nm, @ 540 nm
Spray reagent	Anisaldehyde-sulphuric acid reagent

2.5.1 RESULT: - **HPTLC** analysis shows phytochemical presence in *Tiladi Yoni Varti*. Following figure and tables are showing the presence of phytochemical presence in *Tiladi Yoni Varti* **[5]**.

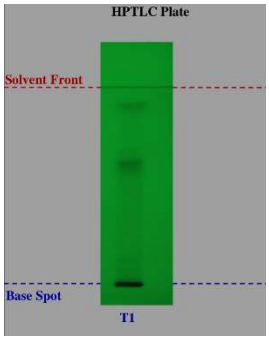

Figure 2: HPTLC plate @ 254nm

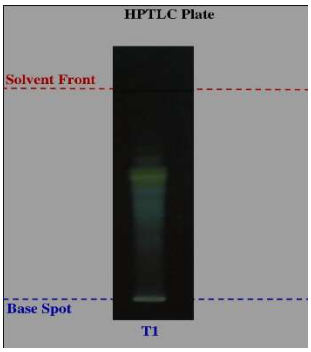

Figure 3: HPTLC Plate @366nm

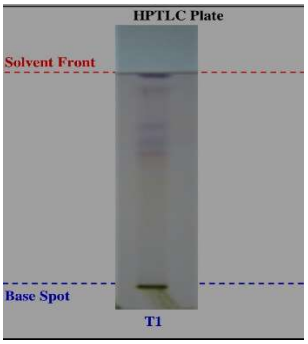

Figure 4: HPTLC Plate @ 540nm

2.5.2 DISCUSSION: -The chromatogram at 245 nm, 366 nm and 540nm shows 5, 7, 8 respectively picks which indicates presence of various phytochemicals present in sample **(Figure 5, 6, 7)**.

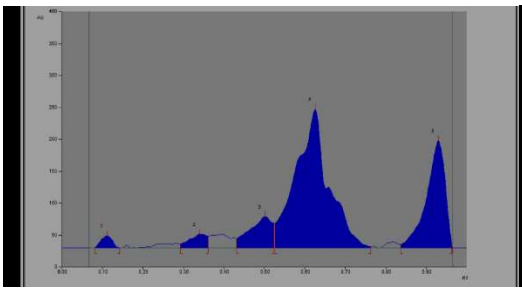

Figure 5: HPTLC Chromatogram @ 254 nm

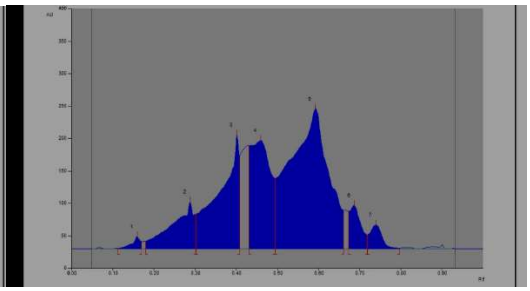

Figure 6: HPTLC Chromatogram @366nm

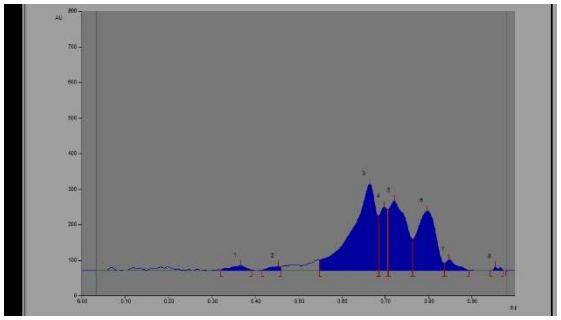

Figure 7: HPTLC Chromatogram @ 540nm

3. CONCLUSION: -

The *Tiladi Yoni Varti* preparation mentioned in this study can be considered as standard as, organoleptic, physio-chemical evaluation of *Tiladi Yoni Varti* illustrated the specific characters of all the ingredients which are used in preparation.

All ingredients are proven authentic and easily available in market.

The development of the present study will also serve as reference standards for drug formulation and help in further pre-clinical research studies.

REFRENCE: -

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[3] Sonali P Patel, Manjusha Karkare, Physiochemical Analysis and Drug Standardization of *Panchakashaya Yoni Varti*, Bulletin of Environment, Pharmacology and Life Sciences, ISSN-2277-1808, VOL- 11, Issue 3.

[4] A textbook of *Dravya Guna Vijnana*, Dr. Prakash L. Hegde, Chaukhamba Prakashan, 1st edition, 2016, volume 2.

[5] Thin-layer Chromatography evaluation. https://www.merkmillipore.com. Accessed on 6 Nov 2020.