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Original Research Article

PHARMACOGNOTIC AND HPTLC PROFILE OF *ASHWANGANDHADI CHURNA* - A POLY-HERBAL COMPOUND

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ABSTRACT

Background: PMS is a common cause of physical, behavioral and also social dysfunction in women. It may be incapacitating and lead to disruption of work and social life of women. In the conventional method, there is no definite treatment for this ailment. Moreover, treatment 3 mainly depends upon hormonal preparations. These modalities are costlier and have side effects such as insomnia, decreased libido, and early menopause. **Aims and objective:** To study the Pharmacognotic, Phytochemical and HPTLC of *Ashwangandhadi Churna.* **Material and methods:** Pharmacognotical, phytochemical and HPTLC of *Ashwangandhadi Churna* study has been carried out as per standard protocol. **Result:** *Ashwangandhadi Churna* showed the presence of acicular crystals of punarnava,acicular crystals of shatavari,borderpitted vessels of guduchi,border pitted vessels of guduchi,brown cantent of Pippalimoola,collenchyma cells of guduchi,fibres of jatamansi,fibres of pippalimoola,fibres of punarnava,lignified scleroids of haritaki ,lignified vessels of Punarnava,pitted vessels of jatamansi ,pitted vessels of pippalimoola ,pitted vessels of punarnava ,scleroids of haritaki,spiral vessels of shatavari,starch grains of ashwagandha,starch grains of guduchi ,stone cells of haritaki. Methanol extract of *Ashwangandhadi Churna* at 254 nm the chromatogram showed 9 spot and at 366nm 11 spot. **Conclusion:** The applied pharmacognostic and HPTLC method has been shown to be selective, linear, precise and accurate. The method will be useful for quality control of the raw material and pharmaceutical preparations.

INTRODUCTION

Young girls are now encouraged to pursue rigorous courses of education and careers and this century has been a strong female presence in politics and all stratus of careers. Many women are just as intelligent, resourceful and capable as their male counterpart – and perhaps more. Yet along with this reproductive potential comes the burden and pains associated with menstruation, though menstruation is a perfectly normal and unavoidable part of womanhood. So too are the adverse symptoms treatable, and one need suffer in silence. The cyclic nature of female reproductive function is a natural part of life accompanied by changes in several physical and psychological phenomena. These physical, behavioural and emotional changes can be grouped under dysmenorrhoea, Premenstrual Syndrome (PMS).

Ashwangandhadi Churna has been selected for this study is an experience based *Anubhuta Yoga,* which is being used in the OPD of Prasutitantra and Streeroga in I.P.G.T. & R.A. Jamnagar to treat the PMS and is found very effective in this condition, So, to validate on scientific background and to generate data on this formulation, this study has been planned.The drugs in this *Yoga* include *Ashwagandha, Punarnava, Shatavari, Guduchi, Haritaki, Jatamansi, PippaliMoola, Mukta Shukti Bhasma.* Most of the drugs are *Anulomaka, Rasayana*, *Tridoshahara* properties, which will be helpful in decreasing the symptoms of PMS. *Jatamansi*is having its effects on *Manasa Vikara* and *Punarnava* has the effect of *Mutravirechaniya* which helps in reducing the breast heaviness.

AIM AND OBJECTIVE

To study the Pharmacognotic and HPTLC of *Ashwangandhadi Churna*

MATERIAL AND METHODS

Drug Material: All the raw drugs except were obtained from Pharmacy of Gujarat Ayurveda University, Jamnagar. The ingredients and the part used are given in table no.1

Table No. 1: *Ashwangandhadi Churna*

Sl.no	Ingredient	Latin Name	Part used	Proportion
1	*Ashwagandha*	*Withaniasomnifera*Dunal.	Root	1part
2	*Shatavari*	*Asperagusracemosus*Willd.	Root	1part
3	*Guduchi*	*Tinosporacordifolia*Willd.	Stem	1part
4	*Punarnava*	*BoerhaviaDiffusa*Linn.	Root	1part
5	*Haritaki*	*Terminaliachebula* Retz.	Fruit	1part
6	*Jatamansi*	*Nardostachysjatamansi* DC.	Root	1part

7	*PippaliMoola*	*Piper longum*Linn.	Root	1 part
8	*MuktaShukti* *Bhasma*	-	Pearl shell	1/2part

Method of Pharmacognostical evaluation:

Raw drugs were identified and authenticated by the Pharmacognosy lab, IPGT&RA, Jamnagar. The identification was carried out based on the morphological features, organoleptic features and transverse section microscopy of the individual drugs. For pharmacognostical evaluation, drugs studied under the Carl zeiss Trinocular microscope attached with camera, with stain and without stain.[i] The microphotographs were also taken under the microscope.

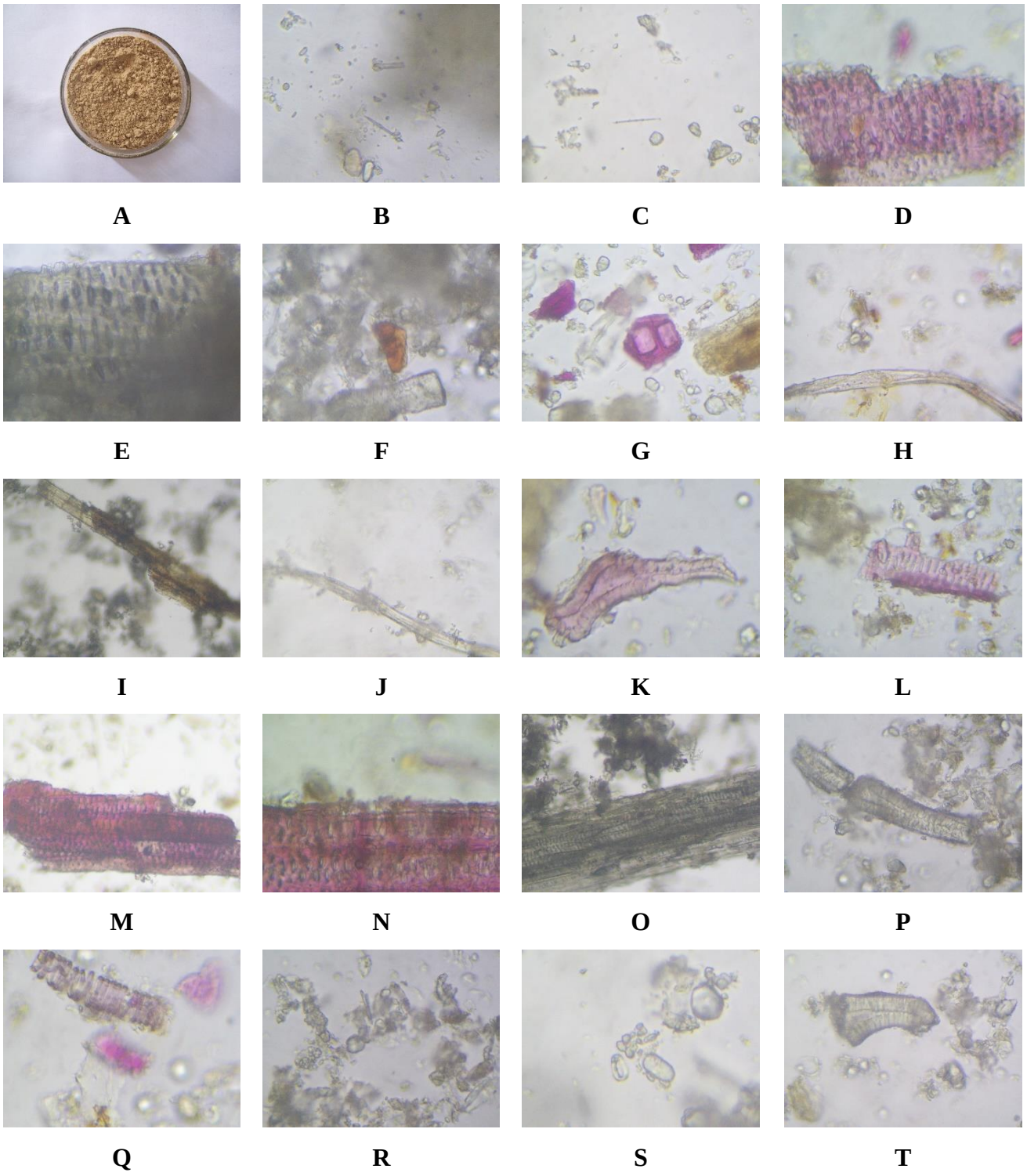
Ashwangandhadi Churna was analysed by using HPTLC was carried out after making appropriate solvent system with Methanolic extract of *Ashwangandhadi Churna* at the Pharmaceutical Chemistry lab, I.P.G.T. & R.A. Gujarat Ayurved University, Jamnagar. Presence of more moisture content in a sample may create preservation problem. Hence loss on drying was also selected as one of the parameters. Water soluble extract, Methanol soluble extract[ii], pH[iii], Ash value[iv], Refractive index[v], specific gravity[vi], Acid value[vii], Saponification value[viii], Iodine value[ix] were selected as the parameters. Organoleptical parameters[x], Physico-chemical analysis[xi], investigations were carried out by following standard procedure. High Performance Thin layer chromatography (HPTLC) studies were carried out with acid hydrolysed methanolic extract on pre-coated silica gel GF 60254 aluminium plate as 5mm bands, 5mm apart and 1cm from the edge of the plates, by means of a Camag Linomate V sample applicator fitted with a 100 µL Hamilton syringe. The mobile phase used was Tolune:Ethylacetate:Ethylacetate (7:2:0.5) The plates were developed in Camag twin trough chamber (20 x 10 cm2) and spots were detected in short U.V. (254 nm), Long U.V (366nm). Camag Scanner II (Ver. 3.14) and Cats software.

RESULT & DISCUSSION

Pharmacognostic Profile

Ashwangandhadi Churna showed the presence of acicular crystals of punarnava,acicular crystals of shatavari,borderpitted vessels of guduchi,border pitted vessels of guduchi,brown cantent of Pippalimoola,collenchyma cells of guduchi,fibres of jatamansi,fibres of pippalimoola,fibres of punarnava,lignified scleroids of haritaki ,lignified vessels of Punarnava,pitted vessels of jatamansi ,pitted vessels of pippalimoola ,pitted vessels of punarnava ,scleroids of haritaki,spiral vessels of shatavari,starch grains of ashwagandha,starch grains of guduchi ,stone cells of haritaki. **(Fig 1)**

Figure 1: Pharmacognostic profile of *Ashwangandhadi Churna*



A: *Ashwangandhadi Churna*, B:Acicular crystals of Punarnava,C: Acicular crystals of Shatavari,D: Borderpitted vessels of Guduchi,E: Bordr pitted vessels of Guduchi,F: Brown cantent of Pippalimoola,G: Collenchyma cells of Guduchi,H: Fibres of Jatamansi,I: Fibres of Pippalimoola,J: Fibres of Punarnava,K: Lignified scleroids of Haritaki ,L: Lignified vessels of Punarnava,M: Pitted vessels of Jatamansi ,N: Pitted

vessels of Pippalimoola ,O: Pitted vessels of Punarnava ,P: Scleroids of Haritaki,Q: Spiral vessels of Shatavari,R: Starch grains of Ashwagandha,S: Starch grains of Guduchi ,T: Stone cells of Haritaki

Organoleptic character

The organoleptic character of *Ashwangandhadi Churna* were performed and the results are depicted. In table no.2

Table No.2: Organoleptic Charactersitics of Ashwagandha Churna

Color	Odour	Taste	Touch
Outer Surface Buff to Grey- Yellow, Inner Surface white in color	Characteristic	Bitter and Acrid	Smooth

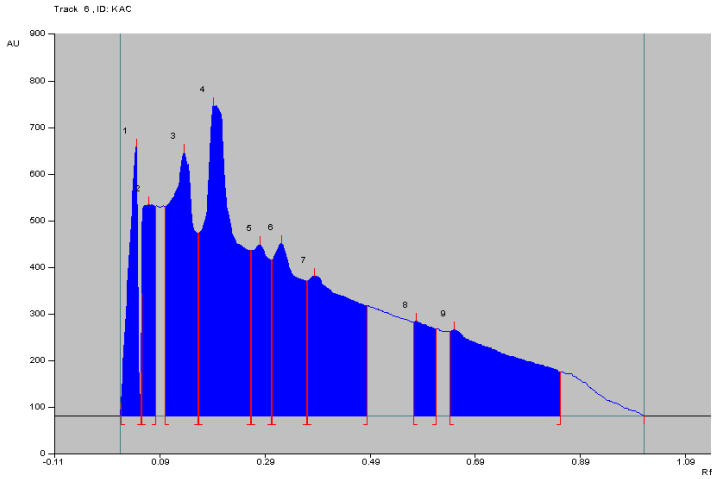
HPTLC study

On performing HPTLC, visual observation under UV light showed few spots but on analysing under densitometer much more was observed and Methanol extract of *Ashwangandhadi Churna* at 254 nm the chromatogram showed 9 spot and at 366nm 11 spot depicted in the table no.3 and fig no.2

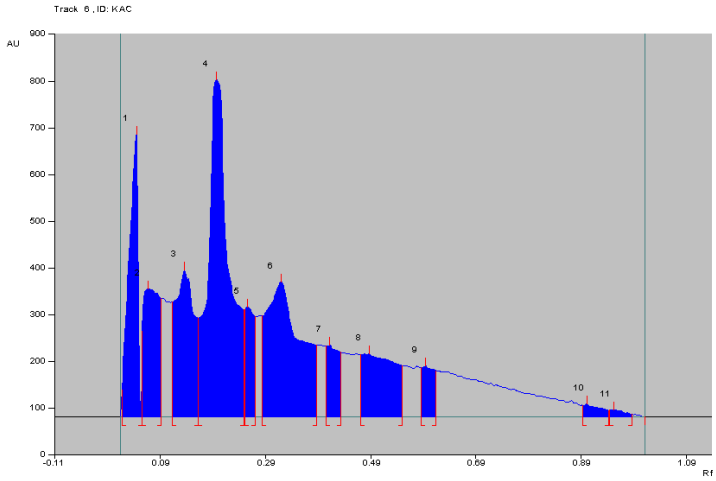
Table 2: HPTLC of *Ashwangandhadi Churna*

Extract	Solvent System	Wave length	Number of spot	Max Rf Value
Methanolic extract	Tolune:Ethylacetate:Ethylacetate (7:2:0.5)	245 nm	09	0.02,0.05,0.10,0.16,0.26,0.30,0.37,0.57,0.64
		366 nm	11	0.02,0.06,0.11,0.16,0.25,0.28,0.41,0.47,0.59,0.89,0.94

Figure no.2: HPTLC profile of *Ashwangandhadi Churna*



254 nm



366 nm

CONCLUSION

Nowadays, the interest in study of natural products is growing rapidly, especially as a part of drug discovery programs. From the HPTLC studies, it has been found that methanolic extracts contain not a single compound but a mixture of compounds and so it is established that the pharmacological activity shown by them are due to the cumulative effect of all the compounds in composite. The applied HPTLC method has been shown to be selective, linear, precise and accurate. The results meet the guidelines of the International Conference on Harmonization (ICH) for validation of pharmaceutical assays of drug products and are comparable with those published. The method will be useful for quality control of the raw material, extracts and pharmaceutical preparations.

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