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PHARMACOGNOSTICAL AND PHARMACEUTICAL EVALUATION OF *SARPAGANDHADI CHOORNA IN* THE MANAGEMENT OF *UNMADA* W.S.R. TO SCHIZOPHRENIA

Dr. Binal J. R.*[1], Dr. Alankruta Dave[2], Harisha C. R.[3] and Shukla V. J.[4]

[1]*PG Scholar, Department of Kayachikitsa, [2]Head & Profesor, Department of Kayachikitsa, [3]Head, Pharmacognosy Lab, [4]Head, Pharmaceutical Chemistry Lab, I.P.G.T. & R.A., Gujarat Ayurved University, Jamanagar, Gujarat.

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***Corresponding Author**
Dr. Binal J. R.
PG Scholar, Department of Kayachikitsa, Gujarat Ayurved University, Jamanagar, Gujarat.

ABSTRACT

The most dreadful and vulnerable disorder among mental illness is schizophrenia. It affects about 1.5% of the adult population, usually begins before the age 25, persists throughout life, and affects persons of all classes. Both patients and their families often suffer from poor care and social ostracism because of widespread ignorance about the disorder. Sarpagandhadi choorna in Rastantrasaram evum siddhayoga sangraha, is mentioned for treatment of various psychiatry illnesses like Unmada, anidra etc. In this formulation *Sarpagandha and rassindoor* are present. Sarpagandha is well proved in management of the *Unmada and Anidra*. Ras sindoor will enhance its property. Pharmacognostical & Analytical study of *Sarpagsndhadi Choorna* has been carried out for the evaluation of its efficacy in the schizophrenia. On pharmacognostical Cork in surface view, Lignified cork, Lignified fibres, Parenchyma cells with starch grains are observed. Analytic study showed 12 spots at 254nm and 8 spots at 366nm.

KEYWORDS: Schizophrenia, *Sarpagandha, Unmada.*

INTRODUCTION

In terms of its disability and chronicity, Schizophrenia gains important position among the psychiatric illnesses. It is unarguably one of the most devastating of the mental illnesses, characterized by specific psychological symptoms that interfere with the thinking, emotions, conation and motor behavior of the patient.[1] In Ayurveda schizophrenia is similar to the

condition with *Unmada*[2], *Unmada* has been used by *Charaka* more classically and listed under *Manas Dosha Vikara and gave separate chapters. Rajah* and *Tamah Manas Doshas* are vitiated in *Unmada. P*erson having *Alpa Satva* are more prone to the disease as *Alpa satva* indulges in *Prajnaparadha.* So, *Sarpagandhadi Choorna*[4] can be effecctive in *Unmada* by its *Satva* enhancing property. *Rassindoor* will enhance the action of Sarpagandha by its *Vyavayi* guna. Pharmaceutical treatments for Unmada are usually associated with various side effects hence formulation like *Sarpagandhadi Choorna* can be used in managing this condition due to its anti-stress, anti-depressent, tranquilizer, sedative, anxiolytic activity. *Sarpqandhadi Choorna* is a compound formulation which is indicated in many psychiatric conditions and for improving the cognitive functions like *Buddhi*, *Smriti, etc. Anupan* of *Sarpagandhadi Choorna* is *Go dugdha* which is also having *Rasayan* properties.

MATERIALS AND METHODS

Collection of raw drug

All the drugs of *Sarpagandhadi Choorna* were obtained from Gujarat Ayurved University Pharmacy and the drugs which were not available from the pharmacy of Gujarat Ayurved University were procured from local market of Jamnagar. The ingredients & parts used in the preparation of the final product are listed in the Table 1.

Preparation of drug

The final product i.e. *Sarpagandhadi Choorna* was prepared in the pharmacy, Gujarat Ayurved University, Jamnagar.

Pharmacognostical study

Pharmacognostical Study was carried out in two steps. The contents were used in the dry powder form for this study.

1. Organoleptic Study

Organoleptic evaluation can be done by means of sense organs which provide simplest and quickest means to establish the identity of a particular drug. The raw drugs and its powder were separately evaluated by organoleptic characters like taste, odour, colour and touch. 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.[5]

Physico-chemical analysis

Sarpagandhadi Choorna was analyzed using various standard physico-chemical parameters such as loss on drying (LOD), water soluble extract, alcohol soluble extract etc.[7]

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 ml) as solvent system and spots were observed under visible light. The colour and R_f values of resolved spots were noted.[8]

RESULTS

Organoleptic characters of *Sarpagandhadi Choorna*

Organoleptic characters of *Sarpagandhadi Choorna* such as colour, odour, taste etc. examined by sensory organs and results are shown in Table 2.

Microscopic characters of *Sarpagandhadi Choorna*

Diagnostic characters of *Sarpagandhadi Choorna* were observed under the microscope and presence of all ingredients showed their different characters. Parenchyma cell of brown contain, Group of fibres, Lignified cork, Lignified fibres, Parenchyma cells with starch grains, Pitted scleroids, Pitted vessels, Prismatic crystal, Rhomboidal crystal, Scalariform vessels, Scleroids, are seen. [Plate1. Fig A-Q].

Table 1: Ingradients of *Sarpagandhadi Choorna.*

Sr.No.	Name of Drug	Botanical Name	weight	used Part
1	***Sarpagandha***	Rawvolfia serpentina	500gm	Root
2	*Rassindoora*	-	6gm	-

Table 2: Orgenoleptic characters of *Sarpagandhadi Choorna.*

Sr. No.	Character	Results
1	Color	Brownish
2	Odor	Bitter
3	Taste	Bitter
4	Touch	Fine

Physicochemical parameters of *Sarpagandhadi Choorna*

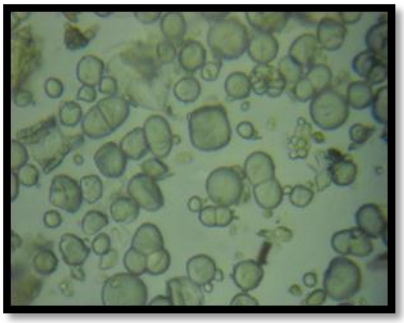
Physicochemical parameters of *Sarpagandhadi Choorna* such as Ash value, water soluble extracts, alcohol soluble extract, pH etc. results are shown in Table 3.

Table 3: Physicochemical parameters of *Sarpagandhadi Choorna.*

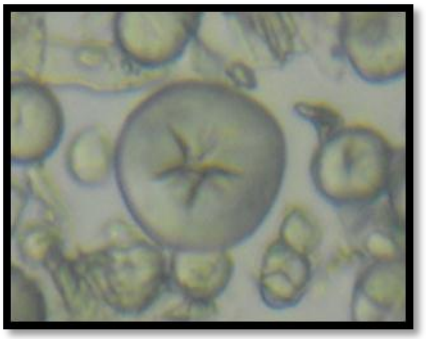
Sr. No	*Parameters*	*Results*
1	Ash value	
2	water soluble extracts	
3	alcohol soluble extract	
4	pH	

A.Sarpagandhadi powder

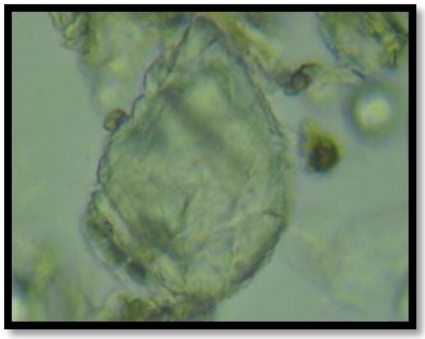
B.Twin crystals



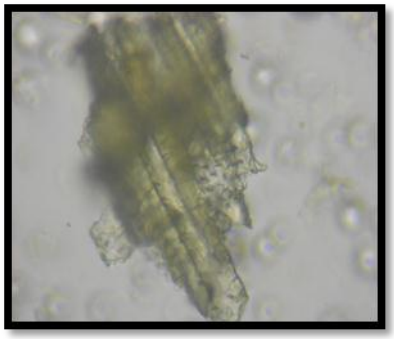
C.Simple and compound starch grains



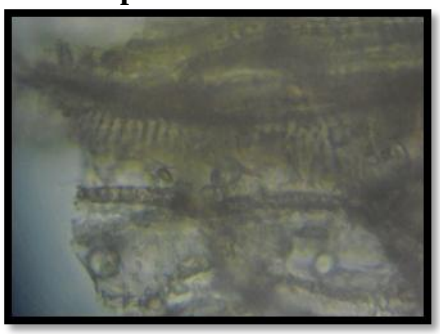
D.Simple starch with hilum



E.Silica deposition

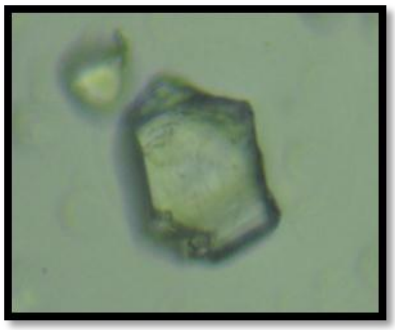


F.Scleroids

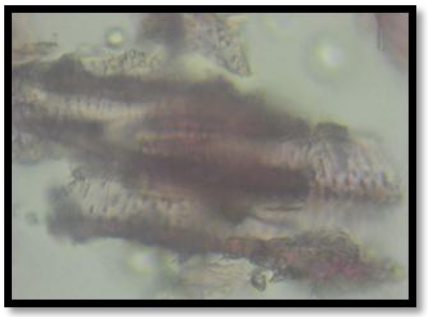


G.Scalariform vessels

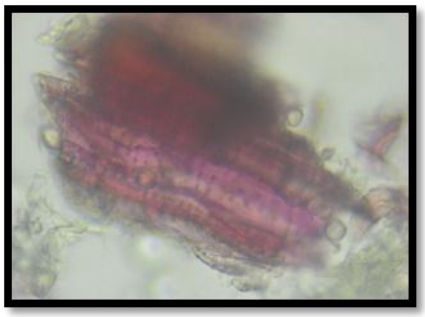
H.Rhomboidal crystal



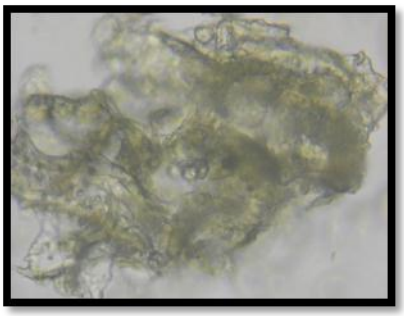
I.Prismatic crystal



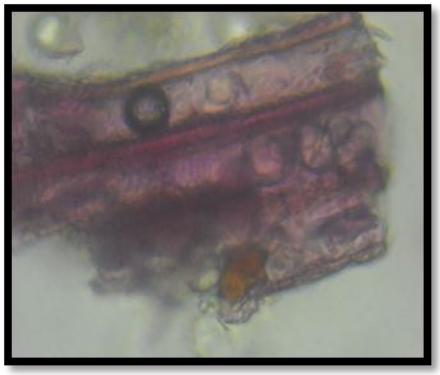
J.Pitted vessels



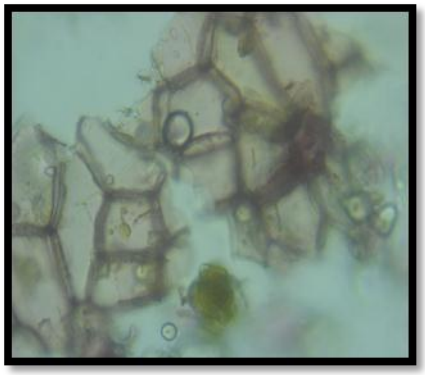
K.Pitted scleroids



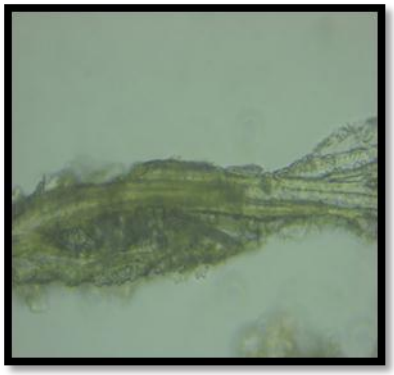
L.Parenchyma cells with starch grains



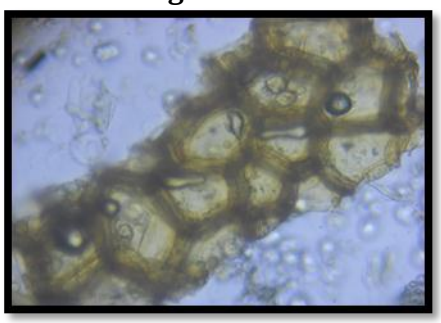
M.Lignified fibres



N.Lignified cork



O.Group of fibres



P.Cork in surface view

Q.Brown contant

Plate 1. Microphotographs of *Sarpagandhadi Choorna.*

HPTLC Study

Chromatogram shows 12 prominent spots at 254nm with maximum Rf value 0.02, 0.12, 0.19, 0.30, 0.35, 0.38, 0.54, 0.57, 0.76, and 08 spots at 366nm with maximum Rf value 0.01, 0.19, 0.28, 0.30, 0.35, 0.38, 0.54, 0.94. [Plate 2 Fig.1-2].

Plate 2. HPTLC: at 254 & 366nm of *Sarpagandhadi Choorna*

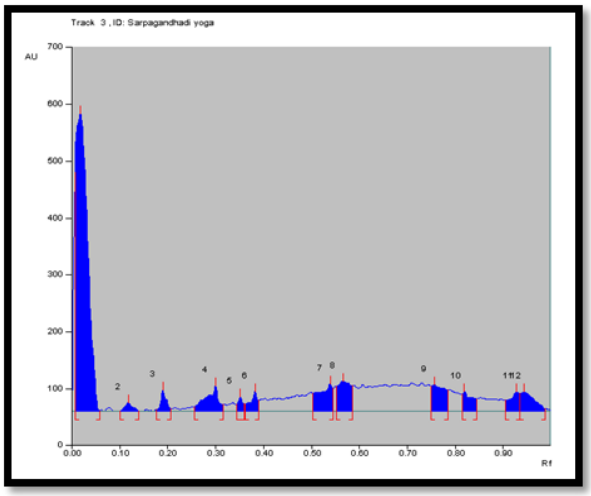


Fig 1. 254nm Peak display.

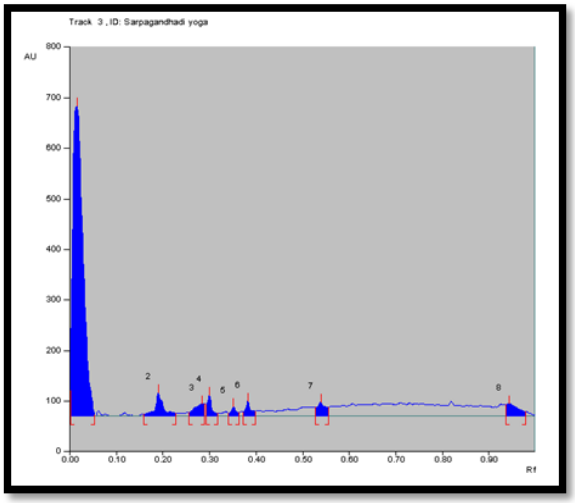


Fig 2. 366nm Peak display.

DISCUSSION

Pharmacognostical study reveals authentification of *Sarpagandhadi Choorna* was cross verified with standard reference API. Parenchyma cell of brown contain, Group of fibres, Lignified cork, Lignified fibres, Parenchyma cells with starch grains, Pitted scleroids, Pitted vessels, Prismatic crystal, Rhomboidal crystal, Scalariform vessels, Scleroids, etc. 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 (9.4% w/w), Water soluble extract (25% w/w), Methanol soluble extract (18.08% w/w), pH (6.5). HPTLC profile of the methanolic extract of the drug showed 12 spots at 254 nm and 08 spots at 366 nm, which shows the presence of 6 to 8 active principles present in the sample.

CONCLUSION

Pharmacognostical study findings confirm that all characters were found in ingredient drugs of *Sarpagandhadi Choorna.* 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 *Sarpagandhadi Choorna.*

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