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PHARMACOGNOSTICAL AND PHARMACEUTICAL ANALYSIS OF *TAGARA* TABLET - AN AYURVEDIC HERBAL FORMULATION FOR THE MANAGEMENT OF *VATIKA SHIRAHSHULA* (TENSION HEADACHE).

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ABSTRACT

Background: *Tagara* Tablet was select as the trial drug in this study. *Tagara Moola Churna* is mention in Kaiyadeva Nighantu, *Aushadhi Varga*. However, in the trial, *Tagara* Tablet was use instead of the powder form for better palatability, and to ensure uniformity of dosage. *Tagara* is also classifies as a *Medhya Dravya* (nootropic herb) and *Nidrajanana* (sleep-promoting) drug, which calms the *Manovaha Srotas* (channels of the mind) and induces *Sukha Nidra* (sound sleep). By pacifying aggravated *Vata Dosha* and balancing the *Rajas* and *Tamas Guna* of the mind, *Tagara* helps reduce stress, anxiety, and muscular tension, thereby relieving *Shirahshula*. Hence, *Vata Shamaka* and *Mano Shamaka* actions make *Tagara* highly effective in the management of *Vatika Shirahshula* (Tension headache). Therefore, for initialization of standardization and assurance of the quality of herbal compounds pharmacognostical and pharmaceutical analysis should be done. **Methods:** *Tagara* Tablet were subjected to microscopic evaluation for pharmacognostical and physicochemical analysis like Loss on drying, total ash, water soluble extract, alcohol soluble extract and pH value. **Results:** Pharmacognostical study showed the presence of certain identifying characters of *Tagara* Tablet. As per the preliminary physicochemical analysis, loss on drying

percentage of the *Tagara* Tablet was 4.94 %w/w, pH value was 7, total ash value was 13.89 %w/w, Water soluble extractive was 38.81 %w/w and Methanol soluble extractive was 15.44 %w/w. **Conclusions:** Pharmacognostical and physico-chemical observations revealed the specific characteristics of *Tagara* Tablet confirmed the purity and genuinity of the drug.

KEYWORDS: *Tagara* Tablet, *Vatika Shirahshula,* Tension Headache, Pharmacognosy, Pharmaceutical analysis.

INTRODUCTION

Vatika Shirahshula is one of very common disease affecting many people. Through it is not a life threatening disorder but severely changes the daily routine of sufferer. The condition also has a high economic and psychosocial impact. The lifetime prevalence of Tension headache in the general population is estimate to be around 30% to 78%, with a higher frequency observed in women than in men.[1] Tension headache is one such psychosomatic disease, which can be compared with *Vatika Shirahshula* described in Ayurvedic texts as mental factor like *Bashpa* (excessive weeping), *Shoka* (grief), *Bhaya* (fear), *Trasa* (terror) have been attributed in its pathogenesis.[2] According to Ayurvedic texts, *Tagara* is *Vedana Sthapana* and *Mastishak Shamaka*[3] and has been reported to have Analgesic, antispasmodic and Nervine, Sedative, Mild CNS depressant activities.[4]

In the case of internal administration of herbal drug, it should be safe, effective and free from adulteration, with appropriate quantity and ingredients. It is difficult to identify the herbal drug in dry or powdered form. So, it is a need of time to set proper parameters for standardization of herbal drugs. Pharmacognostical studies reveal plant identification and set parameters for standardization, which can be done in the case of herbal traditional medicine. Generally, the physiochemical analytical study of drugs helps to interpret the pharmacokinetics and pharmacodynamics involved. With the help of physiochemical analytical studies, it is possible to standardize the drug and differentiate the adulterants. It is necessity of time in the field of Ayurveda to go for quality control of the raw drugs as well as final products using modern parameters, which provides credibility to Ayurvedic medicines, and help in the globalization of Ayurveda. Hence, to evaluate the Authenticity of *Tagara* Tablet through various pharmacognostical procedures, and to develop the pharmacognostical and phytochemical profile of *Tagara* Tablet the present study was carried out.

MATERIALS AND METHOD

Collection, identification and authentication of raw drugs. The raw materials were procured from the pharmacy of ITRA Jamnagar, authentic source and the raw drugs were identified and authenticated in the Pharmacognosy laboratory of Institute of teaching and research in Ayurveda, Jamnagar, Gujarat. The part used of *Tagara* Tablet are given in table no. 1.

Table No. 1: Ingredients of *Tagara* Tablet.[5]

DRUG	LATIN NAME	FAMILY	PART
Tagara	*Valeriana wallichii DG.*	Valerianaceae	Root

METHOD OF PREPARATION

The *Moola* of *Tagara* was collected, and fine powder was made from the raw material of *Tagara*. While making fine powder, the coarse powder that is available was made into *Kwatha* and used as a *Bhavana Dravya*. Binding agents (gum) was added as per requirement, and from this, 500mg tablet was prepared, which was then stored in clean and germ-free environment. This Tablet were provided to patients in a sachet with written instructions in the vernacular language.

PHARMACOGNOSTICAL STUDY

The pharmacognostical study was divided in to organoleptic study and microscopic study of the finished product.

ORGANOLEPTIC STUDY

The genuinity of the poly herbal formulation can be fined with organoleptic characters of the given sample. Organoleptic parameters comprises of color, odour, taste and touch of *Tagara* Tablet, which was scientifically studied as per the standard references.

MICROSCOPIC STUDY

Tagara Tablet ingredients was taken in powder form and dissolved with water and microscopy of the sample was done without stain and after staining with phloroglucinol and HCl, Microphotographs of *Tagara* Tablet were taken under corl-zeiss trinocular microscope.[6]

PHYSICO-CHEMICAL ANALYSIS

With the help of various standard physio-chemical parameters of *Tagara* Tablet was analyzed. The common parameters mentioned for Tablet in Ayurvedic Pharmacopeia of

India, and CCRAS, guidelines are loss on drying, total ash, water soluble extract, alcohol soluble extract and pH value.

OBSERVATION AND RESULTS

The initial purpose of the study was to confirm the authenticity the drugs used in preparation *Tagara* Tablet. For this, all ingredients was subjected to organoleptic and microscopic evaluations to confirm the genuineness of the raw drugs. Later after the preparation of formulation, pharmacognostical evaluation was carried out. Organoleptic evaluation organoleptic features like color; odor and taste of *Tagara* Tablet were recorded and are placed in Table No. 2 and Table No. 3.

Table No. 2: Organoleptic Characters Of *Tagara* Tablet

Parameter	Observation
Colour	Blackish brown
Odour	Not aggregable
Teste	Astringent
Touch	Course (Hard)

MICROSCOPIC EVALUATION

Microscopic evaluation was conducted by dissolving the ingredients of *Tagara* Tablet in the distilled water and studied under microscope for the presence of characteristics of ingredient drugs.

Table No. 3: Microscopic Characters of *Tagara* Tablet.

Fig.No.1.1: Stone cells	Fig.No.1.2: Oil globules
Fig.No.1.3: Simple and compound starch grains	Fig.No.1.4: Simple fiber
Fig.No.1.5: Cork cells	Fig.No.1.6: Yellowish content
Fig.No.1.7: Brownish content	Fig.No.1.8: Pitted vessels
Fig.No.1.9: Parenchyma cells filled with starch grains	Fig.No.1.10: Vessels with brown contains
Fig.No.1.11: Lignified vessels	Fig.No.1.12: Lignified stone cells

Microphotographs of *Tagara* Tablet

Fig.No.1.1

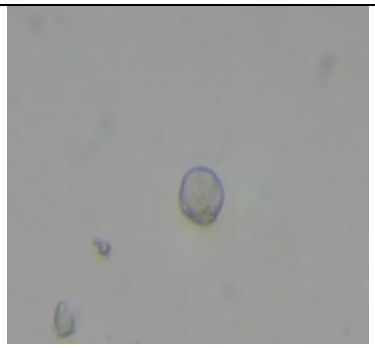

Fig.No.1.2

Fig.No.1.3

Fig.No.1.4

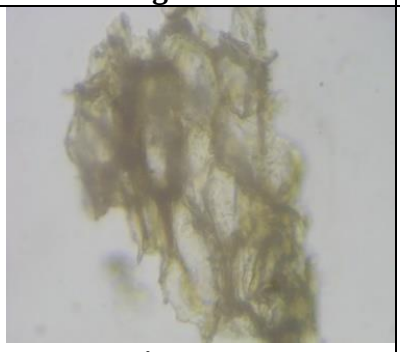

Fig.No.1.5

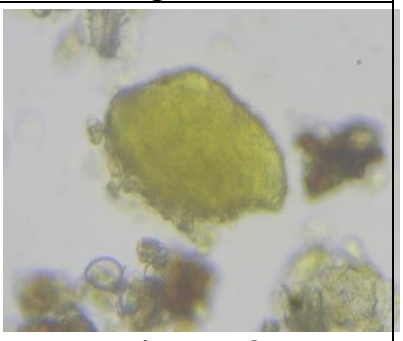

Fig.No.1.6

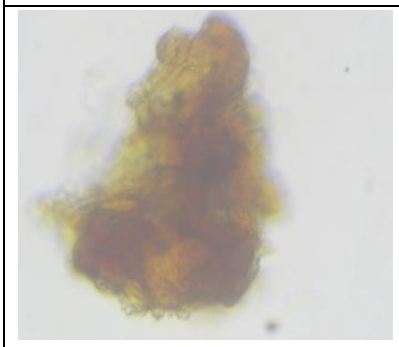

Fig.No.1.7

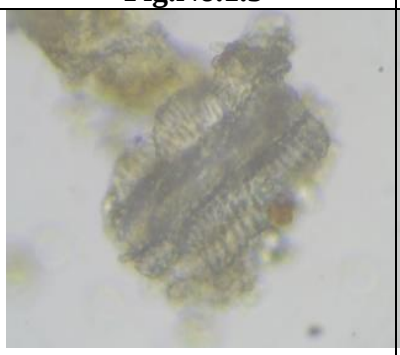

Fig.No.1.8

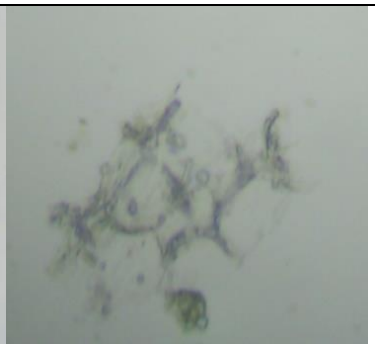

Fig.No.1.9

Fig.No.1.10

Fig.No.1.11

Fig.No.1.2

DISCUSSION

Study on *Tagara* Tablet was a step towards pharmacognostical and pharmaceutical standardization of the drug. The pharmacognostical study revealed the presence of the diagnostic characters of *Tagara* Tablet like are. The diagnostic characters are.

This confirms the presence of all ingredients of raw drugs in the final product and there is no major change in the microscopic structure of raw drug during the pharmaceutical process of preparation of final product, this showed the genuinity of the final product. All the physio-chemical parameters loss on drying percentage of the *Tagara* Tablet was 4.94%w/w, pH value was 7, total ash value was 13.89%w/w, Water soluble extractive was 38.81%w/w and Methanol soluble extractive was 15.44%w/w were analyzed and found to be in normal referential range.

CONCLUSION

The pharmacognostical and physico-chemical analysis of *Tagara* Tablet confirmed the purity and genuinity of the drug. As no standard fingerprint is available for this formulation, an attempt has been made to evolve pharmacognostical and physico-chemical profiles of *Tagara* Tablet. Information acquired from this study may be beneficial for further research work and can be used as a reference standard for quality control researches.

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CONFLICT OF INTEREST: None.

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