

**PREPARATION OF AQUEOUS EXTRACT OF TINOSPORA CORDIFOLIA (WILD)
MIERS EX. HOOK F. & THOMS.: AN AYURVEDA FORMULATION**Vijay Kumar Jatoliya¹, Govind Sahay Shukla², Rajaram Agarwal³, Manisha Goyal⁴¹M.D. Scholar (P.G. Department of Rasashastra & Bhaishjya Kalpana)²Prof. & H.O.D. (P.G. Department of Rasashastra & Bhaishjya Kalpana)³Asso. Prof. (P.G. Department of Rasashastra & Bhaishjya Kalpana)⁴Asso. Prof. (P.G. Department of Rasashastra & Bhaishjya Kalpana)

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**ABSTRACT**

Guduchi is an important *Rasayan* drug in Ayurveda. It is used different dosage forms to cure diseases. *Guduchi* is described in our classics to cure the various types of diseases i.e., *Kamala*, *prameha*, *vatrakata*, etc. it is used by the patient there in a suitable form. So, the requirement of the patient and good palatable, it is converted into a suitable form by using various types of methods. In *Ayurveda*, five major *Kalpana* which are called *Panchvidha Kashaya Kalpana* is described first in *Charak Samhita*. Another minor *Kalpana* like *vati*, *churna*, *ghana*, *sandhan Kalpana* is derived from *panchvidha kashaya Kalpana*. *Guduchi Ghana* is an important and unique preparation of Ayurveda. It is prepared from an aqueous extract of *Guduchi*. It is the secondary *Kalpana* which is derived from the primary *Kalpana kwatha*. In the present study preparation of *Guduchi Ghana* according to classical text “*Siddha Yoga Sangraha*” by *Acharya Yadavji Trikamji*. *Guduchi* is a soft drug so, water has been taken for the preparation of *kwatha* is four-time to *Guduchi Dravya*. When a confirmatory test of *kwatha* or reduced $\frac{1}{4}$, it was filtered with the help of the cloth. After filtered, it was kept on the heat for preparation of *Ghana*. End of the whole procedure, the dark brown and sticky nature of *Ghana* was obtained. It is bitter and not specific smell. It has taken 5-6 hrs to complete the process. In the initial raw material has been taken 1.5 kg and the final product is obtained about 105gm.

Keywords: *Guduchi*, *Rasayan*, *Prameha*, *Kashaya Kalpana*, *Kwatha*. etc.

INTRODUCTION

Ayurveda is a science of medicine that cures diseases. Ayurveda medicine was used by people from the ancient period. Ayurveda science has been framed upon *Trisutra* i.e., *Hetu, Linga, Aushadha*. All of them *Aushadha* is very important, and it is responsible for a treat the diseases which also maintain the good and promote health. With the skill of the formulation, a poisonous drug can be converted into a safe and effective drug. In the formulation, a simple drug is transmuted into the most potent drug. Thus *Ayurveda*, the science of health and healing has given great emphasis to the comprehensive knowledge of the drugs, preserve, and dispensing of a prepared drug under the broad heading known as *Rasashastra* and *Bhaishjya Kalpana*. *Rasashastra* is a branch of pharmacy which deal with the study chemical substance which is used as medicines, their detoxification, and processing, etc. In short, *Rasashastra* means Ayurvedic pharmaceuticals which deals mainly with drugs of mineral origin their varieties, characteristics, processing techniques, properties, and their therapeutics uses along with descriptions of various apparatus, different kinds of furnaces, heating devices, and heating schedules. *Bhaishjya Kalpana* consists of words *Bhaishjya* deals with drugs and *Kalpana* deals with processing. Thus, *Bhaishjya Kalpana* is the pharmaceuticals branch which deals with various types of medicinal preparations, their formulations, dosage form, etc. processing which are established for changes in the properties of the drug either inducing a new property or improving the existing one and finally making the drug safe for use and more effective. Any substance or herb may be called *Bheshaja* if it can mitigate the diseases. *Kalpana* means “Yojana” or planning or an ideology that making use of different *dravyas*. It is prepared to form like *swarasa, kwatha*, etc. Thus, *Kalpana* is a process through which a substance is converted into a medicinal form. This complete process of drugs including procurement, identification, processing, and preparation under a separate branch is called *Bhaishjya Kalpana*. Five basic formulations are used to prepare medicines from herbs in *Ayurveda* i.e., *swarasa kalka, kwatha, hima,*

phanta. Word *Kashaya* means is a distortion of the original shape of *dravya* and making it suitable for use. There are *Panchvidha Kashaya Kalpana* are described in Ayurveda classics. Their *anukalapana* are also well defined in *Ayurveda* i.e., *Churna, Vati, Sandhan Kalpana, Sneha Kalpana, Ghansatwa*, etc. *Guduchi* is an important drug for therapeutic use. It is used in different forms like *Swarasa, Taila, Ghrita*, etc. *Guduchi Ghana* is first described in Ayurveda classic “*Siddha Yoga Sangrah*” as the name of *Sanshamani Vati* by *Yadavji Trikamji*. Specially mention for *jwara* treatment.

Guduchi Ghana is an important preparation in *Ayurveda* classics. It is used in various types of diseases like fever, gout, jaundice, indigestion, and general weakness. *Tinospora cordifolia* an important medicinal plant is also known as *Guduchi*. It is widely distributed in India, extending from the Himalayas down to the southern part of peninsular India. It is categorized as “*Rasayana*” and used for its anti-inflammatory, immunomodulatory, anti-allergic, anti-diabetic, properties, etc. The whole plant is used medicinally; however, the stem is approved for use in medicine as listed by the Ayurvedic Pharmacopoeia of India. This is due to higher alkaloid content in the stems than in the leaves. *Guduchi Ghana* which is a concentrated form of the decoction is the secondary *Kalpana* which is derived from primary *Kalpana* i.e., *kwatha*.

Guduchi

Botanical name - *Tinospora cordifolia* (Wild) Miers ex. Hook f. & Thom’s - Menispermaceae

Vernacular Names

Sanskrit - *Guduchi, Madhuparni, Amrita, Chhinnaruha, Tantrika, Chakrlakshini, Kundalini, Hindi - Giloy, Gudich, Bangali - Gulunch, Malayalam - Gulbela, Gujarati - Galo, Telagu - Tippatigo, Arabi - Gulunch*

Pharmacological properties

Rasa - Tikta, Kashaya, Guna - Guru, Snigdha, Virya - Ushna, Vipaka - Madhura

Chemical Composition: *Guduchi* is highly rich in **Antioxidants:** It has wound-healing properties, anti-pyretic (fever-reducing), and anti-viral properties.

Alkaloids: Berberine, Choline, Tembetarine, Magnoflorine, Tinosporin, Palmetine, Isocolumbin, Aporphine alkaloids, Jatrorrhizine, Tetrahydropalmatine. Diterpenoid Lactones: Furanolactone, Clerodane derivatives[(5R,10R)-4R-8R dihydroxy-2S-R:15,16-diepoxy-cleroda-13 (16),14-dieno-17,12S:18,1S dilactone], Tinosporon, Tinosporides, Jateorine, Columbin

Glycosides: 18-norclerodane glucoside, Furanoid diterpene glucoside, Tinocordiside, Tinocordifolioside, Cordioside, Cordifolioside, Syringin, Syringin apiosylglycoside, Pregnane glycoside, Palmatosides, Cordifolioside A, B, C, D, E

Steroids: Beta-sitosterol, Delta-sitosterol, 20 Beta-hydroxyecdysone, Ecdysterone, Makisterone A, Giloinsterol

Sesquiterpenoid: Tinocordifolin Aliphatic compound: Octa-cosanol, Hepta-cosanol Nonacosan-15-one dichloromethane Others: 3-(4-Dihydroxy-3-methoxy-benzyl)-4-(4-compounds hydroxy-3-methoxybenzyl)-tetrahydrofuran, Jatrorrhizine, Tinosporidine, Cordifol, Cordifellone, Giloinin, Giloin, N-transferuloyltyramine diacetate, Tinosporic acid

Antioxidants: Ascorbic acid, Lycopene, Carotene, Phenol, Iron, Anthocyanin

Aim and Objectives

- Preparation of the *Guduchi Ghan* according to classical text.
- Evaluate the pharmaceuticals study during preparation.

Material and Method: For the preparation of *Guduchi Ghan*, the stems of the *Guduchi* were collected from the college campus and identified by RS&BK departmental Staff.

Pharmaceutics of *Guduchi Ghan Vati*

A. Preparation of *Guduchi Kwatha*

Green *Guduchi* stems were washed with water and then hammered and cut into small pieces of size 1.5 to 2.5 inches. After some time, it was heated on the gas stove with water which was taken 4 times to the *Guduchi Dravya* on mild heat & stirring without covering the mouth of the vessel. Water was evaporated slowly and reduced till the quantity remain 1/4th part. After it, the heating process was ceased and allowed to filter through single fold fresh cloth. This filtered *Kwatha* was collected as *Guduchi Kwatha*. A total of 4 times of water was used for 1.5 kg of fresh *Guduchi*. Initially, the raw materials floated over the surface of the menstruum, which gradually settled down after 1.5 hours of heating. Evaporation started, which was aggravated by stirring. The menstruum was light brownish green colour in the initial stage, which gradually turned to dark green. All vessels had been washed and cleaned properly before being used.

Table 1: Organoleptic parameter of *Guduchi kwatha*

S.No.	Parameter	Result
1.	Colour	Greenish brown
2.	Odour	Characteristic
3.	Taste	Bitter
4.	Touch	Liquid and sticky

B. Preparation of *Guduchi Ghana*

Now prepared *Guduchi Kwatha* was taken in a steel vessel and the heating process was carried out on the gas stove with stirring till it converted into semi-solid mass form. Then the heating process was stopped and

taken into a steel tray and kept in sunlight till complete drying. After 3-4 hrs, it was dried. Now it was scraped with the help of a scraper. That dried *Ghana* was collected as *Guduchi Ghana*.

Table 2: Organoleptic parameters of Guduchi Ghana

S.No.	Parameter	Result
1.	Colour	Dark brown
2.	Odour	Not specific
3.	Taste	Bitter
4.	Touch	Liquid and more sticky

Observation

- In starting phase liquid was light brown.
- In this phase, the raw material was floated over the surface which was settled down after an average of 1.30 hours.
- After continuous, this stage about 3 hours later colour of liquid become dark green.
- After 4 hours of boiling, mild sticky nature was observed on rubbing between two fingers.
- After 5 hours of heating, the stickiness of the liquid and adhesiveness to the vessels was found to be increased.
- After drying in the steel tray, brownish-green coloured and semi-solid material was converted into brown coloured solid material.
- Continuous stirring of *Kwatha* was done to avoid its burning.
- The temperature was maintained on medium fire. During the final stage, mild heat was given, and continuous stirring was done to avoid adhesiveness to the vessel.
- To protect the material from direct heating, it was transferred into a steel tray for drying.
- To remove the water content completely, the drying process was done in steel at between 50°C temperature for 2-3 hours.
- After 3 hours, it was scraped with the help of a scraper.

Precaution

- Raw material should be free from dust and other unwanted material.
- *Guduchi* should be taken in small pieces.
- *Guduchi* piece should be taken in finger shape.
- *Kwatha* should be made on moderate fire.
- Cloth for the poured to the *kwatha* should be clean and washed.

- At the time of adhesiveness, the fire should be down and stir continuously.
- Measurement should be noted carefully.

DISCUSSION

Drug *Guduchi* was collected in April month because more extraction is found out at this time. Fresh *Guduchi* stem has been taken for the preparation which is described in classics. It is a perennial shrub, so it is easily available every season. Before the preparation of *Guduchi Ghana*, physical impurities have been separated. The size of the *Guduchi* pieces has been taken to find out better extraction. The first postharvest processing includes primary cutting which is "*Angushtha Pramana*". The diameter of the stem is about 1.5cm to 2.0cm. has been taken for the preparation. In *Charaka Samhita Kalpa Sthana, Swarasa* (fresh Juice) is subjected for heating, instead of *Kwatha* (decoction) and it is boiled till it becomes semisolid and then subjected for complete drying. When the decoction is boiled till it becomes completely dry i.e., Ghana. In the present study, *Guduchi Ghana* was prepared. Average 1.5kg of fresh *Guduchi* stem, already cut into the size of 1.5 to 2.0 inches were taken with the 4 times of water and *Kwatha* was prepared which was further heated to procure final Ghana. The average time taken for the Ghana preparation was 5-6hrs. The average quantity of Ghana obtained in wet condition was 110 gm and after drying it was turned to average 105 gm.

CONCLUSION

Guduchi is an important drug to cure many diseases in different forms. So, it is widely used in the treatment of diseases like *jwara, kamala, shotha, shwetapradar, prameha, mandagni, dorbalya*, etc. it is bitter so, it may be taken in different form like *swarasa, kwatha, taila, vati, churna*, etc. *Guduchi Ghana* is a semisolid

form that is the secondary preparation of *kwatha*. *Guduchi ghana* preparation is a major procedure. In the present study, *Guduchi Ghan* has been made according to the classical text “*Siddha Yoga Sangrah*” written by *Acharya Yadavji Trikamji*. In the formulation, fresh *Guduchi* stem which is more extract has been taken. *Guduchi* stem was crushed to find out

better extraction. Now it was kept with four-time of water on mild fire. Prepared *kwatha* was filtered with help of the cloth. Now obtained *kwatha* was kept in a vessel for preparation of *Guduchi Ghana*. Finally, we obtained *Guduchi Ghana* is 105 gm which was taken 1.5kg fresh *Guduchi stem*.



Guduchi Ghana Preparation

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