



(REVIEW ARTICLE)



Traditional and Ethno-botanical study of *Tinospora cordifolia* with references to Guna district (M.P.)

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International Journal of Science and Research Archive, 2023, 08(01), 210–213

Publication history: Received on 29 November 2022; revised on 08 January 2023; accepted on 11 January 2023

Article DOI: <https://doi.org/10.30574/ijrsra.2023.8.1.0027>

Abstract

Tinospora cordifolia is a very popular shrub of India. Its whole parts like root, stem and leaves are used in Ayurvedic medicine. It belongs to the family menispermaceae. It has known as heart leaved moon seed plant in English, Guduchi in Sanskrit and Giloy in hindi. It is known for its immense application in the treatment of various diseases in the traditional Ayurvedic literature. *Tinospora cordifolia* is widely used shrub in folk and Ayurvedic systems of medicine for anti-diabetes, anti-periodic, anti-spasmodic, anti-inflammatory, anti-oxidant, anti-allergic, anti-laprotic, anti-neoplastic activities, anti-stress, anti-malarial high cholesterol, allergic rhinitis, upset stomach, gout, lymphoma and other cancers, rheumatoid arthritis, hepatitis, peptic ulcer disease, fever, gonorrhoea, syphilis and have power to boost the immune system maximum.

Keywords: *Tinospora cordifolia*; Immune system; Anti-inflammatory; Rheumatoid Arthritis

1. Introduction

Tinospora cordifolia is a deciduous climbing shrub which belongs to the family menispermaceae. The plant family Menispermaceae consists of about 70 genus and 450 species that are found in tropical regions. It is a plant of significant medicinal importance in the Indian system and designated as Rasayana.

The plant is very rigid and common. It can be grown in almost all climates but prefer warm climate. Planting is usually done during rainy season. It is a large, deciduous, extensively spreading and climbing shrub with several elongated twining branches. Root are aerial, thread like, long fusiform, which arise from the mature branches or cut bits of stems grow downward and by continuously lengthening sometime reach the underground. Microscopic study shows aerial roots are characterized.

However, cortex of root divided in two layer outer thick walled and inner parenchymatous zone. Its stem is cylindrical, rounded, solid, strong tendency and outer bark is thin and papery which appears brown to grayish in color. Stem and its powder used in fever, dyspepsia, digestive, urinary and used for many diseases. Leaves of this plant are green, simple, membranous, and alternate and heart shaped. Its leaves are rich in protein, calcium and phosphorus.

2. Material and methods

Personally visited and interviewed for local peoples to the different seasons and establishing uses of plants. Photography is done for easy identification and habitat recognition were dried made powdered of the plant for further study. The Plant collected regarding traditional uses for various purposes areas of Guna district has been done periodically in different seasons. Local of old age belonging to various ethnic group.

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Data were obtained using direct interviews with 80 information particularly those who were more familiar with the herbs and their medicinal as well as traditional properties for prefer research, Scientific name, Local name parts used and ways of application and various ailments treatment traditional uses of medicinal plant species have been collected and find out the results.

2.1. Medicinal Properties: / Observation



Figure 1 *Tinospora cordifolia*: Stem

Tinospora cordifolia (Giloy) is widely used in veterinary medicine, ayurvedic system of medicine of ruts general tonic, anti-diabetic, anti-periodic, anti-spasmodic, anti-oxidant, anti-inflammatory, anti-arthritis, anti-allergic, anti-malarial, anti-stress, anti-leprotic, hepato-protective, immune-modulatory and anti-neoplastic activates. The plant is used in ayurvedic “Rasayanas” to improve the immune system and the body resistance against infections and definite infecting micro-organism. The root of this plant is known for its anti-malarial activities. Hindu mythological term that it refers to the heavenly elixir that have saved celestial beings from old age and kept them eternally young’s.

Ayurvedic preparations used in general debility, fever, urinary diseases and dyspepsia. The stem is bitter, diuretic, stomachic, stimulates bile secretion, allays thirst, causes constipations, burnings sensation, vomiting, enriches the blood and cures jaundice. The extract of its stem is useful in skin diseases. A dry bark of *Tinospora cordifolia* has anti-pyretic, anti-allergic, anti-spasmodic, anti-inflammatory and anti-leprotic properties. *Tinospora cordifolia* is widely used in Indian ayurvedic medicine for treating diabetes mellitus. *Tinospora cordifolia* is currently being used in the working group to strengthen the immune system as well as for fever. The use of *Tinospora cordifolia* has also been approved by the department of AYUSH for decoction.



Figure 2 *Tinospora cordifolia*: Leaves

2.2. Traditional Uses of *Tinospora cordifolia*

- The stem, leaves, roots and fruits of Gilroy are used medicinally.
- This decoction mixed with Pippali fruit and honey is used in fever associated with cough.
- The juice of its stem is given in fever and mixed with honey in jaundice.

- Its roots are used in intestinal obstruction and leprosy.
- Its pulpy fruits are considered tonic and used in jaundice and rheumatism.
- Various parts of the plant are used in general debility, dyspepsia, fever and urinary diseases.
- The decoction of the stem is used in rheumatic fever and vomiting due to excessive bile secretion.
- This decoction mixed with pippali stem and honey is used to control heart palpitations caused by flatulence.
- A type of starch prepared from the dried stem of Giloy is used as a tonic.
- In cases of piles, the swollen part of the rectum is first washed with the juice of Neem leaves and then coated with a paste of Giloy bark.
- The juice of its stem (both 50 ml) mixed with human urine is used in snake bites.
- Sarbat prepared by cutting the plant and putting it in water is drunk by Brahmins in some religious ceremonies.
- Its stem pieces are eaten raw in arthritis.
- For the treatment of fever, the juice of its leaves is taken thrice a day for three days.
- In some parts of India, 'Kamalni-mala' made of small pieces of stem is worn for the treatment of jaundice.
- Many cases of liver damage occurred in India from people consuming *Tinospora cordifolia* as a supposed "Immunity booster" during the Covid-19 pandemic.

3. Results

India with its mega biodiversity and knowledge of rich ancient traditional systems of medicine (Ayurveda, Siddha, Amchi and Unani and local health traditions) provide a strong base for the utilization of a large number of plants in general healthcare and alleviation of common ailments of the people. The study show that the extract of the powder is very helpful to improve immunity regarding. The world health organization reported that 80 percent of the world population relies chiefly on traditional medicines involving the use of plant extracts or their active constituents.

Tinospora cordifolia have multiple, traditional and ethno-botanical uses. Plants have been utilized for many generations. Ethnic groups have distinct life style and have different economic uses for these plants.

4. Discussion

Tinospora cardifolia has been used in indigenous system of medicine as indicated in various classical texts of Ayurvedic system of medicinal Viz Charak, Sushrut and Ashtang and other ancient treaties or folk medicine in different parts of the country.

Namrata et.al, her collaborators studied Ethno-medicinal study of *Tinospora cordifolia* and found that its extract and the whole plant enhance the immunity system. Similar study has also been done by me. Shrivastava, et.al, Kumar, S et.al and Patel Nidhi et. all. All of them also gave the same information about the medicinal properties of *Tinospora cordifolia* which I got.

5. Conclusion

India has rich diversity of flora and fauna. It has large amount of medicinal plants which belong from different families, which are traditionally used to treat many diseases. Although some sporadic information is available about the flora of these regions but very little documented record of the ethno-botanically important plants has been established. It is expected that this research paper will be beneficial for students, researchers, farmers, forester, local people, herbal, healers, and Vadhya on the basis of data obtained it is concluded that ethno-botanical flora of Shivpuri, Guna is quite rich and is diverse, due to the different in altitude climate other topographic condition. As present *Tinospora cordifolia* is known as immune system suppressant, fever, cold etc. *Tinospora cordifolia* has also been certified as Immune booster by the ministry of AYUSH government of India.

Compliance with ethical standards

Acknowledgments

First of all, I would like to thank the respected Principal of the college, Dr. M.M Mehta, Govt. S.G.S. P.G. College, GanjBasoda, Who permitted to carry out this work. Also thanks to all the healers, villagers and local people for sharing

their knowledge with us, without them this work wouldn't have been possible. After this, I would like to express my heartfelt gratitude to respected Dr. VK Krishna Sir, under whose guidance I got the inspiration to do this work. Now I would also like to thank Dr. Sarita Ganghat HOD Botany and Dr. Kanchan Vaidya who helped in doing this work.

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