

**GUDUCHI; A POTENTIAL DRUG IN AYURVEDA**Neha Rawat<sup>1</sup>, Rakesh Roushan<sup>2\*</sup><sup>1</sup>P.G. Scholar, PG Department of Kriya Sharir, CBPACS, New Delhi, India.<sup>2</sup>Assistant Professor, PG Department of Kriya Sharir, CBPACS, New Delhi, India.**ABSTRACT**

*Guduchi* (*Tinospora cordifolia* [Wild.] Miers.) of family Menispermaceae. *Guduchi* is a Sanskrit word which means, 'that which protects body from diseases'. Another name for this herb is 'Amrita', which refers to 'the heavenly elixir' according to Hindu mythology. According to the tale, *Guduchi* saved celestial beings from old age and kept them eternally young. It is the potential drug in Ayurveda as it is full of life energy and has a myriad of uses. It can help with prolonging life and was thus recognized by the ancient *rishis* of the Vedic era, long before the age of modern technology. It is a potential ayurvedic drug, used extensively in treatment of fever,

diabetes, urinary tract disorders, anaemia, jaundice, asthma, cardiac disorders etc. It is a well known immune-modulator herb used in the correction of auto immunity. As per Acharya Charak, *Guduchi* is one among the four *Medya Rasayan* where its *Swaras* is to be administrated to get all the benefits of rasayan. Its *Ras* is *Tikta*, *Veerya* is *Ushna* and *Vipaka* is *Madhura*. *Guna* includes *Laghu* and *Snigdha*. It balances *Tridosha* in the body. *Guduchi* is highly rich in anti-oxidants. It also has anti-pyretic, anti-viral and wound healing properties. There are many studies already done on *Guduchi* and many researches are still going on to know the effects of *Guduchi* in the body for the benefit of the patients.

**KEYWORDS:** *Guduchi*; *Tinospora cordifolia*; Menispermaceae; *Rasayan*; *Medya Rasayan*.**1. INTRODUCTION**

*Guduchi* (*Tinospora cordifolia* [Wild.] Miers.) of family Menispermaceae is an Ayurvedic drug used for *Rasayan Chikitsa*.<sup>[1]</sup> *Rasayan* (rejuvenation therapy), is one of the most essential branches of Ayurveda,<sup>[2]</sup> practiced effectively and extensively since ages, is a group of medicinal preparations which are immunostimulants and capable of preventing the

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causation of many ailments such as untimely aging. The term *Rasayan* refers to nourishment or nutrition. *Guduchi* is a large spreading, glabrous, perennial, deciduous, climbing shrub distributed throughout India and South Asia. It is also commonly known as *Amruthu* (Malayalam), *Amrutha balli* (Kannada), *Gurcha* (Hindi), *Guduchi* (Marathi, Sanskrit), etc. It has many medicinal properties such as anti-inflammatory, anti-diabetic, antiarthritic, antioxidant, anti-stress, antileprotic, antimalarial, hepatoprotective, antiallergic and immunomodulatory activities.<sup>[3]</sup> It is an important drug and is used in form of different preparations like *Satva*, *Ghrita*, *Tail*, *Swaras* etc. Also, as one of the important ingredients in many other formulations used for treating various diseases. In clinical practice it is mainly prescribed for diseases like *Jwara*, *Shwetapradara*, *Mandagani*, *Prameha*, *Daurbalya*, *Kamla*, etc. Its *Ras* is *Tikta*, *Veerya* is *Ushna* and *Vipaka* is *Madhura*. It is considered the best drug in terms of availability, economy, ease of administration, etc. and further, at the dose levels employed clinically it is well tolerated.

## 2. RASAYAN EFFECT OF GUDUCHI

The term *Rasayan* refers to nourishment or nutrition. *Rasayan* drugs act essentially on nutrition dynamics and rejuvenate the body and psyche. *Rasayan* drugs also promotes intellect and strength, prolongation of life and helps in the prevention of diseases. By the use of *rasayan*, one can attains longevity, memory, intelligence, freedom from illness, youthfulness, excellence of lustre, complexion and voice, optimum strength of physique and sense organs, perfection in deliberation, respectability and brilliance.<sup>[4]</sup> *Rasayan* is the means of attaining excellent qualities of *rasa* etc. *dhatus* i.e. body cells and tissues. *Rasayan* essentially denotes medicinal nutrition, rejuvenation, longevity, immune-enhancing and geriatric health care. *Rasayan* (rejuvenation therapy), one of the most essential branches of Ayurveda, practiced effectively and extensively since ages, is a group of medicinal preparations which are immunostimulants and capable of preventing the causation of many ailments such as untimely aging. *Guduchi* is an Ayurvedic drug used for *Rasayan Chikitsa*.<sup>[5]</sup> In a research *Guduchi* as *Rasayan*, enhances the life span of *Drosophila melanogaster* which validates the concept of *Rasayan*. Increase in the life span of F-1 generation of *Drosophila* is suggestive of *Rasayan* effect of *Guduchi Churna* even prevails to next generation.<sup>[6]</sup> At lower concentration of *Guduchi Churna* there was a significant increase in lifespan of the flies. Higher concentrations progressively reduced the life span of flies significantly. Increasing the concentrations further did not show more increase in lifespan. This indicates that there is a particular concentration of *Guduchi Churna* which causes maximum lifespan extension

(around 0.25 g/100 ml of food). Concentrations beyond that limit do not further increase the lifespan, which may be due to the absorption threshold of *Guduchi Churna*. The increase in lifespan of the flies due to *Guduchi Churna* can be attributed due its high antioxidant properties. Researchers suggest that, the alcoholic and aqueous extracts of *T. cordifolia* are reported to have beneficial effects on the immune system<sup>[7]</sup> and have been tested successfully for their immunomodulatory activity.<sup>[8]</sup> Hence *Guduchi* should be consumed in proper quantity on daily basis to get all the benefits of rasayan in one's life.

### 3. ANTIPYRETIC EFFECT OF GUDUCHI

Fever is a surrogate marker for disease activity in many infectious and inflammatory disorders. *Guduchi* is renowned in Ayurvedic therapeutics for its usefulness in the treatment of *Jwara* (fever).<sup>[9]</sup> In classical texts *Guduchi Swarasa* and *Guduchi Kalka* prepared from the stem of *T cordifolia* (Willd.) Miers is indicated for the treatment of fever.<sup>[10]</sup> In Previous studies by Ikram *et al.* (1987) and Leghari *et al* (1984). have reported the antipyretic effect of *Tinospora cordifolia* in Himalayan rabbits.<sup>[11]</sup> Vedavathy and Rao, showed water-soluble fractions of a 95% ethanolic extract of *Guduchi* plant to possess significant antipyretic activity (when given orally) against yeast-induced pyrexia.<sup>[12]</sup> Many authors have ascribed the antipyretic properties of *T cordifolia* to the presence of berberine or other bitter substances.<sup>[13]</sup> In another study by *Guduchi Ghrita* formulations in albino rats it has been observed that *Guduchi Ghrita* samples produced very good antipyretic effect in a dose-dependent manner and the observed effect was almost similar to that in the paracetamol.<sup>[14]</sup>

### 4. HYPOGLYCEMIC EFFECT OF GUDUCHI

Currently available oral anti-diabetic synthetic drugs in the management of diabetes partially can compensate metabolic derangements, but do not necessarily improve the elementary biochemical lesions, moreover, they have accompanied side-effects.<sup>[15]</sup> Diabetes mellitus is a chronic metabolic disorder, characterized by hyperglycaemia resulting from a variable interaction of hereditary and environmental factors, defects in insulin secretion, insulin action or both. Today, it is a vulnerable endemic problem all over the globe, affecting carbohydrate, protein, and fat metabolism in addition to damaging liver, kidney, and cells of pancreas.<sup>[16]</sup> Furthermore, insulin therapy in insulin dependent diabetes mellitus has several drawbacks such as insulin resistance, develops anorexia nervosa, brain atrophy, and fatty liver after chronic treatment.<sup>[17]</sup> Researches conducted during past few decades on about 45 plants or their products (active, natural principles, and crude extracts) have shown experimental or

clinical anti-diabetic activity.<sup>[18]</sup> It is estimated that more than 800 species of plants exhibit hypoglycemic properties, and *Guduchi* is one among them. *Guduchi* may have been favorably used for thousands of years; however, modern herbal pharmacology appears to have just begun to appreciate the tremendous therapeutic potential of it. *Guduchi* is incredibly versatile and safe herbaceous vine in Ayurvedic system of medicine indicated to combat various diseases and is proved to be a highly potent anti-diabetic herb.<sup>[19]</sup> Ayurvedic classics emphasized using of *Guduchi sattva* in different stages of *Prameha*,<sup>[20,21]</sup> It has been reported that 1,2-substituted pyrrolidines isolated from the stem is responsible for anti-diabetic activity of *Guduchi*.<sup>[22]</sup> If many further studies will be made on *Guduchi* it will become even more clear that *Guduchi* give best effect on diabetes treatment.

### 5. ANTI-INFLAMMATORY ACTIVITY OF GUDUCHI

Inflammation is defined as the local response of living mammalian tissues to injury due to any agent. It is a body defence reaction in order to eliminate or limit the spread of injurious agent. Depending upon the defence capacity of the host and duration of response, it is classified as acute and chronic. Among them the main features of acute inflammation are accumulation of fluid and plasma; Intravascular activation of platelets; and polymorphonuclear neutrophils as inflammatory cells.<sup>[23]</sup> Histamine, 5-hydroxytryptamine and bradykinin are the first detectable mediators in the early phase of carrageenan-induced inflammation, whereas prostaglandins are detectable in the late phase of inflammation. In a study it has been observed that *Guduchi Ghana* prepared by classical method produced significant suppression of carrageenan-induced oedema indicating that it inhibits fluid exudation and thus acute inflammation. It may be attributed to the ability of *Guduchi Ghana* to modify the role of various chemical mediators of inflammation like histamine and 5 HT during the initial phase of inflammation dry up through attenuation of their formation or through activity at the receptor levels.<sup>[24]</sup> Hence it is proved that classically prepared *Guduchi Ghana* produced significant anti-inflammatory activity.

### 6. DISCUSSION

*Guduchi* one among the *Medya Rasayan* when consumed regularly is life promoting, disease alleviating, promoter of strength, *Agni*, complexion, voice and are intellect promoting. On regular consumption with proper quantity one attains longevity, memory, intelligence, freedom from illness, youthfulness, excellence of lustre, complexion and voice, optimum strength of physique and sense organs, perfection in deliberation, respectability and

brilliance. *Rasayan* is the means of attaining excellent qualities of *rasa* etc. *dhatu*s i.e. body cells and tissues and all the properties of *rasayan* is present in *Guduchi* which is one of the most potential drugs of Ayurveda. Fever is one of the disease which affect every person at least once in a year. Anti-pyretic effect of *Guduchi* helps the patient to get relived by this and helps in maintaining disease free life. *Guduchi* is highly valued in Ayurveda for its detoxifying, rejuvenating, immune-supporting, and anti-*ama* properties. It is now being studied by researchers for cold and flu prevention, immune support, skin disorders, arthritis, liver disorders, gout and other rheumatic disorders. Among the various benefits of *Guduchi* attributed to the herb in the classical texts, *Guduchi* primarily is a rejuvenative, it supports immunity, helps the body to fight endogenous toxins, supports natural function of liver, anti-pyretic, anti-inflammatory and anti-diabetic as well.

## 7. CONCLUSION

*Guduchi* has anti-pyretic, anti-diabetic, rejuvenative, anti-inflammatory and many other properties. *Guduchi* is one among the four drugs of *Medya Rasayan* which has anxiolytic and tranquilizing effect, which helps to maintain the mental health of human beings. It should be consumed in regular basis to get all the benefits of *rasayan* and further studies should be done to know more about this potential drug. *Guduchi* is a miracle drug in the field of pharmaceuticals. And hence to be consumed on regular basis to maintain healthy and disease-free life.

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