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REVIEW ARTICLE

MEDICO ETHNOBOTANICAL PERSPECTIVES OF JYOTISMATI (*CELASTRUS PANICULATUS WILLD*): A HERBAL TRANQUILIZER

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ABSTRACT:
The primary objectives of the present study is to find out and documentation of various medico ethnobotanical claims of jyotismati from different tribal population throughout the India and to make a valuable discussion on the modern evaluation of the drug. Jyotismati (*Celastrus paniculatus* Willd.) is a woody climber of vedic lore. In several studies seed oil was screened for its sedative and tranquillizing properties. But the tribal claims of other parts of jyotismati are yet to be studied. The plant jyotismati is used throughout the tribal population of India for wound healing, cough, insomnia, opium poisoning. The details of medico ethnobotanical aspect of the plant jyotismati and the recent researches carrying out on the plant clearly indicate that jyotismati plays a key role in the healthcare system of India. Modern researches are revalidating the tribal uses of jyotismati. The indiscriminate use of seed and fruits may lead for its inclusion to the endangered list. So in search of its substitution the leaf and bark should be thoroughly studied experimentally and clinically. Now research regarding the other parts of this plant (stem bark, root, leaf) is required to establish the useful therapeutic profile of the whole plant and to prove the ethnobotanical claims. Although a vivid scientific enquiry and clinical studies have to be encouraged and the adverse reactions are to be recorded.
Keywords: Jyotismati, Classical use, Ethnobotanical use, Modern evaluation.

INTRODUCTION:

About 7500-8000 species of plants are estimated to be used for human and veterinary health care in the century. About 3000 plants species are reported to be used in the codified Indian system like Ayurveda(900 species), Siddha(800 species) , Unani(700 species), and Amchi (300 species).

Tribals make use of surrounding flora and fauna in the management of various ailments. Acharyas of Ayurveda also advocated to obtain the knowledge of herb from forest dwellers, cowherds etc. A thorough scan of medico ethnobotanical information indicates that in tribal medicine classical drugs are being used for a different condition along with non classical drugs in their tribal medical practises. Jyotismati is one of such classical drugs which is being used by tribals for different conditions not indicated by ayurvedic classics. Bark is reported to have abortifacient, wound healing, sedative and bronchodialator activities. Root is used as an antidote for snake bite poisoning. Leaves are proved to be emmenagogue and the leaf sap is employed as a good antidote for opium poisoning. Root and Leaf paste are used in headache.[1]

BOTANICAL DESCRIPTIONS OF JYOTISMATI:

It is a large, woody scrambling or climbing Polygamodioecious type of shrub, which with assistance from a nearby tree climbs up to over 10 m. It occurs almost throughout India ascending to an altitude of 1800 m in the subtropical Himalayas. Main stem and thick branches have yellowish bark. Leaves acuminate or acute and glabrous. Flowers are small, unisexual, yellowish green, fragrant, borne interminal , pendulous panicles. Capsules are three celled, globose, 6-10 mm across,wrinkled and greenish brown in colour, when mature. Capsule contains 3-6 ovoid or ellipsoid, reddish brown in colur, encased in complete arillus of scarlet colours. Plant flowers and fruits at various times throughout the year.

CLASSICAL USES OF JYOTISMATI:

1) U**dara roga**(Abdominal disease)- Intake of jyotismati seed oil with sarja kshara,hingu and milk will inhibit udara roga (Susruta). Intake of seed oil with milk for 8 days inhibits sannipata udara roga (Vangasena).

2) **Nastartava** or anartava(Amenorrhoea)- Leaf of jyotismati should be triturated with kanji(Sour gruel) to regularize the menstruation (Chakradutta).

3) **Sidhma**- Jyostismati oil processed with water of apamarga kshara on external application alleviates sidhma (Ashtangahridaya).

4) **Lutha Visha**(Spider Poisoning)- Jyotismati patra and Karkati patra svarasa is mixed and administered in spider poisoning (Vrinda Madhava).

5) **Urdhwajatrugata vikaras**- Siroroga, Apasmara and pinasa(Charaka).

ETHNOMEDICAL USES OF JYOTISMATI:

Table: 1: Tribal claims of jyotismati from different regions of India.

ACTION	PART USED	SOURCE(Tribal Pockets)
Abortifacient [2,3]	Bark	Sikkim, Bengal, Bihar, Orissa
Anaemia [4]	part not mentioned	Sikkim, Bengal, Bihar, Orissa
Antidote to snake bite [5]	Root	Uttarpradesh
Backache [6]	Seed	Jammu, Kashmir , Himachal Pradesh
Bodyache [7,8]	seed oil	Punjab, Hariyana, Rajasthan, Gujarat; Sikkim, Bengal, Bihar, Orissa
Bone fracture [9]	Bark	Punjab, Hariyana, Rajasthan, Gujarat
Bronchities [10]	Bark	Not specified
Carbuncle [4]	part not mentioned	Sikkim, Bengal, Bihar, Orissa
Cold [11,12]	Seed	Uttarpradesh
Colic [4]	part not mentioned	Sikkim, Bengal, Bihar, Orissa
Cough [11,12]	Seed	Uttarpradesh
Diarrhoea [11,12]	part not mentioned	Uttarpradesh
Digestive complaints [13]	Seed	Punjab, Hariyana, Rajasthan, Gujarat
Dysentery [11,12]	Fruit	Uttarpradesh
Eczema [14]	seed oil	Madhyapradesh, Maharastra, Andhra Pradesh
Fever [11,15,12]	Seed	Uttarpradesh
Gastric complaints [16]	Bark	Sikkim, Bengal, Bihar, Orissa
Gout [16,17]	Seed	Sikkim, Bengal, Bihar, Orissa; Madhyapradesh, Maharastra, Andhra Pradesh
Hair tonic [18]	Seed	Uttarpradesh
Headache [19]	leaf+root	Andaman and Nicobar group of Island
Leprosy [15]	Seed	Uttarpradesh
Memory [17]	Seed	Punjab, Hariyana, Rajasthan, Gujarat
Paralysis [17]	Seed	Punjab, Hariyana, Rajasthan, Gujarat
Rheumatism [13,20]	Seed	Punjab, Hariyana, Rajasthan, Gujarat; & aman and Nicobar group of Island
	seed oil	Sikkim, Bengal, Bihar, Orissa
Scabies [21,8]	Fruit	Sikkim, Bengal, Bihar, Orissa
Sex disease [22]	Root	Sikkim, Bengal, Bihar, Orissa
Skin disease [21,23]	Fruit	Sikkim, Bengal, Bihar, Orissa
	Seed	Andaman and Nicobar group of Island
Snake bite [5]	Root	Uttarpradesh
Sores [4]	part not specified	Sikkim, Bengal, Bihar, Orissa
Stimulant [13,24]	Seed	Punjab, hariyana, Rajasthan, Gujarat
Stomachache [25]	seed oil locally	Sikkim, Bengal, Bihar, Orissa
Swollen veins [26,25]	bark	Sikkim, Bengal, Bihar, Orissa
	seed oil	Sikkim, Bengal, Bihar, Orissa
Syphillis [4]	part not specified	Sikkim, Bengal, Bihar, Orissa
Tonic [17]	Seed	Punjab, Hariyana, Rajasthan, Gujarat
Wounds [27]	Bark	Andaman and Nicobar group of Island
	Seed[8]	Sikkim, Bengal, Bihar, Orissa
	seed+ leaf[28]	Uttarpradesh
Edible [28]	Fruit	Sikkim, Bengal, Bihar, Orissa
Vegetable [29,30]	flower, fruit	Andaman & Nicobar group of Island; Punjab, Hariyana, Rajasthan, Gujarat
Luminant [31,32]	seed oil	Sikkim, Bengal, Bihar, Orissa
Edible oil, Cooking medium, control epileptic bouts [33]	Seed oil	

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MODERN RESEARCH STUDIES ON *CELASTRUS PANICULATUS:*

1)Jyotismati as a Medhya rasayana have very good effect in case of mental depression. [34]

2)Jyotismati is having very potent activity against amvata.[35]

3)Tranquilizing activity of Malkangni oil was reported.[36]

4)Seed extract shows Anti-spermatogenic effect in rat.[37,38]

5)Root bark Chloroform extract showed significant antimalarial activity against *Plasmodium falciperum* in vitro.[39]

6)It showed significant CNS depressant effect and a clear synergism with pentobarbital.[40]

7)The effect of seed oil on learning and memory was found to be significant[41]. In another set of experiments the seed oil(Chronically admistered) was demonstrated to selectively reverse the scopolamine –induced task performance deficit(Central muscarinic receptor blokade) in a navigational memory task in young adult rats[42]. Aqueous extract of the seeds showed cognition enhancing activity in the male wister rats on shuttle- box.[43].

8)Alcoholic (70%) extract of whole plant showed tranquilizing action in rats [44]. Alcoholic extract also displayed anti-inflammatory activity against carrageenan induced hind paw oedema and cotton palate induced granuloma in albino rats [44]. Both the alcoholic extract [44] as well as a pure sesquiterpinoid poly ol ester (ex- seed oil)[45] showed antipyretic analgesic activities in standard animal studies. The drug clearly shows its protective effect in stress[46].

9) Aqueous alcoholic (50 %) extract of seeds exhibited hypolipidaemic effect Extract also showed atherosclerotic effect.[47]

10) Seed has been shown to have antimalarial activity[48] .Methanolic extract shows anti oxidant activity[49].

11) A Clinical trial was taken on 30 patients of residual schizophrenia to assess the effect of Smritisagara rasa,an ayurvedic herbo-mineral preparation consisting *Celastrus paniculatus* as one of the ingredients. Administered in doses of 250 mg TDS with honey for three months. Clinical studies revealed that 11 out of 30 patients showed significant improvement and approximately similar number showed moderate improvement.[50]

CHEMICAL CONSTITUENTS:

The leaves contains alkaloids, a glycoside and colouring matter,whereas the oil extracted from seeds contain sterols, alkaloids and a bright colouring matter, Celapanin, Celapanigin ,Celapagin ,Celastrine and paniculatine are the some important alkaloids present in the seeds. The oil also contains sesquiterpene like dipalmitoyl glycerol and alkaloids also.[51]

DISCUSSION:

Jyotismati is a plant being used from Vedic lore. Ethnobotanical studies claim the significant use of its root as antidote in snake bite and the use of its bark in bone fracture, bronchitis, abortion, gastric complaints and swollen veins. Leaf is used for sedative and wound healing activity in many regions. Modern research work evaluates the seed oil activity in favour of its ethnomedical claims.

The bark is abortifacient, depurative and a brain tonic. The leaves are emmenagogue and the leaf sap is a good antidote for opium poisoning. The seeds are acrid, bitter, thermogenic, emollient, stimulant, intellect promoting, digestive, laxative, emetic, expectorant, appetizer, aphrodisiac, cardiotonic, anti-inflammatory, diuretic, diaphoretic, febrifuge and tonic, abdominal disorders, leprosy, skin diseases, paralysis, asthma, leucoderma, cardiac debility, inflammation, nephropathy, amenorrhoea, dysmenorrhoea. Those modern evaluations prove the efficacy of this medicine in tribal life. So, a vivid scientific enquiry and clinical studies have to be encouraged and the adverse reactions are to be recorded.

CONCLUSION:

Jyotismati is being used now a day mainly for its tranquilizing activity but several other uses are practised in the tribal populations. Modern researches are revalidating the tribal uses of jyotismati. The indiscriminate use of seed and fruits may lead for its inclusion to the endangered list. So in search of its substitution the leaf and bark should be thoroughly studied experimentally and clinically. Now research regarding the other parts of this plant (stem bark, root, leaf) is required to establish the useful therapeutic profile of the whole plant and to prove the ethnobotanical claims.

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