Rationale behind Uses of Medicinal Plants by Gond Tribe of Sironcha Tehsil, District- Gadchiroli, M.S., India

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Abstract: Ethno medicinal study of Gond tribe inhabiting in Sironcha Tehsil reveals the medicinal uses of twelve plants. The enumeration of medicinal uses of these plant species is supplemented with phytochemical and pharmacological data wherever available, an attempt is made to establish a rationale behind tribal use of these plant species. The tribal uses are corroborated with chemical and biological activity and if corroboration exist then comments are made.

Keywords: ethnomedicinal plants, lesser known Species.

Introduction

The district is divided into twelve tehsils viz., Sironcha, Aheri, Bhamragad, Etapalli, Mulchera, Chamorshi, Dhanora, Gadchiroli, Armori, Kurkheda, Wadsa, Korchi. The district is identified by the presence of abundance Teak Trees. Frequently many tourist visit to Sironcha to Nandanvan Botanical Garden Situated at Assaralli Road National Highway No.16

Many tourist visits to Gadchiroli district for jungle safari tours. The district is adorn with beautiful Dense Forest and river. The forest of the district is dry deciduous type wherein teak and bamboo is the predominant elements. Gond tribes of Sirkonda region are still using various medicinal plants to cure ailments. The medicine man is known as Vaidu/Bhumka who prescribes herbal medicine to cure various diseases. The main objective behind this study was to record the uses of medicinal plants through field visits, enquiries and interviews. Literature survey reveals about earlier work by Chute and Tiwari (1999). These plant species are included by Kirtikar and Basu (1935) and Nadkarni (1954).

Method:

During vacations and holidays field visits were conducted in the tribal villages of the district. The botanical exploration was carried out to collect herbarium specimens. Interviews, enquiries and cross questioning session was held with tribal medicine man to confirm identity and uses of medicinal plants. Good rapport was established with medicine men (Vaidus) during visits. Help of interpreter was sought for conversation and understanding of Gondi language. The method of administration of herbal drug was personally observed and the ethno botanical information was noted in the field books Herbarium specimens were identified in the department by using floras and monographs The main objective was to collect only lesser known medicinal plants. A detail literature survey on phytochemical and pharmacological data on these plant species is conducted in order to know about rationale and validity behind medicinal uses. The compendium, glossary, dictionary and text books on medicinal plants were referred to search out chemical and biological activities on these plants.
Result:

The ethnomedicinal plants are alphabetically arranged in the following order: Botanical names, family, local name, medicinal uses, phytochemical and pharmacological data.

1) *Bryonia laciniosa* (L.) Naud., Syn., *Diplocyclos palma Jeaff.*, Cucurbitaceae, Shivlingi; (Figure. 1)
   
   Seed powder used as an aphrodisiac and profertility agent.
   
   Chemical Studies have resulted in isolation of compounds goniothalamin, bryonin, punicic acid and lipids. Antioxidant and antitumor role of methanolic extract. An analgesic and antipyretic activity in animal models.
   
   The goniothalamin isolated has been shown antimicrobial and antifungal activity. Antihyperglycemic and antihyperlipidemic activity of seeds in Streptozotocin induced Diabetes. Anti-inflammatory activity of chloroform extract of herb. It is mentioned that Arabinoglucomannan, a polysaccharide is present in the fruit which is mainly used for anti-microbial activity. It has been reported that the plant contains anti-inflammatory, analgesic, anticonvulsant, anti microbial and cytotoxic properties.

2) *Chrozophora prostrata* Dalz., Euphorbiaceae, Munderi (Figure. 2)

   Plant extract applied on ringworm and eczema
   
   Glycosides of two Xanthones and Chromone isolated from root. Stem yields Diterpene, Dipolic Acid and seed contain fatty acid composition rich in Linoleate. Ethanolic extract exhibit spasmylytic activity. Herb extract dose 1200 mg/kg given intraperitoneal LD50 Dose kills 50% Rodents –Mouse. its folkloric reputation as a purgative drug. Gum given as antihelminthic
   
   Gum yields five flavones and stem bark yields oleanonic aldehyde, sitosterol, erythrodiol, and its 19 alpha-OH derivative, isolated Cycloartanes from the gum resin of plant.

3) *Lindernia ciliata* (Colsm) Pennell., Scrophulariaceae, Dahirpa, (Figure. 3)

   Herb powder mixed with honey, taken daily to cure rheumatism and arthritis.
   
   Seeds are roasted and edible as a brain tonic. Fruit contain 5-hydroxytryptamine, Histamine and L-Dopamine. The neurobiological and antihelminetic, Anticataleptic and Antiepileptic activities of ethanolic extract of leaves. Neuroprotective its antidiabnetic, aphrodisiac, antineoplastic, antimicrobial, learning and memory enhancing property with antivenom activities. The plant contains alkaloids like mucunine, mucunadine, prurienine and prurienine, which is responsible for its activities. Bulbs are poisonous. The crushed bulb is applied on skin tumors, injuries and wounds.

4) *Wattakaka volubilis* (L.f.) Stapf., syn. *Dregea volubilis Benth ex Hook. f. syn. Marsdenia volubilis* (L.f.) Cook., Asclepiadaceae. (Figure. 4 and 5)
Aqueous extract taken to cure piles and fissures. Five new glycosides present and Dregeosides are active against Ehrlich carcinoma and melanoma. In vitro and vivo antitumor activity and anti-inflammatory activities of methanolic extract of leaves. Isolated of steroid like β-sitosterol; a triterpenoid aglycone drevogenin A; fatty acid 9, 12 – octadecadienoic acid; a phenolic compound quinic acid; aromatic ester 1, 2 – benzenedicarboxylic acid diisoocetyl ester; a flavonoid 5, 7 – dihydroxy – 6, 8 – dimethoxy flavone; an alkaloid N-[4-bromo-n-butyl]-2-piperidinone and a desoxy sugar digitoxose. Antioxidant and free radical scavenging effects. Fruit decoction drink to cure anemia Latex of fruit is proteolytic and Amyrins. Sterols, dyes. Phytosterols. Antifungal, Topical application of serine proteases from latex of this plant found to be useful in induced excision wounds, antibacterial property.

Conclusion:

Literature survey on ethnomedicinal plants reveals that these plant species are lesser known. The method of herbal drug administration is new. The phytochemical and pharmacological work on these species is inadequate to establish a rationale between uses and chemical data. The author feels that due to paucity of research work it is difficult to make any statement about validity of medicinal use. Further research work is urgently required to corroborate the medicinal uses with relevant chemical data. The corroboration exist only in case of use of roasted seeds of Mucuna pruriens as a brain tonic because phytochemical analysis reveals the presence of L-Dopamine. The neurobiological property as a
stimulant is reported by Kumar et al (2012) and Kasture et al (2009). This supports the view that the tribals at large are well aware of the medicinal value of this plant.

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