

## ANTIDIABETIC HERBAL MEDICINES OF EASTERN U.P.

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### ABSTRACT

**Present paper deals with some important antidiabetic herbal medicinal plants of family Rubiaceae used by the different tribes and other ethnic groups inhabiting different areas of the eastern Uttar Pradesh. In this study 12 plants species of family of Rubiaceae which have great medicinal value for diabocare.**

**KEYWORDS:** Rubiaceae, herbal medicines, diabetes, ethnobotany

Diabetes, literally the increased blood plasma sugar level of a body has now been a serious fatal metabolic disorder which when persists for a long time causes various problems like ketoacidosis, hyperosmolar nonketonic coma, hepatic malfunctioning, Renal failure due to overburden, heart diseases caused by thicker and concentrated plasma, anaemia due to loss of R.B.C. as a result of osmotic burst, deterioration of eye sight caused as a result of change in concentration fundal fluid and thickening of retinal wall. All these problems can easily be combat by management of blood sugar level. In ancient Indian civilization the disorder was considered as a disease and several herbal cures were known. Plants have since ever been a rich source of medication among the human civilizations. In India there exist several highly civilized communities residing near or in the holy lap of nature. The people of such civilizations mostly depend on plants for their daily needs as well as for their medication also. Use of Plants as traditional medicine is widely accepted and practiced by the hakeems, villagers, vaidyas, ojhas, and some common elderly people and the knowledge of it is culturally forwarded to the next generations.

This ethnobotanical exploration was done in eastern Uttar Pradesh to collect informations about the plants generally used as medicaments among the people of this area. Eastern Uttar Pradesh forms a part of the middle Ganga plains between the Himalayan ramparts in the north and peninsular block in the south. It extends from 80°41'to 84°30'E and 23°45'to 28°30' N and cover an area of about 80,855 sq. km. It includes the administrative divisions of Varanasi, Gorakhpur and Faizabad (excluding Barabanki district) alongwith three tehsils viz. Soraon, Handia and Phulpur in Allahabad district. the eastern and south western

boundary of the area is demarcated by the state boundaries of Bihar and Madhya Pradesh respectively while in north it is bound by the international boundary between India and Nepal. In the west, the western boundaries of Bahraich, Faizabad, Sultanpur and Pratapgarh district marks its limits.

The area is situated in a subtropical, continental interior belt of India where the year may be broadly divided into rainy, winter and summer seasons on the basis of meteorological conditions. This condition causes a rich biodiversity in such areas and a lot of plants tend to grow and it becomes necessary for us to know them well. The plants can very easily be known by their peculiarities and special features.

During the last three decades or so work has been initiated in several countries for the identification of useful plants. In India, institutions like National Botanical Research Institute (NBRI), Central Institute of Medicinal and Aromatic Plants (CIMAP), Central Council of Research in Ayurveda and Siddha (CCRAS), Central Council of Research in Unani Medicine (CCRUM) etc. are working very proficiently in this field. A number of workers have provided useful ethnobotanical informations through their publications. Works of Ali ,(1996); Ali and Dixit ,(1989); Ansari and Chandra, (1992); Balodi ,(1988); Beg et al. ,(2005); Bhattacharya ,(1964) and Chopra et al.; (1956), have emphasized on ethnomedicinal uses of many plants.

This piece of work is a part of taxonomic and ethnobotanic study of family Rubiaceae found in eastern Uttar Pradesh. A very poor attention has still been paid on this family regarding its medicinal properties. Ali ,(1996) and Beg et al., (2006) have explored and worked out on family Rubiaceae.

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## MATERIALS AND METHODS

During a tedious survey of Rubiaceae taxa in the region it was investigated that most of the plants of this family are of great medicinal value. For the purpose the survey of plants of family Rubiaceae was made fortnightly for a year. The preference was given to those which are used as Ethno-medicines to cure diabetes and its consequences by the people of eastern Uttar Pradesh. For the purpose the investigations were made among rural people and tribals who use these plants, so as to collect information about the usage of those plants. During the trips, the interviews, dialogues and discussion with rural, tribal and common elderly people, hakeems, vaid and women of different villages. Information on various plants used against different diseases were collected. Repeated queries were made to verify the data. The plants were collected and their taxonomy was studied for their clear identification following Duthie, (1960) and Hooker, (1973).

## OBSERVATION

During the survey of Rubiaceae taxa in the region it was investigated that most of the plants of this family are of great medicinal value. Several ailments like ulcers, dysentery, athlete's foot, diabetes, whooping cough, bronchitis, asthma, migraine etc. are successfully cured by the use of plants. Some plants of family Rubiaceae are of miraculous importance which are used in treatment of snake bite, scorpion sting, regulation of menses and securing the birth of male child.

In this survey, carried out among the villagers of eastern Uttar Pradesh 26 such plants were explored which belong to family Rubiaceae out of which 12 genera are frequently used as herbal remedy for diabetes. The plants of this family and their medicinal properties are discussed below.

### ***Dentella repens* Linn.**

The leaves are used in case of blood ailments to purify the blood. It is also used to improve the eyesight damaged due to high blood sugar level and in constipation is prescribed as laxative.

### ***Haldina cordifolia* Roxb.**

Bark of this plant is used as febrifuge, antiseptic

and aphrodisiac. It cures inflammation, diseases of blood and skin caused due to high blood sugar level. The juice of this plant is applied on sores to kill worms. The basal part of the stem is used as hepato-protective in jaundice and other types of hepatitis. Root is given after menstruation to secure birth of male child.

### ***Hedyotis verticillata* Linn.**

Paste of flower is applied to skin diseases like athlete's foot.

### ***Ixora arborea* Roxb.**

Root and fruits are used by tribals to cure micturation and urinary problems of females. Root bark is effective in skin diseases and chest pain. Juice of roots and fruits is acclaimed as cure for nerve problems. Flowers pounded in fresh milk and is given to the patients to treat whooping cough. All the areal parts are effective in diabetes management.

### ***Ixora coccinea* Linn.**

Roots and flowers are used as curative for dysentery and ulcer. Upper parts of the plants are used to treat diabetes among most of areas.

### ***Mitragyna parviflora* Roxb.**

Decoction of root has an efficiency to cure diabetes. The bark of this plant is prescribed in cases of colic pain and problems like peptic ulcers. The paste of bark is locally applied in muscular pain and leaf paste in case of swelling due to sprain.

### ***Morinda coreia* Buch-Ham**

Leaves locally applied to wounds and juice of leaves to gout. Fruit is very useful in asthma and dysentery. Fried fruits are taken to control the raised blood sugar level. Similarly the fruit juice is useful in diabetes. The decoction is useful as emmenagogue.

### ***Mussaenda glabrata* Hook.f.**

Root, leaves and flowers of the plant are ethnomedicinally very important. Roots are given with cow's fresh milk in white leprocy. Leaves are useful to cure jaundice. Whole plant is useful and curative for diabetes patients. Flowers are used to cure swellings and conjunctivitis and asthma also.

### ***Oldenlandia corymbosa* Linn.**

Decoction of plant is given in intermittent fever

with gastric irritation and nervous depression. Plant is given in jaundice, hepatic diseases and as anthelmintic. Leaves as paste in burning sensation of soles and palms, a very common symptom of diabetes.

***Paederia scandens* Lour.**

This whole plant is used, mostly leaves with tender twigs are used as anti arthritis, anti-spasmodic, astringent, carminative, anti emetic, emollient, expectorant. It is also indicated in asthma, diarrhea, diabetes, gout and seminal weakness. Root ash is applied in various skin diseases. Leaf paste in a composition is taken leucorrhoea.

***Rubia cordifolia* Linn.**

The plant is very important and much valued ethnomedicine. It has properties like antidysentric, anthelmintic, astringent, carminative, expectorant and is used in cough, hepatic obstructions, indigestion, jaundice, ulcers, fracture, mental agony, obstructions in urinary passage and paralytic affections. The whole plant is used in diabetic treatment. Decoction of roots is given to relieve cough, cold and respiratory problems especially in infants. The oil extract of whole plant is used to cure eczema.

***Spermadictyon suaveolens* Roxb.**

Roots are used with mustard oil and applied on wounds. Roots are also used in treatment of diabetes and rheumatoid arthritis.

## RESULTS AND DISCUSSION

The total genera reported from our area (26) belong to 18 different tribes out of a total 44 tribes. The tribals use these genera as there general utility like food, fodder, medicine etc. Ethnomedicinal data shows that most of the members of the family have great medicinal value and are being used since ages for the cure of various human ailments. During the survey it was drawn that diabetes is a common disease among the populace of eastern U.P. and most of the patients prefer to depend on herbal cure of it. There are many herbs growing in the area belong to various families out of which 12 genera belong only to family Rubiaceae.

During this work it was realized that very little attention has so far been paid to the study of this important family. In this region and there is a dearth of literature on this

subject. Thus there is a need for the revision of this family especially from the pharmacognostic point of view.

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