

Ethnobotanical Overview of Some Medicinal Plants in Karnal District of Haryana, India

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Abstract

Herbal medicines are being used by past cultures for thousand years and these are main remedy for health problems. Ethnobotany is becoming a very popular science due to massive increase in interest towards plant based drugs and growing side effects of synthetic drugs

Nature fulfill all human needs in terms of fuel, textile, food and therapeutis etc. India is a diverse country. It has physical, cultural, social, verbal and literal diversity . Various man-made activities are responsible for the degradation of forests and destruction of habitats which decline the global biodiversity and also decreases the medicinal value of plants. Medicinal plants face warning in terms of climate change, habitat destruction, and over - assembly to fulfill market demand

Various native communities all over the world lived in harmony with nature and helps in the conservation of biodiversity. The mastery of plants is important in planning various policies for sustainable use of accessible resources. Various medicinal plants studied belongs to trees and used by local people in treating wide range of several human diseases. The local residents are the primary source of information which is accompanied in this work. Their vast knowledge about medicinal uses of plants is mostly undocumented and transmitted verbally from generation to generation.

This present review highlights the medicinal Ethnobotanical value of plants species in easily approachable places of Karnal. It is necessary to recognize sustainable use of the natural vegetation for future existence. Data regarding Medicinal use, Botanical name, Local name and Family of plants was compiled. Prime population live in villages where life supporting facilities are deficient. The people are mostly dependent on plant resources for their sustenance for health care. Folk medications are prepared by using plant parts such as leaf, fruit, seeds and roots. They widely used by societies as they are readily available and cheaper than modern medicines. It is reported to be quite effective remedies for several human ailments. The documentation of medicinal uses of plants by indigenous inhabitants is important matter for Ethnobotanical investigation of species conservation and sustainable use of resources. Here is an effort to cover the plant biodiversity to give information about the current Ethnobotanical status.

Keywords

Karnal, Ethnobotany, Medicinal plants, Biodiversity, Nature

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Introduction

Ethnobotany word is build of two words ethno and botany. The term was coined by John William Harshberger in the 1890. Ethnobotanical studies help in logical documenting and preserving the knowledge of medicinal plants.

In India, the sacred Vedas give many reference to medicinal plants. The Rigveda seems to be the earliest record available on medicinal plants(Ahmed *et al.*, 2003). The local uses of plants as a cure are regular, particularly, in those areas, which have little or no access to modern health services, such as the innumerable villages and hamlets in India (Sandhya *et al.*, 2006)

India is biodiversity rich country of the world with a wide variety of plants having enormous medicinal utility. The World Health Organization (WHO) has pointed out that plant based medicines present important contribution towards health goals. They are repository for various medicines. Nature has provided all requirements to its living components according to their need such as food, fuel, medicines etc. Complete information about plants and their medicinal uses is given by Ethnobotanical studies (Ahmed *et al.*, 2003). Ethnobotany reveals historical and present plant use to fulfill a wide variety of human needs (Sandhya *et al.*, 2006 & Kirtikar & Basu, 1935)

Kirtikar & Basu(1935) started the systematic studies on medicinal plants in India. The present study focus on the traditional therapeutic practices of plants popular among local people. It is needed for the sufficient utilization of herbal plant resources Several indigenous communities all over the world conserve biodiversity by living in harmony with nature. Plants play an important role in conservation of biodiversity. Many medicinal plants are facing warning of extinction and loss of genetic diversity due to high rate of man- made disturbances in the form of cattle grazing, fuel wood collection and fires etc. Degradation of plants causes loss of vegetation rich cultural heritage of the region.

Karnal district lies on the Western bank of the river Yamuna which separate Haryana from Uttar Pradesh .The district has an area of 1, 967 km². It is surrounded by Kurukshetra district on its North- West, Jind and Kaithal districts on its West, Panipat district on its South and Uttar Pradesh state on the East.

This review covers plant biodiversity of Karnal district from medicinal point of view used by local people and conventional healers and to provide information about the plants according to their occurrence in the area.

Material and Methods

Haryana state is rich in plant biodiversity having significant number of medicinal plants . Traditional medicines based on herbal remedies have always played a key role in the health system of many countries(Yadav *et al.*, 2010). In this review, the Ethnobotanical

data of some medicinal plants were studied. Information was recorded from local people, especially who were familiar with herbal medicines and document the Ethnobotanical potential of this district. Major population resides in villages where people are mostly dependent on plants for their health issues.

The basis of plant preference is their uses in traditional and Ayurvedic system of medicines. The data for each plant comprise the Botanical name, Local name, Family, its uses and preparation. The plants were identified and medicinal uses of plant species were cross checked from the available literature (Ganesan *et al.*, 2008) and (Jain *et al.*, 2000)

To carry out work on plant diversity in Karnal district of Haryana different trees were observed and photographed from agricultural land, natural habitat, wastelands, road sides, railway tracks, parks, lawn, ponds, river banks and other relevant localities. Spot identification of plants was done and voucher specimens were collected and photographed and further confirmation was made by comparing the herbarium available in the department

Results and Discussion

This review provides facts on the ethnobotanical uses of the thirty plants belonging to fifteen families in which the dominating family is Fabaceae followed by Myrtaceae, Moraceae, Euphorbiaceae, Combretaceae, Rutaceae, Meliaceae, Rhamnaceae, Cappariaceae, Moringaceae, Bignoniaceae, Anacardiaceae, Sapotaceae and Sapindaceae. Most of the tree species are reported to be essential drugs for different diseases and also used by the local herbal curer as traditional medicines in many ways for fever, diarrhoea, diabetes, backache, stomachache, ulcers, cold, cough etc.

Use of leaf as a medicine is easy as compared to roots, flower and fruit. Oral intake of juice extracted from plants is also a great cure for diseases. Combination of different plant materials such as sugar candy, curd, honey, hair oil, milk, and turmeric powder are also used to prepare some medicines.

Present review is in general agreement with many Ethnobotanical studies and revealed the Ethnomedicinal importance of trees by the local people in the Karnal district. This provides useful information to researchers in the field of Ethnobotany, Taxonomy etc.. The documentation of plants collected from wild habitat are helpful in the preservation of traditional medicinal practices and the plant wealth. They are reported to be used in many common ailments like skin diseases, ulcer, respiratory diseases, indigestion etc.

Many of these plants have also been reported to be used for more or less similar purpose in other parts of Haryana by some authors (Lal & Yadav, 1983, Panghal *et al.*, 2010, Yadav *et al.*, 2010, Singh & Singh, 2014)

Many villagers have interest in traditional medicines and they are using plants for curing diseases on a routine basis . As older people are the only custodian of such information so documentation of such traditional knowledge is required.

List of important medicinal plants is given below:

Botanical name/ Local name	Family	Remedy/ Medicinal use
<i>Aegle marmelos</i> Linn., Bel	Rutaceae	dysentery, night fever, gastric troubles, constipation, gastric troubles, stomach pain, nausea, cholera, cramps, diarrhoea, bedsores
<i>Azadirachta indica</i> Linn., Neem	Meliaceae	skin diseases, pyorrhea, blood purifier, inflammation of mouth, reduces dental caries, sedative, analgesic, hypertensive, epilepsy.
<i>Melia azedarach</i> Linn., Dhrek	Meliaceae	blood purifier, cure acne, hair problems, used in skin ailments, fruit useful in piles
<i>Zizyphus jujube</i> Mill., Ber	Rhamnaceae	nausea, vomiting, abdominal pain in pregnancy, hairfall, fever, diarrhoea
<i>Butea monosperma</i> (Lamk.)Taub., Dhak	Leguminosae	rheumatic pain, vaginal diseases, worms
<i>Dalbergia sissoo</i> Roxb., Shisham	Leguminosae	gonorrhoea, astringent, boils, vomit
<i>Albizia lebeck</i> (Linn.)Willd., Siris	Leguminosae	eye irritation, lachrymation, bronchitis
<i>Acacia nilotica</i> (Linn.)Willd., Kikar	Leguminosae	urino-genital diseases, tooth cleaning
<i>Eucalyptus casmaldulensis</i> , Dehnh., Safeda	Myrtaceae	throat congestion, diarrhoea
<i>Capparis decidua</i> (Forsk.)Edgew., Kair	Capparidaceae	diabetics, constipation, scurvy
<i>Eugenia jambolana</i> Linn., Jamun	Myrtaceae	blood sugar control
<i>Ficus religiosa</i> Linn., Pipal	Moraceae	typhoid, pneumonia, astringent, vomit, fever, cold, headache, toothache
<i>Moringa oleifera</i> Lam., Saijna	Moringaceae	Joint problem, tumor, rheumatic pain, animal bite, diarrhoea useful for heart, eye troubles, improve digestion
<i>Morus alba</i> Linn., Tut	Moraceae	dysentery
<i>Prosopis cineraria</i> Linn. Janti	Fabaceae	asthama, arthritis, blood purifier, skin diseases
<i>Ricinus communis</i> Linn. Arandi	Euphorbiaceae	swelling, sprain and fracture, headache, abdominal pain, rheumatism, relieve pain, root bark , seeds and leaves purgative , root decoction in swelling, pain in wrist, head and bladder
<i>Bauhinia variegata</i> Linn., Kachnar	Fabaceae	useful in various glandular diseases, flowers laxative, flower buds in piles
<i>Terminalia chebula</i> Retz., Harad	Combretaceae	fruit digestive , carminative , laxative, trifala, wound , ulcer, leprosy, inflammation , cough
<i>Terminalia bellerica</i> Gaertn., Bahera	Combretaceae	fruit bark, astringent, laxative, cough, insomnia, vomiting, ulcer, trifala
<i>Cassia fistula</i> Linn., Amaltas	Fabaceae	skin diseases, pyoderma, fruit pulp mild laxative, cures heart diseases

<i>Delonix regia</i> Hook., Gulmohar	Fabaceae	anti inflammatory, gastric problems, wound heal, diabetes
<i>Ficus virens</i> Aiton , Pilkhan	Moraceae	bark decoction in leucorrhoea, ulcers, mild expectorant
<i>Jacaranda mimosifolia</i> Juss. Jacaranda	Bignoniaceae	antimicrobial, antioxidant, wound
<i>Madhuca longifolia</i> (Konig.)Macbr., Mahua	Sapotaceae	bark beneficial in rheumatism, itches, bleeding & spongy gums, diabetes mellitus, ulcer, flower & seed oil useful
<i>Sapindus mukorossi</i> Gaertn., Reetha	Sapindaceae	wound heal, expectorant, eczema, hair and scalp problems
<i>Syzygium cumini</i> Linn., Jamun	Myrtaceae	diarrhoea, astringent, diabetes, leaf ash is used in teeth and gum problems
<i>Terminallia arjuna</i> (Roxb.)Wight&Arn., Arjuna	Combretaceae	bark cardiogenic, antidiarrhoeic, cures wounds, urinary diseases, hypertension, bone fracture, cirrhosis of liver, uterine tonic, weakness, haemorrhage
<i>Saraca asoca</i> (Roxb.)Willd., Ashoka	Caesalpinaceae	menstrual pain, uterine disorder, diabetes
<i>Mangifera indica</i> (L.), Mango	Anacardiaceae	cardiogenic, wound heal, antidiabetic
<i>Emblia officinalis</i> (L.), Amla	Euphorbiaceae	vit c, cough, diabetes, cold, laxative, hyperacidity, antipeptic ulcers

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