

Some Ethno-Medicinal Plants and their Uses in Bihar, India

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ABSTRACT

In rural Bihar above 68% of population depends on traditional type of medicine, the present paper describe some important ethno medicinal plants of Bihar which are being used by local people for the various diseases, disorders and ailments (diarrhea, dizziness, abortion, asthma, bone fracture, burn, contraceptive skin diseases, digestive disorder, dillivery etc.)

Introduction

Bihar state situated between 27 degree 31 min. 15 sec N latitude and between 88 degree 17 min. 40 sec E longitude is the third largest state in India, it is located in the eastern part of the country. The geographical area of Bihar is 935 9.57 thousand hectares out of which 6.6 % is forest area 14.2% is land area and net sown area is 57%. while cropping intensity is 13.7 percent

Bihar is the traditional home of medicinal plant of large number of variety conservation and sustainable use of medicinal plants is a need of today as their base is shrinking day by day agriculture is the prime sector of the state over 68% of its population is directly or indirectly dependent on agriculture. The state is rich in herbal plants biodiversity. However the commercial cultivation of the same has not been taken on large scale of late efforts have been made to make aware and training of the rural youth in cultivation and processing of medicinal plants which is picking of slowly.

the present study is towards the importance of ethno-medicinal plants and their medicinal uses by the people of Bihar. Communities of this state have a rich knowledge of plants based traditional medicines used in herbal and folk remedies.

Materials and methods.

The recent work was carried out on the basis of field visit in different localities in the state during my research. The medicinal plants information collected through interview with rural people and also visit on site where medicinal plants were grown.

Personally I touch and taste experiment with some plants and know its medicinal benefits with the help of village people like farmers, vaidyas, doctors who practicing in rural areas.

The medicinal plants information collected through interview with rural people collect correct information where also gathered from vaidyas, Sadhu who experience with medicinal plants through a long years. Each and every person interviewed separately and advised not to discuss with each other so they could provide independent information the questions were asked in step wise stepwise manner by first asking about their age, address, level of education and occupation following that informants were asked to share their traditional knowledge of ethnomedicinal utilisation of plants.

This included local name of medicinal plants used habitat ailments treated mode of administration and dosages. This interview done in both language Hindi and local Bhojpuri language most people know local name of the plants so I am also mentioned the local name of the plants.

Almost all the plants were collected in flowering and fruiting period with the help of experienced rural people. While collecting the individual plants species through observation were made regarding their natural habitat.

1. *Azadirachta indica*.

FAMILY NAME:- MELIACEAE.

Local Name:- Neem.

Neem is a fast growing tree that can reach to a height of 15-20m rarely 35 to 45 m. In all district of Bihar, it is easily available. It is evergreen but in drought it may shed most of or nearly all of its leaves. *Azadirachta indica* is a sacred tree. The neem tree is known for its drought resistance.

Taste:- Bitter.

Parts used:- whole plants.



Azadirachta indica . (NEEM)

Used for:-The pulp of the fruits are useful for medicines and for the production of methane gas. Its wood is used to make furniture. The bark of the tree yields fibre that is woven into ropes. All parts of neem tree are used as anthelmintic, anti-fungal, anti-diabetic, anti-bacterial, anti-viral, contraceptive and sedatives. Neem tree is used in many medicinal treatments like skin diseases, healthy hair improvement, liver function, detoxifying the blood platelets, fever reduction, dental treatment, cough, asthma, ulcer, piles,

internal worms, urinary diseases etc . Neem products are cheap and non toxic to higher animals and most beneficial insects.They are well suited for pest control in rural areas.

Neem tree is of great importance because of its anti-desertification properties. Neem is considered as a useful tree in rehabilitating the waste land areas.

Neem tree is helpful against global warming.

2. *Syzygium cumini*.

FAMILY NAME:- MYRTACEAE.

Local Name:- jamun Jamun tree has great medicinal properties. Jamun leaves, fruits, and bark, are used in Ayurveda to make various medicines. This is very effective in treating diabetes .

Jamun is easily found in Bihar. It is a large evergreen tropical tree native to India. It is distributed in India up to an altitude of 1800 meters

Parts used:- All parts of this tree are used in traditional medicine to treat various diseases .

Taste:- Sour and Sweet.

Used for:- Diabetes, Leucorrhoea, Fever, Strangury, Dermatopathy, Ringworms, Diarrhoea, Teeth and gum.



Syzygium cumini. (Jamun)

Jamun tree is a fast growing evergreen tree that grows to a height of 30 m. Jamun trees can live more than 100 years. Jamun trees consist of dense foliage that gives shade and is known for its ornamental value. Jamun trees consist of strong wood and are water resistant so they are used to prepare cheap furniture. The flowering in jamun trees starts from March to April. Jamun consists of small fragrant flowers. The fruits develop by the month of May and June .

The fruits are oblong ovoid in shape and are green in colour. They become crimson black after ripening the fruits constitute of a single seed.

The fruits taste sour and has astringent flavor .

The fruits are eaten raw with salt they change the tongue colour to purple for few hours.

3. *Madhuca longifolia*.

FAMILY NAME :- SAPOTACEAE.

Local Name:- Mahua.

Mahua is a large size tree. That is found throughout the mixed deciduous forest of India. It is also available in Bihar. It is an important economic tree used as food, medicine and for other commercial uses, such as for

manufacturing soap and detergents manufacturing oil and skin care items etc.



Madhuca longifolia. (Mahua).

Mahua tree is an important medicinal tree. Its flowers stimulate demulcent laxative anthelmintic and cough relief . The flowers are cool in nature .

Parts used:- Bark, Heart woods, Flowers, Fruits, Seeds.

Taste:- sweet, Bitter.

Used for:- Treating cold and cough. Bronchitis and other respiratory disorders. Seeds oil is galactogenic (stimulating breast milk) that is pain relieving and vomiting inducing. These are used in pneumonia, skin diseases, and piles . The tree bark is astringent and emollient. The bark is used for tonsillitis, gum diabetes, and ulcers . The leaves of the tree contain alkaloids, carbohydrates, proteins, saponins, tannins, triterpenoids, acids and absence of gums and fixed oil. These are also used for chronic, bronchitis, rheumatism, headache and hemorrhoids .

In Ayurveda for the preparation of alcohol fermented drugs (assava and arishta). Mahua flowers are used as fermenting agent in different parts. It helps fever reduction, swelling reduction, pain relief, anti tumor anti-estrogenic blocks the production or utilization of estrogen female sex hormones or inhibits their effect. Estrogen is a hormone

that is produced and is environmentally suitable for fertilization in plants and nutrients of the early embryo low blood pressured, wound healing and anti-progestational. It works against progesterone. Progesterone is responsible for preparing and maintaining uterine environment for fertilization of eggs.

4. *Aloe vera*.

FAMILY NAME :- ASPHODELACEAE .

Local Name :- Ghrit Kumari.

Aloe Vera is a popular house plant has a long history as a multi-purpose folk remedy, commonly known as Aloe Vera. The plant can be snapped off and placed on cuts and burns for immediate relief. *Aloe vera* is a clump, forming succulent that has fleshy gray green leaves.

Parts used:- Pulp, and juice of leaves.

Taste:- Bitter.

Used for :- Piles, Constipation, Stomachache, Cough pimple and acne.



***Aloe vera*.**

These have fleshy gray-green leaves. the leaves are up to 18cm long and 2m wide. At the base slightly grooved on top and terminating with sharp points. The leaves have small grayish teeth on the marginic, the main rosette gets up to about 2 ft high and plant continuously produce little offset rosette. In winter and spring medicinal *Aloe vera* bears small tubular yellow flowers on branches stalks up to 3 feet tall. The real aloe vera has yellow flower but many of the clones available have arranged flowers. Although *Aloe Vera* is a member of the lily family. its look like a cactus.

Aloe vera contains over 20 minerals all of which are essential. *Aloe vera* has vitamin A, B1, P2, B6, B12, C, E. In india *Aloe vera* is believed to help in sustaining youth. Due to its positive effect on the skin. In Hindi it is called Ghreet kumari.

5. *Ocimum sanctum*.

FAMILY NAME :- LAMIACEAE .

Local Name:- Tulsi.

Tulsi is a holy Plant whose botanical name is *Ocimum sanctum*. It belongs to Lamiaceae family. It is a tropical plant which grows as weed and is also cultivated. It is found in Saran district. Tulsi is worshipped by the Hindu and is an important symbol of Hindu religion. It is very common to find tulsi anywhere in Bihar. Tulsi is generally found in the houses of the Hindu people.

parts. used :- whole plant.

Taste:- Bitter.



Ocimum sanctum (TULSI).

The tulsi shrub is an erect plant which grows to a height of 50 to 60 cm. It has hairy stem and green leaves and purple flower. Leaves have strong scent. There are two types of tulsi one has green leaves and the other has purple leaves.

Used for:- Tulsi has anti inflammatory properties. Its external application on swollen parts helps to diminish swelling and pain.

Tulsi helps in many skin disorders. It is effective in skin diseases, rashes, insect bites, and itching. Leaves of this plant are effectively used in ringworm, infection, and leukoderma.

Fresh juice of tulsi leaves is used in nashik arma. This method helps to relieve headache and diseases of head and neck. Tulsi leaves act as nervine tonic and helps to get sharp memory. Paste and juice of tulsi leaves help to reduce acne, pimples, and scars. According to Ayurveda, utilisation of tulsi is beneficial in indigestion, constipation. Crushed leaves of tulsi are very effective in fever, cough, bronchitis and other diseases of lungs. It helps in expectoration of excess mucous secretion. Tulsi act as a cardiac tonic and blood purifier.

Seeds of tulsi are effective in premature ejaculation. It also increases the quantity of semen. Consuming 10 to 12 leaves of tulsi per day helps to reduce stress.

6. *Mentha piperita*

FAMILY NAME :- LAMIACEAE.

Local Name:- (Pudina.)

Mentha Piperita is a plant which is used for the treatment of indigestion, pain in joints, diarrhoea, cough, dysmenorrhoea and fever.

Mentha piperita is a perennial herb growing in the hilly region or in the cold climate region, in India. It is also cultivated in Bihar for commercial benefits.

The Plant has a strong odor and grows to a height of 1-2 feet, the leaves are slimy, dark and have a strong odor. The flowers are purple in colour. *Mentha spicata* is also used as synonym for *Mentha Piperita*.

Parts used:- Leaves.

Taste:- Acrid.



***Mentha piperita* (PUDINA)**

Used for:- Medicinal uses of mint leaves ; pudina is used in many cuisines all over the world to enhance the taste of the dish. The leaves of *Mentha piperita* are used as carminative and help in digestion of food. 1-3 drops of oil obtained after the processing from the plants is used with hot water for the treatment of indigestion and relief from colic pain. The paste of leaves of *Mentha-piperita* is applied over the joints to get relief from pain and localized inflammation.

Cold infusion of the plants in a dose of 30-40 ml is used to relieve dysmenorrhoea and fever. The fresh juice of the leaves of pudina in a dose of 5 to 10 ml is given with honey to get relief from cough, and sore throat. The paste of pudina is given with first morsel of food to treat intestinal worms.

7. *Citrus limon*.

FAMILY NAME:- RUTACEAE.

Local Name:- Lemon (Nimbu).

Lemon is a very popular plant. It is found in every house of Bihar. It is very helpful and has various medicinal properties. Lemon tree is 8 to 12 meter long and has very thin stem. In lemon stem is 1 inch long.

Thorn protects fruit from animals and insects. Lemon leaves are medium in size.

Parts used, :- Leaves, Fruits.

Taste:- Sour.

Used for:- Lemon water and lemon juice is helpful in controlling acidity, obesity, blood pressure, fever, heartburn, constipation etc.



***Citrus limon* (LEMON)**

Lemon is beneficial for skin care and good skin is great. Lemon is an important natural antiseptic and excellent

for glowing skin and beauty care. The enriched content of vitamin C is helpful to rejuvenate skin glow from inside.

Lemon juice reduces fever, and controls cold and flu. Lemon decreases the body temperature by increasing perspiration.

Lemon is an important Ayurvedic tree used for the treatment of dental and gum diseases. Lemon also works on many diseases like constipation, removes fatigue, weight loss, blood pressure, arthritis cure and asthma treatment.

Results and discussion

In Bihar use a number of medicinal plants for the treatment of various ailments and diseases. Number of plant species with various families are used traditionally. The different plant parts and their combination is used for the treatment of more than 50 ailments and diseases in Bihar.

The study found that different parts of the medicinal plants species were used as a medicine or any crude form namely stem, Bark, flower, fruit, leaves, seeds, roots etc.

The present research revealed that ethno medicinal plants are being used to treat the various ailments and diseases. Like diarrhoea, dysentery, cough & cold, fever, viral malaria, skin diseases, digestive disorder, boils and blisters, abortion, sexual disorder, snake bite, scorpion sting, arthritis, joint pains, diabetes, piles, teeth complaints, jaundice, constipation, bone fractures etc.

By the rural people of Bihar maximum of diseases treated by different plant parts. The traditional healer prescribed uses of medicinal plants in various diseases and also used by the local people of the area. In this study frequently prevalent ailments and diseases of the area are diarrhoea and dysentery, cough and cold, viral and malarial fever and different skin related disorders, as very poor sanitation facilities are available in rural areas.

Conclusion

The medicinal plants used in mainly to local healer and it is very important to document this knowledge for future generation that helps to improve growth of medicinal plants who struck the people aware about medicinal properties then they are interested to cultivate. In Bihar state due to availability of suitable climate, right type of soil, water and other inputs material, latest crop production technology and enthusiastic laborious cultivator large cultivation of herbal plants will bring prosperity.

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