

An Assessment of The Herbal Plants Utilized by Indigenous People of Dalma Region of East Singhbhum, Jharkhand

*Anita Kumari, ¹Sanjeev Kumar and Jyoti Kumar

University Department of Botany, Ranchi University, Ranchi, Jharkhand

¹IFS, Chief Conservator of Forests, Jamshedpur, Jharkhand

ABSTRACT

The present survey work is done to assess the herbal medicinal value of plants utilized by indigenous people of Dalma region. These are 28 important herbal plant species used by them since ancient times. It was found that all the plant parts or extracts used in various diseases were applied locally by local tribes and was found to possess good healing property.

Keywords : Alkaloids, Dalma, Indigenous , inflammatory , pungent

*Corresponding Author : ishanianita@gmail.com

INTRODUCTION

There are several thousand drug yielding plants all over the world. Herbal plants play a vital role in providing health care to human beings since the dawn of civilization. The drugs are mostly obtained from wild plants growing in all parts of the world and especially in tropical regions. The medicinal value of drug plants is due to the presence of some chemical substances in the plant tissue which produce a definite physiological action on the human body. These substances are alkaloids, hydrogen, carbon compounds, nitrogen, oxygen, essential oils, fatty oils, mucilages, resins, tannins, gums etc. The Dalma wildlife sanctuary situated in east Singhbhum and Saraikela-Kharsawan district of Jharkhand, along NH-33, is spread over about 193 sq km. This sanctuary is a favoured about of Indian elephants due to availability of water even during summers.

Dalma region is located on the ranges which is 13 km from the main city of Jamshedpur. Dalma hills are located at a height of 3000 ft. above sea level with

dense forests and Subarnarekha River. There is a wild life Sanctuary in this range which was inaugurated by Late Sanjay Gandhi in 1975. The study area lies between latitudes 22° 46'30" and 22° 57'N and Longitude 86° 3' 15" and 86° 26' 30"E in the east Singhbhum and Saraikela Kharsawan districts of Jharkhand.

The average rainfall varies from 1200-1400mm.

MATERIALS AND METHOD

The exploration, collection and documentation were done with planning and preparation. Some tool items such as camera, old newspapers, plastic bags etc. were carried during the course of investigation. The present study was carried out from 2010-2011. Mostly plants were collected from the villages named Bamni, Dhursa, Munda and Makulakocha (around 25km from the city).

Some parts of plants were collected with the help of knife, washed, kept in polythene bags for their studies and other were placed between blotting paper in the field press .The specimens gradually lost

their moisture and finally become dry. After drying the species have been mounted on herbarium sheets of size 28x42cm. During the survey some of the local knowing people helped in identified the plants and their valuable uses.

CATEGORIES OF THE HERBAL PLANTS

DRUGS OBTAINED FROM ROOTS

a) *Aconitum heterophyllum* Wall. Ex Royle, Vernacular Name : Indian Atees, English name: Aconite, Family- Ranunculaceae

Uses - Underground stem and root as such are used in traditional System of medicine, cough and bronchitis, blood- pressure ,diabetes, root control hysteria, useful in rheumatism. Externally the crushed leaves and seeds are used to be applied on the throat to treat tonsillitis.

For internal uses the juice of atees roots along with milk is considered as an expectorant. The root powder of this plant in taken orally to cure cervical lymphadenitis. The seeds and roots of atees help in making digestive system strong. Seeds are also thought to have diuretic preparation.

(b) *Atropa belladonna* L., Vernacular name – Suchibuti, English name – Belladonna, Family – Solanaceae

USES - Pain reliever, muscle relaxants and anti-inflammatory and to treat menstrual problems, peptic ulcer etc and used as homeopathy medicine.

(c.) *Citrullus colocynthis* (L.), Vernacular name – Indrayan, English name – Colocynth, Family- cucurbitaceae

USES - The root is bitter, pungent, antipyretic, carminative and anthelmintic. It is a medicinal herb used mostly for the treatment of diabetes and inflammatory disease, while it is most well known for its bitter taste and the diarrhea it can cause when consumed as a food product, it is unrelated to the amino acid l- sitrulline.

(d.) *Plumbago rosea* Linn., Vernacular name – Lalchitra, English name – Rosy Leadwart, Family- Plumbaginaceae

USES : It is given in dyspepsia, intermittent fevers, Piles, diarrhoea, skin diseases, paralysis and rheumatism. The root and root bark of *p .rosea* is bitter and dry with stomachic, carminative, astringent and vesicant and a stimulant. In India and most of the Southeast Asian countries the roots of *p .rosea* had been used to procure abortion.

(e.) *Rauvolfia serpentina* (L.) Benth. Ex Kurz., Vernacular name – Sarpgandha ,English name – Serpentina, Family- Apocynaceae

USES: useful antidote against snake bite and insect stings, also as a remedy for dysentery and painful affection intestinal canal. This herb is very beneficial in relieving insanity.

It has sedative properties so it is very useful in relieving insomnia. It has been adapted by medical fraternity in most of the countries to relieve high blood pressure. Those alkaloids which have a direct effect on hypertension have been isolated in it and are widely used by the practitioners of modern medicine. It is beneficial in relieving hysteria. One gram of powdered root can be taken thrice with milk.

(f) *Emblica officinalis* Gaertn, Vernacular Name- Amla, English Name- Emblic, Family- Euphorbiaceae

USES - Fruit is one of riches sources of vitamin 'c' and used in fever, vomiting, habitual constipation, digestion troubles. Immunomodulatory, anti inflammatory, antiulcer, hepatoprotective and anti-cancer actions .alcoholic and aqueous extracts of emblica should positive result against common human pathogens, including bacteria, viruses and fungi.

(g) *Belleric myrobalan* Gaertn., Vernacular Name- Bahera, English Name- Belleric, Family- Combretaceae

USES - half ripe fruit is given as purgative and fully ripe as an astringent. Cough cured by belleric myrobalan. Stomach disorders healed. Sore throat cured by belleric. Chronic constipation healed by belleric myrobalan. Intestinal worms and eye disorder cured.

DRUGS OBTAINED FROM UNDERGROUND STEM:

(a.) *Allium sativum* L., Vernacular name – Lahsun, English name – Garlic, Family-Liliaceae

USES - Use in lever Cough, flatulence disorder of nervous system, whooping Cough and earache. Garlic has been used for high blood pressure. It is a powerful detoxifier providing protection against pollutants having metal toxicity. It strengthens the heart it also nourishes has a positive effect on stomach, spleen and lungs. Also effective in the treatment of arthritis, prevent breast cancer, heart disease, stroke ECT. It can also be used as mosquito repellent when mixed with olive oil and applied on the body; it is an immune enhancer, liver protecting agent, anti stress agent etc.

(b.) *Zingiber officinale* Roscoe, Vernacular name – Adrakh, English name – Ginger, Family-Zingiberaceae

USES - It is a valuable drug for disorders of the digestive system, rheumatism piles, Pulmonary and Catarrhal disease, dropsy, neuralgia etc. it is used to relieve patients suffering from dyspepsia, flatulence, vomiting, spasms, colic and other stomach problems. Chewing a piece of ginger regularly can help in relieving problems of excessive secretion of saliva, volatile oil of diastase enzyme. Half of a teaspoon of ginger juice mixed with fresh lime juice and honey can be helpful to relieve nausea vomiting as well as problems of indigestion.

The herb is used to relieve cough the juice of the ginger mixed with honey taken 3 to 4 times and day is beneficial for this purpose. Ginger tea is prescribed to be used for relieving fever associated with cold.

Fresh ginger juice with a cup of fenugreek and honey makes a good diaphoretic mixture to relieve sweating and reducing fever in patient suffering and reducing fever in patient suffering from influenza. Act as an expectorant in relieving asthma, cough and tuberculosis.

This plant is an excellent pain killer. Ointment made

of ginger can be applied on the gum and ear respectively.

c) *Allium cepa* L., Vernacular name – Piyaz, English name – Onion

Family-Liliaceae

USES - Its decoction is given in Cough, Jaundice, dyspepsia and piles. A raw onion eaten just before going to bed is a popular remedy for sleeplessness. It is left side on body such left eye, left facial paralysis, left inguinal ring.

It is indicated in allergies, hay fever, seasonal allergies, cold, cough, inner ear infection, sore throat, headaches and upper respiratory ailments. It is effective in treatment of allergies and in headaches due to cold and cough.

d) *Curcuma longa* L., Vernacular name – Haldi, English name – Turmeric

Family-Zingiberaceae

USES - It gives in diarrhoea, intermittent fever, dropsy, jaundice, liver disorder, Urinary troubles etc. It is a powerful anti-inflammatory and is very effective in treating all kinds of inflammatory diseases as well as arthritis, tendinitis, injuries. The plant is also a powerful blood purifier and is highly effective in reducing excessive cholesterol.

e) *Curcuma zedoaria* Roscoe., Vernacular name – Kachura, English name – Zedoary, Family-Zingiberaceae

USES - Used in flatulence, dyspepsia and as a Corrective of Purgatives. It is a remedy for fever, Cold, Cough and bronchitis with cinnamon and honey. It is anti-inflammatory; its paste is used on inflammation wounds, skin ailments and pain. The herb serves as a body stimulant and purifies blood. It is very effective in treating respiratory disorders, tones up uterus and works as an aphrodisiac agent. It improves digestion, improves liver condition and normalizes body temperature. It is used to treat urine-related disorders and urinary tract infections. It helps in

curing dyspepsia, colic, vomiting and cough. Also used as anti-venom for the Indian cobra.

DRUG OBTAINED FROM STEM

a) *Acacia catechu* Willd., Vernacular Name-Kattha, English Name -Catechu

Family-Mimosaceae

USES - It is generally used in chronic diarrhoea, dysentery, bleeding piles, uterine haemorrhage, leucorrhoea etc. antifungal activity, the plant extract reacts on the growth of various fungal growths like *Piricularia oryzae*. The plant is used as a natural birth control agent which is chemical free.

This is therapeutic plant helps in clotting blood in case of excessive bleeding.

Liver sluggishness and swelling are some of the liver ailments that can be relieved by using the extract of *Acacia catechu*.

Used for management of life threatening diseases like leukaemia, asthma, bronchitis and cough. Relieves dysentery, diarrhoea and the problem of steatitis

(b.) *Ephedra gerardiana* Wall, Vernacular Name-Somlata, English Name-Ephedrine, Family-Ephedraceae

USES - The Stems are source of famous Ephedrine for controlling asthma. Ephedra stimulates heart. It has diuretic properties and increase rate of perspiration. This herb is used as peripheral vasoconstrictor. Broncholater and a central nervous stimulant.

It is useful in relieving has fever, asthma and allergies. It influences the blood pressure in the body. It is used to relieve edema and asthma.

(c.) *Pinus roxburghii* Sarg., Vernacular Name-Chir, English Name- Long needle pine

Family- Pinaceae

USES - The oleoresin is given in gonorrhoea, gleet and other disorders of genitourinary organs. Also employed in paper and rubber industries, furniture polishes, floor waxes, shoe cream, metal polish and

printing inks. It is used for railway sleepers and railway carriages. Seeds eaten. Bark contains tannin. Pine oil from the wood, used in paints, varnishes, lacquers, pharmaceuticals, wetting agent in textiles.

DRUGS OBTAINED FROM BARKS

(a.) *Bauhinia variegata* L., Vernacular Name-Kachnar, English Name,-Maintain ebony, Family-Caesalpinaceae

USES - Bark is alternative, tonic, blood purifier, anthelmintic and astringent. Its decoction is given in ulcers, syphilis, and leprosy and skin diseases. Astringent, cold potency useful in cervical lymphadenitis, thyroid complication. Useful in cough and cold.

(b.) *Cinchona calisaya* Wedd., Vernacular Name-Quinine, English Name-Quinine

Family-Rubiaceae

USES - For cure of malarial fever and also used in other fever. Used as febrifuge, for neuralgia, influenza and debility. Liquid extract used as cure for drunkenness. Powdered bark used in tooth powders for its astringency. Occasionally useful as a bitter wine creating a sensation warmth. Although sometimes known to cause gastric irritation. In decoction, used a gargle or throat astringent. Used for diarrhoea with bloating, indigestion and weakness.

(c.) *Saraca indica* Auct.Non Linn., Vernacular Name-Ashok, English Name-Ashok Tree, Family-Caesalpinaceae

USES - The bark is astringent and given in uterine disorder especially in menorrhagia and leucorrhoea. Absorbent, improves detoxifier, cleanser, relieves growth, tumors, relieves burning sensation, relieves worm infestation, relieves emaciation. Used in cardiac disorders, act as cardiac tonic, and relieves tiredness.

(d.) *Terminalia arjuna* Wight and Arn., Vernacular Name-Arjuna, English Name - Arjun Tree, Family-Combretaceae

USES - Its bark is excellent remedy for heart diseases.

Its decoction is used for cleaning sores and ulcers. It appears to reduce pressure and pulse rate, and may increase aerobic exercise capacity.

DRUGS OBTAINED FROM LEAVES

(a.) *Adhatoda vasica* Nees., Vernacular Name-Vasak, English Name-Vasaka

Family-Acanthaceae

USES - Used in chest diseases, diarrhoea, dysentery etc. the plant as a whole along with its root, leaves, bark and flowers are extensively used to relieve cough, cold, whooping cough, asthma and bronchitis like local bleeding due to piles, peptic ulcers and menorrhagia; and relief from bleeding gums and pyorrhoea crushed leaves are applied to relieve condition like skin ailments, worms and amavata. A paste of the leaves is applied on the abdomen for relieving urinary infection.

(b.) *Aloe barbadensis* Miller, Vernacular Name-Ghrit Kumari, English Name-Indian aloe, Family - Liliaceae

USES - Gives in fever, enlargement of the liver, spleen and other glands, skin diseases, *constipation* and menstrual suppression etc. Aloe healing properties has been passed down from the ancients. Healing of any kind of skin wounds, burns or scalds, even speeding recovery time after surgery situation to try it on include blisters insect bites, rashes, sores, herpes, athlete's foot, fungus, vaginal infections, conjunctivitis sties, allergic reaction, and dry skin. The National cancer institute has included aloe in their recommendations for increased testing because of these apparent cancer fighting properties/

(c.) *Bryophyllum pinnatum* (Lam.) Oken, Vernacular Name -Ghanari, English Name -Life plant, Family -Crassulaceae

USES - Used as antiseptic and given in diarrhoea, dysentery and cholera. It is given for cough, asthma, cold with candy sugar. It is used against dysentery. It is used to treat high blood pressure, also used to

prevent any kind of cardiac problem used for the treatment of fever, treatment of constipation used for the treatment of boil, wound, soar or cutes using juice of this as eardrop heals the ear pain treatment of stomach ache.

(d.) *Calotropis procera* (L.) Dryand., Vernacular Name-Aak, English Name-Swallow wart, Family-Asclepiadaceae

USES - Used in dropsy and enlargement of the abdominal viscera, decoction of leaves is used for extracting guinea worms. Smear mustard oil on a leaf and warm. Apply it over the abdomen for immediate relief. Mix latex with turmeric powder, boil it with sesame oil and then apply this paste on the aching joint, apply the bark paste on the infected part.

(e.) *Ocimum sanctum* L., Vernacular Name-Tulsi, English Name-Holy basil, Family-Labiatae

USES - Leaves is used in malaria, gastric disorder of children and liver disorder, chronic fever, haemorrhage and dyspepsia. The plants leaves, stems and seeds are used for relieving purposes. It is known to relieve almost all ailments including common colds, digestive problems, breathing problems, stress, blood sugar, heart problems, fever and even ulcers. The oil from the seeds of this herb is now also being used to relieve cancer.

DRUGS OBTAINED FROM SEEDS

(a.) *Daucus carota* L., Vernacular Name-Gajar, English Name- Carrot, Family-Apiaceae

USES - Useful in the diseases of kidney, dropsy and uterine pain. Used mainly for the treatment of nutritional disorders in babies, vitamin a deficiency and threadworms. They are occasionally used as a diuretic.

(b.) *Pongamia pinnata* (L.), Vernacular Name -Karanja, English Name - Pongam

Family-Papilionaceae

USES - Used as external application in skin diseases. It is insect resistant and there is mention of using the presscake as both insecticide and chicken feed.

(c.) *Ricinus communis* L., Vernacular Name-Arand, English Name-Castor, Family-Euphorbiaceae

USES - The seeds contained alkaloid is an effective purgative. rheumatism, intestinal inflammation and also for birth control. The oil is used for external application to relieve furuncles, boils, headaches, inflammation of the middle ear, inflammatory skin disorders. It used as lubricants in the candy production, as a component of flavour, as an ingredient for preparing protective coatings for tablets. The root of the plant has been used for relieving liver disorders and different forms of inflammation. Its oil and seed extracts have been used as an internal medicine in folk medicine for disorders like severe constipation, worm infestation,

(d.) *Strychnos nux - vomica* L., Vernacular Name-Kuchla, English Name- Nux - vomica , Family-Longaniaceae

USES - The dried seeds are the source of a drug nux vomica which is used as a tonic and in the treatment of paralysis and nervous disorder. Mostly used in baits to kill feral mammals, including wild dogs foxes, and rodents. Most accidental poisoning is by breathing in the powder or by absorption through the skin.

RESULT AND DISCUSSION

The result is the outcome of extensive herbal medicinal investigation of Dalma region from Jan 2010 to August 2011. Dalma forest is full of such herbal plants which are being used by the different medicine all over the world. Now it is necessary to conserves the forest for the survival of herbal plants which are economically very much important. All the above available information should be collected and recorded for proper scientific evaluations and wider application.

ACKNOWLEDGMENT

The Authors are thankful to local villagers and herbal practitioners for sharing their knowledge about the plants and for providing valuable information.

REFERENCES

- Dolui A K, Folk Herbal Remedies from Meghalaya, J.Indian Traditional knowledge 3(4) (2004) 358.
- Gohil T.G.and Thakar A.B., Ethnobotanical uses of plants by tribals of kaparada taluka in Valsad District of Gujrat, India. *International Journal of Plant Sciences*, Vol 3, No.2: 650-653 (July, 2008).
- Kumar, V.and S.K. Jain.1998.A contribution to ethnobotany of Surguja district in Madhya Pradesh, India. *Ethnobotany*, 10: 89-96.
- Lewis, Walter, H, (2003). *Medicinal Botany: Plants Affecting Human Health*. John WileyandSons. ISBN 9780471628828.
- Mahato S.C. ,and Sahu H.B. ,Traditional therapeutical knowledge on common sags among the indigenous people of Panch Pargana in Jharkhand,India, *International Journal of Plant Sciences*, Vol.3 No.2 :617-621(July 2008).
- Mishre A. And Kumar A.2000.Studies on Ayurvedic drugs for the cure of urinary tract stones, J. Indian .Bot.Sac.2000,79,47-48.
- Newall, Carol A.et al. (1996). *Herbal medicines: a guide for health-care professionals*. Pharmaceutical press. ISBN 9780853692898
- Rai, R.and R.Nath R.2005. Use of medicinal plants by traditional herbal healers in central India. *Indian forester*,131(3); 463-468.
- Sinha K.R., the Renaissance of Traditional Herbal Medicine (INA Shree pub.Jaipur) 1996.
- Sumner, Judith (2000). *The natural History of medicinal plants*. Timber press. P.16.ISBN 0-88192-483-0.
- Tiwari K.C., Majumdar R., and Bhattacharjee S., Folk –Lore medicine from Assam and Arunachal Pradesh, (district-Tirup), *Quart.J, Crude Drug Res.* (1979) 17:61.