

## ETHNOMEDICINAL PLANTS USED IN THE HEALTHCARE SYSTEMS OF TRIBAL PEOPLE IN CHHATTISGARH INDIA

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### ABSTRACT

The tribal people depend on forests for their livelihood and most of the rural people still depend on traditional medicines as a primary healthcare source. The paper highlights the rich plant resources and the vast wealth of ethanobotanical information available with the various tribes of the region. In this paper, some new and less known ethno medicinal uses of 25 plants of tribes of Chhattisgarh in different ailments have been reported. The main objective of work is to give the information and documentation of medicinal plant used by tribal people of the study site. The ethnomedicinal information was gathered from interviews with living elders belonging to Madiya, Muriya, Gond and Bhatra tribes of the study area. The work on ethnomedicinal plants used in the healthcare systems of tribes in 5 villages was carried out i.e. Kota, Sakri, Masturi, Koni and Mangla Chhattisgarh.

**KEYWORDS:** Livelihood, Tribe, Ethno Botany, Documentation, Healthcare

India is rich in medicinal plant diversity and is distributed in different geographical environmental conditions and associated tribal & folk knowledge systems.

The tribal people mostly depend on forests for their livelihood and up to 70% of the rural population still depends on traditional medicine as a primary healthcare source. In India there are about 550 tribal communities covered under 227 ethnic groups residing in about 5000 villages in different forest and vegetables types. In the developed countries the medical drugs (25%) are based on plants and their derivatives (Principe P., 2005) and uses of medicinal plants among the indigenous people in rural areas of many developing countries. Forests cover better than 44% of the states geographic area for a total of 56,448 sq.km. dense forests constitutes 67.10% ,while 32.89% is considered open forests, of the total forests area (Kala C.P., 2006 and Brij L., 1993). Botanically derived medicinal plants have played a major role in human societies throughout history and pre history (Lewis W.H. and Elwin Lewis M.P., 2003) but with the development of modern civilization, use of allopathic drugs is at increasing rate and use of herbal drugs is either restricted to few communities or areas only. The ethnobotanical uses of this group are of immense importance (Singh K.K, Saha S. and Maheshwari J.K., 1989 & Dhiman A.K, 1998) and Ferns are used by the physician in unani system of medicine (Uddin M.G., Mirza M.M. and Pasha M.K., 1998). The plant based traditional knowledge has become a recognized toll in search for new sources of

drugs, wound healing properties and mentralceuticals (Turkey A., 2004 & Kala C.P., 2005). India is one of the eight major centres of origin and diversification of domesticated taxa due to its glorious part of traditional medical system and used pattern of different plants (Sikarwar R.L.S, 2002 & Siva R., 2007), having rich biodiversity and is one of the world's twelve mega diversity countries. In present paper, some new findings and less known ethno medicinal uses of 25 plants of tribes of Koni, Kota, Sakri, Masturi and Mangla. The objective of the present work is to give the information and documentation of medicinal plants used by tribal of the various villages of Chhattisgarh.

### MATERIALS AND METHODS

#### Study Sites

The present work was carried out in different region of Chhattisgarh i.e. Kota, Koni, Sakri, Mangla and Masturi on phyto-therapeutic drugs in healthcare systems of tribes.

#### Vegetation and Climate

It is biodiversity zone and paradise for one interested in medicinal plants which mostly comprises of the Tropical Forests. As this areas is full of terrarins, much of the forest remains unexplored and it is highly probable that this area contains sum of the undocumented species. Out of the many precious Medicinal Plants that are available in dense forests of C.G. The forests on the upper ridge consists of dense vegetation whereas, along

nala banks luxuriant trees growth consisting of semi ever green tree species, shrubs and herbs are found.

On the account of varied physiographic feature and consequent varying micro climatic elements and vegetation associations, the area is bestowed with rich and varied medicinal flora. Temperature varies between 30<sup>0</sup>C-47<sup>0</sup>C in summer and between 5<sup>0</sup>C-25<sup>0</sup>C during winter (Kala C.P., 2005).

#### **Tribal Community**

Survival of ethno botanical knowledge was evident in the abundant economic important data gathered in this study , from published and unpublished sources from historic and contemporary times, and from interviews with living elders belong to Madiya , Muriya, Gond and Bhatra tribes of study area.

#### **Data Collection**

The study area is very significant for ethno botanical studies showing to the dominance of different tribal communities like Madiya, Muriya, Gond and Bhatra. The questionnaires were devised to identify the indigenous knowledge of plant based remedies from local people. Information was gathered through semi structural interviews that were held with selected knowledgeable elders. At the end of each interviews, plants specimens were collected, dried, identified and preserved. Samples of recorded herbs, shrubs and trees were identified with the help of local floras and previous literature and the extensive studies were conducted with the tribal people and village medicine-men of the area i.e. Shivram, Laxman, Dinesh, Charan, Amar singh, Jalaram, Panku, Devchand, Sukru, Sukhdev and Kamlu. The local name, part used and medicinal importance was recorded. The botanical name of each plant is followed by, local name, family, used plant part, ethnomedicinal importance, mode of administration, habit and study sites.

#### **RESULTS**

In the ethno medicinal and ethno botanical survey 25 plants species were reported representing 21 families with dominant families i.e. Fabaceae, Aeteraceae and Rutaceae etc. Research information and ethno botanical data was gathered and organized C.G. and assembled it into a database for analysis. The representing plants are mostly used to cure skin disorders, diarrhea, jaundice, cough , wounds, piles, antiseptic and antidote to

snake bite. Leaves are most widely (35%) used plant part of the reported medicinal plant uses, followed by root (28%), seed (19%), fruit(15% ) and bark (13%). The majority of remedies are prepared in the form of juice followed by powder and paste form, from freshly collected plant parts. Medical administrations includes inhalation, oral administration, paste/applying and rubbing massage. Most of the ailments such as stomachache, piles, jaundice, and diarrhea can be cured by oral absorption while most of the skin diseases, wounds can be cured by external applications. The most extensively used plant part in the preparation of medicine for various ailments is the leaf, followed by roots .The collection of underground plants parts and whole plant is of grove consequences from both ecological as well as survival point of view of the species (Table1) .

#### **DISCUSSION**

The preservation of herbal medicinal plants along with the traditional knowledge of how to use them is an indispensable obligation for sustaining traditional medicine as a medicinal and cultural resource (Saikra A.P., Ryakala V.K., Sharma P., Goswami P. and Bora U., 2006). The traditional knowledge available with the ethnic people plays a important role in quick and proper identification of natural resources and discussed the scope of ethnobotany (Jain S.K., 1991 & 1995).According to Biswas and Mukharjee (Biswas T.K., and Mukharjee B., 2003) ,70% of the wound healing Ayurvedic drugs are of plant origin,20%of mineral origin, and remaining 10% consisting of animal products . Antimicrobial activity of unexploited are pteridophytic plants is being used ethnomedicinally but, very little work has been done on antimicrobial aspects was screened by (Parihar P., Parihar L. and Bohra A., 2010).

Plant based remedies were presented with botanical name of species followed by local name, parts used , mode of preparation and ethnomedical uses (Verma P., Khan A.A. and Singh K.K., 1995).The present day traditional healers are very old. India is profusely rich in the history of medicinal plants and its 75%folk population is still using herbal preparations in the form of powder, extracts and decoction because these are easily available in nature and the natives have stronger faith on traditional knowledge (Dixit R.D., 1974).

Table 1: List of Ethnobotanical Plants

S. N.	Botanical Name	Local Name	Family	UPP	Ethno-Botanical & Ethno- medicinal Uses	M A	Hb	Study Site
1	<i>Achyranthes aspera</i> Linn.	Khoruch	Amaranthaceae	Wp,Rt. Sd	The whole plant extract is given orally once in snake bite. Root decoction is used in stomach pain, fever and cough. Seeds are used for the treatment of hydrophobia and skin disease	I,E	H	In all sites
2	<i>Aegle marmelos</i> (L.)J.	Bel	Rutaceae	Lf,Fr	Leaves are used in diabetes, diarrhea, dysentery and piles. Fruit pulp is used to cure diarrhea and also as a tonic.	I	T	K,Kt
3	<i>Aloe vera</i> (L.)Burm.f.	Kataban	Liliaceae	Lf	The pulp is used to cure piles, cough, rheumatic pain, constipation and menstrual disorders. The pulp is also used as blood purifier	I	H	In all sites
4	<i>Andrographis paniculata</i> (Burm.f)	Bhui Neem	Acanthaceae	Wp	The whole plant is used as a blood purifier, in skin disease, malaria and anti snake venom	I	H	Kt,S,K
5	<i>Argemone maxicana</i> Linn	Chitricar	Papaveraceae	Rt,Sd,L.	Latex is used in jaundice, skin disease & wound healing. Roots are used as anti-helminthic Seeds are purgative used in skin disease.	E	H	In all sites
6	<i>Bambusa arundinaceae</i> (L.)Schreb	Bans	Poaceae	Wp	The whole plant is used in tuberculosis, wound healing, bronchitis and leprosy	I	T	Kt,K,S
7	<i>Basella alba</i> Linn.	Poi	Basellaceae	Lf,Fr,Rt	Leaves are used in constipation and gonorrhea. Fruit juice is used in conjunctivitis. Decoction of root is given in intestinal disorder.	I	H	S,Ma & Mg
8	<i>Bauhinia variegata</i> Linn.	Kolyari Phaji	Fabaceae	Fl,Br.	Flowers are used in piles, diabetes and obesity. Stem bark in skin disease, asthma and intestinal worm infection. Flowers buds are used in dysentery and diarrhea	I	T	S,Kt
9	<i>Bryophyllum pinnatum</i> (Lam.) Kurtz.	Patharchatta	Crassulaceae	Lf.	Leaves are used in as an antiseptic in wounds.	E	H	Ma,Mg, & K
10	<i>Butea monosperma</i> J.B. Lamark	Tesu	Fabaceae	G,Fr.	Gum is used in diarrhea and dysentery. Used in piles, skin disease Seed powder is used in scorpion sting. Fruit is used in irregular menstruation.	I, E	T	KT.K & Mg
11	<i>Calotropis procera</i> (Aiton) W.T.Anton	Aak	Asclepiadaceae	Lf,Rt	Root paste is applied on cuts and wounds. Milky juice is used for treatment of leprosy, dropsy & rheumatic pain. Ash of thr leaves mixed with sugar is used to cure asthma, and bronchitis	E,I	Sh	In all Sites
12	<i>Carica papaya</i> Linn.	Papaya	Caricaceae	Fr,Lf	Fruits are used in piles diarrhea and in liver enlargement. Seeds are used in worm infections. Leaves juice is used in heart problems.	I	T	Mg & Ma
13	<i>Carissa carandus</i> Linn.	Karonda	Apocynaceae	Fr,Rt	Fruit is useful for anemia. Root paste is used in purgative in habitual constipation and carminative aphrodisiac.	I	Sh	K,S,KT, Mg

14	Cassia fistula Linn.	Amaltas	Fabaceae	Lf,Sd,Rt	Leaf juice is anti fungal and antiseptic used in the treatment of ringworm and clearing cuts, wounds and rheumatic pain. Leaves are also useful in fever, cough and leprosy	E,I	T	K,Kt
15	Citrus medica Linn.	Limbu	Rutaceae	Lf,Fr	Used in liver disease, cough throat disorder and fever. Fruits are used as anti helminthic, antiseptic and digestive.	I	Sh	In all sites
16	Curcuma longa Linn	Kamka	Zingiberaceae	Wp	It is used as a spice and coloring agent especially for ointments & creams. The whole plant is used in cough, skin disease, diabetes and worm infection.	I,E	H	Mg,Ma,S
17	Cyperus rotundus Linn.	Motha	Cyperaceae	Wp,Rt	The whole plant is used in skin disease, fever and wound healing, also used as blood purifier. Tuber powder mixed with cow butter is given to patients suffering from snake bite.	E,I	H	In all Sites.
18	Dalbergia sisoo Roxb.	Hermala	Fabaceae	Br,Lf,Wd	Decoction of leaves is given in gonorrhoea. Bark powder in bleeding piles, diarrhea, skin disease and leprosy. Wood is used in cough and fever.	I,E	T	K,Kt, S
19	Datura metel Linn.	Dhatura	Solanaceae	Lf,Sd	Leaves are used in treatment of asthma and cough. Seed powder is used in fever, skin disease and rheumatism	I,E	Sh	In all sites
20	Delonix regia Boj.ex.Hook Raf	Gulmohar	Fabaceae	Lf	Leaves are used in treatment of skin troubles.	E	T	K,Kt
21	Hibiscus rosa-sinensis Linn.	Gurhal	Malvaceae	Rt,St,Fl	Roots are used in cough. Stems are diuretic kidney trouble	I,E	Sh	Ma,Mg,S
22	Magnifera indica Linn.	Aam	Anacardiaceae	L,Fr	Latex is applied over gums and teeth twice a day to cure pyorrhoea Fruits are antioxidants and prevention of cancer and heart disease	E,I	T	K.Kt, S
23	Piper nigrum Linn.	Kalimirch	Piperaceae	Sd,Lf	Seeds are used in wound healing and skin disease. Leafs are used as toothache.	E	H	Mg,S
24	Sphaeranthus indicus Linn.	Molal Phaji	Asteraceae	Wp,Fl	Leaf extract mixed with black pepper powder is dropped in ease of cure earache. Floral heads are chewed in toothache. The whole plant is used in jaundice, piles, vomiting & uterus pain	I,E	H	In all Sites.
25	Zizyphus jujube	Ber	Rhamnaceae	Fr,Lf,Br	Bark decoction is used for wounds. The fruits are used in ulcer, fever and abdominal pain. The leaves are used to cure the asthma.	E	T	Mg,Ma,S

Abbreviations-UPP: Used plant part, Hb: Habit, MA; Mode of administration, H: Herb, Sh: Shrub, T: Tree, Wp: Whole Plant, R; Root, St: Stem, Lf: Leaf, Fr: Fruit, Fl: Flower, Br: Bark, Sd: Seed, L: Latex, K: Koni, Kt: Kota; Mg: Mangla, Ma: Masturi, and S: Sakri.

## CONCLUSION

The survey indicated that, study area has plenty of medicinal plants to treat a wide spectrum of human ailments. Earlier studies on traditional medicinal plants

also revealed that economically backward local and tribal people of C.G. prefer folk medicine due to low cost and sometimes it is a part of their social life and culture. It is evident from the interviews conducted in different villages; knowledge of medicinal plants is limited to

traditional healers, herbalists and elderly persons who are living in rural areas. This study concluded that even though accessibility of medicine for simple and complicated disease is available, many people in the studied parts of C.G. still continue to depend on medicinal plants at least for the treatment of some simple diseases i.e. cold, cough, fever, headache, poison bites, skin diseases and tooth infections. Well knowledge healers have good interactions with patient and this would improve the quality of healthcare delivery. Due to lack of interest among the younger generations as well as there tendency to migrate to cities for jobs, there is a possibility of losing this wealth of knowledge in the near future. It thus becomes necessary to acquire and preserve this traditional system of medicine by proper documentation and identification of specimens.

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