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Ethnobotanical survey of five villages of Durg District of Chhattisgarh, (India)

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Abstract

Durg district is rich in biodiversity of medicinal plants. The forest area is about 8.95% of the total area of Chhattisgarh. 81 villages are found in Durg district. Peoples of these rural areas are used medicinal plants by traditional knowledge. The aim of this present study was to create awareness about this medicinal wealth of their area as well as knowledge about to conserve these natural resources is also very important. If all the people know about our natural resources & its important in our daily life by training or another sources than save it for future. If one species save per people by conserve it for value addition than disease free nature obtained. During present study 80 plants species was obtained which were used by tribal vaidyas to treat various ailments. These medicinal plants belong to 44families. The various plant part used included whole plants, leaves, stems, roots, tuber, barks, flower, fruits, and seeds. Traditional and ethnic knowledge gathered from such study has played most significant role in the discovery of novel product as well as newer ideas about conservation of natural resources.

Keywords: Medicinal Plant, Traditional Knowledge, parts used, conservation.

Introduction

The herbal medicine though slows in curing, but perfectly rootout the diseases, that's why the traditional medicine has attracted the main focus of researchers in India. All over the world around 80% of the peoples utilizing about 10,000 plant species as herbal medicines for treatment of various disorders [De, 1997]. Traditional medicinal practioners known as vaidayraj from the primary health care provider in rural area of Drug district. It is extremely important to save this traditional knowledge of biological heritage and explore new resources. The district has rich biodiversity still in the natural form. The climatic conditions of this area support to the survival of flora and magnificent nature.

Organization like, Botanical Survey of India (BSI), Indian Council of Medical Research (ICMR), New Delhi, Forest Research Institute (FRI), Dehradun Calcutta, Central Institute of Medicinal and Aromatic Plants (CIMAP), Luck now have become actively engaged in gathering information of medicinal plants from rural tribal's to get ample benefits from the herbal medicine. A large number of studies have been conducted with respect to medicinal plants and their

possible use by different sections of society. Agarwal and Chauhan (2014) and Pandey et al. (2015) studied indigenous medicinal herbs used by tribals of Chhattisgarh . Ahmad and Din (1996) enumerated ethno botanical profile of Swat valley. Altschul (1970 and 1973) worked on medicinal plants having potentiality to treat various gynecological diseases. Report of Ambasta (1986) on common medicinal plants is valuable in underlining importance of plants for treatment of various diseases. Anyinam (1995) have critically analyzed ecological aspect of some important medicinal plants, with respect to their proper management for future use. Gireesha and Raju (2013) worked on ethno-botanical study of medicinal plants in BR hills region of Western Ghats, Karnataka.

Materials and Methods

For study about the medicinal importance of plants from rural areas, field survey was planned in monsoon season (June-2015-September2015) when plants bloom and show extensive growth with the view of study their natural habitat and distribution. The identification of plant material was carried out with the help of standard floras (Hans flora, 1925, Verma et al., 1993 and Singh et al., 2001). The traditional knowledge was obtained through discussions with the learned people of that area regarding their local names and plant parts used for purpose of curative properties. The medicinal uses given by the tribal vaidyas were cross checked with the ancient compilations like, Indian Medicinal plants Nadkarni (1986&1998), and Indian Materia medica-Kirthikar and Basu 1988.

Study Area

Durg district fall between $20^0$54' north latitude and $81^0$10' to $81^0$36'east longitude. Its average elevation from sea level is 317(1,040ft) meter. It covers an area of 2238 square kilometers of which 764 square kilometers are forest (8.95% of the geographical area). Ethno medicinal survey was conducted in 5 different sites of Durg District and valuable data on the uses of indigenous medicinal plants were recorded.

S.No.	Name of site
1.	Bori
2.	Daniya
3.	Purda
4.	Garadhih
5.	Navagaon

Results and Discussion

Each study sites were rich in medicinal plants and 95% of them grow naturally. This is due to the combined effects of the geographical situations and its topography. We worked on the medicinal plants available in this area, which given interesting and encouraging results. In present study80 medicinal plants genera belonging to 44families were obtained which were commonly used by tribal vaidyas to treat various ailments are given in the table -1.

Table 1: Indigenous medicinal plant & their uses

SI.No.	Botanical name	Vernacular name	Family	Parts used	Medicinal uses
1	*Abalomoscus esculantus* L. Moench	Bhindi	Malvaceae	Fruit	Weight loss, controlling blood sugar level, imrove eye sight, treatment of dandruff &lice
2.	*Acacia nilotica* L Delile	Babul	Fabaceae-Mimosoideae	Bark, fruit	Urine-genital disease, mouth ulcers
3	*Acacia tora* (*L.*) Roxb.	Korinda	Fabaceae-Mimosoideae	Whole plant	Leprosy
4	*Achyranthes aspera* Linn	Katapatha	Amaranthaceae	Leaf, stem	wounds, injury.
5	*Aegle marmelos* Linn	Bel	Rutaceae	Leaf, Root, fruit	Stomach troubles, intermittent fever, diarrhea, blood dysentery
6	*Alcea rosea* L.	Hollyhock	Malvaceae	Whole plant	Oral afflictions like bleeding gums
7	*Allium cepa* L.	pyaj	Amaryllidaceae	bulb	Heart disease, cancer, ulcer, osteoarthritis

8	*Allium sativum* L.	Lahsun	Amaryllidaceae	bulb	Heart disease, cancer, ulcer, osteoarthritis
9	*Amaranthus dubius* Mart.e *x* Thell	Chaulai	Amaranthaceae	Whole plant	Stomach ache, anemia, haemorrhage, constipation & kidney complain
10	*Amaranthus spinosus* L.	Kanta Chaulai	Amaranthaceae	Whole plant	Astringent, diaphoretic, diuretic, febrifuge
11	*Anthocephalus chinensis* Wall	Kadamb	Rubiaceae	Bark	Tonic
12	*Andrographis paniculata* (Burm.f.)Wall. Ex Nees	Kalmegh , Bhui neem	Acanthaceae	Leaf	Asthma, bronchitis, antihelmithic,stomachic , malaria
13	*Annona senegalensis* Pers.	Sitafal	Annonaceae	Whole plant	Pneumonia, diarrhea, skin & eye disorder
14	*Argemone mexicama* Linn	Siyal kanta	Papveraceae	Leaf, seeds	Jaundice, expectorant, demulcent
15	*Artocarpus heterophyllous* Roxb.	Kathal	Moraceae	Fruit, root, latex, rachis.	Diarrhea, glandular swelling.
16	*Asparagus racemosus* Willd	Satawar Liliaceae	Liliaceae	Tuber	Joint pain, weakness
17	*Azadirachta indica* A. Juss.	Neem	Meliaceae	Leaf, stem	Fever, skin disease, diabetes, liver troubles etc.
18	*Bacopa monnieri* Linn	Brahmisak	Scrophullariaceae	Whole plant	Nerve tonic, asthma, snake bite
19	*Bauhinia variegate* Linn	Raktakanchan	Fabaceae-caesalpiniaceae	Bark, root	Leucorrhoea, carminative
20	*Bombax ceiba Linn*	Semul	Bombaceae	Bark	Gastrointestinal disorders
21	*Boerhavia diffusa* L.	Pathribaji , punarnava	Nyctaginaceae	Root, leaves	Anti-diabetic, anti-cancer, anti-inflammatory, anti-oxidant properties, kidney stone
22	*Bryophyllum pinnatum* Roxb	Patherkuchi	Crassulaceae	Leaf	Kidney stone, headache.
23	*Butea monosperma* Kuntze	Palas	Fabaceae (Faboideae)	Leaf, bark, seed, latex, flower	Antihelminthic, astringent, piles, tonic. Leucorrhoea

24	*Cajanus cajan* Linn	Arhar	Fabaceae ((Faboideae)	Leaf, seed	Jaundice, stomach disorder
25	*Calotropis gigentea* Linn	Akanda	Asclepiadaceae	Leaf, stem, latex	Chest pain, eye troubles, skin diseases.
26	*Cannabis sativa* Linn	Ganja	Cannabinaceae	Leaf, flower	Diarrhea, dysentery, nacrotic
27	*Capsicum annum* Linn	Mirchi	Solanaceae	Fruit,leaf	Carminative, lumbago, rheumatism.
28	*Carica papaya* Linn	Papita	Caricaceae	Latex, fruit, root	Antihelminthic, dog bites, stomachic, diuretic.
29	*Cassia fistula* Linn	Amaltas	Fabaceae-Caesalpinaceae	Bark, fruit, root	Chornic fever, ringworms, rheumatism.
30	*Centella asiatica* Linn	Bharmi	Apiaceae	Leaf	Stomachic, constipations, liver tonic.
31	*Chenopodium albrun* Linn	Bathuasag	Chenopodiaceae	Leaf	Leucoderma, antihelminthic
32	*Cinnamonaum bejologhota* Linn	Tejpatha	Lauraceae	Leaf, bark	Cough and cold, toothache.
33	*Citrus lamon* (L.)Burm	Nimbu	Rutaceae	Fruit	Stomach problem, antibacterial
34	*Citrus reticulate* blanco	Santara	Rutaceae	Fruit	Blood purifier, diarrhea
35	*Clerodendron viscosum* Vant	Bhati	Verbenaceae	Leaf, root	Swellings, stomachic, malaria
36	*Cleome visccosa* L.	Asian sider flower	Capparadaceae	Leaves	Wound and ulcer
37	*Coriander sativum* Linn	Dhania	Apiaceae	Leaf, Seed	Digestive, liver Tonic, check vomiting
38	*Cucumis sativus* Linn	Khira	Cucurbitaceae	Fruit, seed	Tonic, cooling, demulcent, diuretic.
39	*Cucurbita pepo* Linn	Kumra	Cucurbitaceae	Leaf, seed	Antihelminthic burns.
40	*Curcuma domestica* Valeton	Haldi	Zingiberaceae	Rhizomes	Stimulant, tonic, carminative, sprains, conjunctivitis.
41	*Cynodon dactylon* L. Pers.	Doob grass	Poaceae	Whole plant	Piles, chronic, dysentery, wounds, blood in urine
42	*Catharanthus roseus* (L.) G. don	Sada suhagi	Rosaceae	Leaf	Ulcer, cancer.
43	*Dalbergia sisso* Roxb	Shisham	Fabaceae ((Faboideae)	Leaf, root	Astringent
44	*Datura alba* Linn	Datura	Solanaceae	Leaf, root	Fever, asthma, skin diseases

45	*Daucas carota* Linn	Gagger	Apiaceae	Root	Stimulant, diuretic, carminative
46	*Dioscorea alata* Linn	Kamalu	Dioscoracase	Tuber	Piles.
47	*Digitalis* sp	Sialmutra	Scrophulariaceae	Leaf	Dysentery, stomachic, boil, sores.
48	*Eclipta prostrata* Linn	Karaiya	Asteracea	Leaf	Hypertension, constipation.
49	*Elephantopus scaber* Linn	Gugialata	Asteraceae	Leaf, root	Diarrhea, dysentery, stomachic, arrest vomiting.
50	*Embllica officinalis* Gaertn	Amla	Euphorbiaceae	Leaf, bark, fruit	Constipation, bleeding, piles, cough, anemia, nerve tonic, jaundice, asthmas.
51	*Euphorbia pulchirrima* Wild	Lalpatta	Euphorbiaceae	Latex	Skin disease
52	*Ficus bengalensis* Linn	But	Moraceae	Root, fruit, latex	Dysentery, diabetes, boils
53	*Ficus hispida* Linn	kakadumur	Moraceae	Leaf, bark, fruit, latex	Ringworm, purgative, boils
54	*Ficus carica* Linn	Jaggadumur	Moraceae	Seed, leaf	Kidney stone, diabetes, small pox
55	*Hibiscus rosasinesis* Linn	Gurhal	Malvaceae	Leaf, flower, root	Hair care lotion, gonorhoea,aphrodiasic,amenoorrhoea
56	*Helianthus annus* Linn	Surajmukhi	Asteraceae	Leaf, flower, seed,	Kidney stone, malarial fever, cough and cold
57	*Iberis amara*	Candytuft	Brassicaceae	Root and seed	Rheumatism
58	*Ipomea batatus* Lamk	Mitha aloo	Convolvulaceae	Leaf	Headache, hypertension
59	*Jatropa gossypifolia* Linn	Lalbarenda	Euphorbiaceae	Leaf, latex, bark	Stomachic, ulcers
60	*Jatropa curcas* Linn	Barenda	Euphorbiaceae	Leaf	Antiseptic,antihemorrhogic
61	*Leptidenea reticulate* L.	Jivanti	Asclepidaceae	Whole plant	Ear infection
62	*Mangifera indica* Linn	Aam	Anacardiaceae	Leaf,Flower,Fruit	Tonic,dirutic,rheumatism,burus,diabetes
63	*Mentha arvensis* Linn	Pudina	Labiatae	Leaf	Antihelminthic,Irregular menstruation, Rheumatism, diuretic
64	*Michelia champaca* Linn	Champa	Magnoliaceae	Leaf, root, flower	Gonorrhea, stomachic, purgative, eradicating lice.

65	*Mimosa pudica* Linn	Lajwanti	Fabaceae-Mimosoideae	Whole plant	Piles, boils, sores, aphrodisiac.
66	Momordica charantia L	Kerala	Cucurbitaceae	Fruit, leaf	Stomachic, carminative, rheumatism.
67	*Nyctanthus arbor-tristis* L.	Harsingar	Oleaceae	Leaves	Chronic feaver, rheumatism, arthritis, joint pain
68	*Pongamia pinnata* (Linn.**)**	Karanja	Leguminocae Fabaceae	Fruit, leaves, seed, bark	Joint pain
69	*Psidium guajava* L.	Jam	Myrtaceae	Leaves &fruit	Diabetes, ulcer pain relief, lung diseases
70	*Punica granatum* Linn	Anar	*Lythraceae Lytbraceae*	*Flower*	*Leucorrhoea*
71	*Solanum lycopercsicum* L.	patal	Solenaceae	fruit	
72	*Spinacea oleracea* L.	Palak	Amarantheceae	Leaves	Lowering the risk of cancer& blood pressure, improving bone health
73	*Syzygium cumini*	Jamun	Myrtaceae	Leaves, bark, fruit, seeds	Anti-diabetic and astringent properties, helps to prevent acne, wrinkles and pimples
74	*Terminalia arjuna* (Roxb.) Wight & Arn.	Kahua, Arjuna	Combretaceae	Bark	Hart disease, asthma, scorpion stings& poisoning
75	*Trachyspermum ammi* Sprague	Ajwain	Apiaceae	Fruit	Stomach disorder, antispasmodic &carminative properties
76	*Terminalia bellirica* (Gaertn.) Roxb. (Health harmonizer in combination with T. *chebulla & Emblica officinalis*)	Bahera	Combretaceae	Fruit	Cough, cold, hoarseness of voice, & asthmas, diarrhea, HIV infection
77	*Terminalia chebulla* Retz.	Harad	Combretaceae	Fruit	Digestive disorder, high cholesterol, mouth wash and gargle
78	*Tinospora cardifolia (Thunb.)* Miers	Giloy	Menispermaceae	Leaves, stem	Dengue Diabetes, leprosy, swine flu, cancer
79	*Trigonella foenum graceum* L.	Methi	Fabaceae	Stem, Leaves, fruit	Reduce blood cholesterol, control blood sugar level
80	*Triticum aestivum* L.	Ganhu	Poaceae	Leaves, seed	Constipation jaundice, ulcerative colitis

Conclusion

The paper provides comprehensive information on diversity and uses of medicinal plants in the studied area. The rich biodiversity may be due to their environmental condition as well as adaptability of the plants in changeable climatic conditions. (Patel, 2014).Utilization of species of medicinal plants indicated a high degree of threat to these species. If indiscriminate use of medicinal plants and their various parts continues many species may ultimately disappear from their natural habitats, especially medicinal plants with multiple uses (Samant *et al.*, 1998). So it is necessary to study the biodiversity of plant in particular area and also literate the people of that area for conservation of that plants to ensure its availability for future generation (Kasagana and Karumuri, 2011).

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