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Diversity of medicinal plants in used ayurvedic system of medicine of district Chhindwara Madhya-Pradesh, India: A case study

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Abstract
The origin of ayurveda or the Indian of life is linked with the origin of universe and developed from out of the various Vedic hymns describing fundamentals, philosophies about the world and life, diseases and medicines. The knowledge of Ayurveda was comprehensively documented in Charak Samhita and, Sushruta Samhita. This paper covers the diversity of plants, distribution and their mode of medicine preparation, Ayurvedic terminology, curative diseases, and discussed their utilization and the related areas, and diversity status etc. The knowledge of these plants used as Ayurvedic medicine preparation and some are used locally in Chhindwara district. We explore the 125 plant species belong to 54 families are identified which are used for Indian system of medicine like Ayurveda, Unani Siddha and is helpful to community people of India. This survey was carried out to document the precious indigenous healthcare practices prevalent among the different ethnic groups urban area of District Chhindwara, Madhya-Pradesh, India. These people belonging to primitive or aboriginal culture possess a good deal of information about medicinal uses of plant species in this area. During the survey, it was noted that plant parts, used by the urban area to cure various diseases and disorders. Indigenous healthcare practices, provide low cost alternatives, where western healthcare services are not available or are too expensive for rural and tribal people.

Keywords: Chhindwara, diversity, district, medicinal plant, local names

Introduction
"Necessity is the mother of Invention". Rural or primitive societies have discovered solutions to almost all of their needs and problems from the natural resources around them. Therefore, it is considered essential to seek clues from people living close to nature. This is especially critical at this point in time since knowledge of rare species should be given a top priority. Under these circumstances and looking at the need of the present day, it was thought essential to make a detailed study of the diversity of medicinal plants used by the rural and tribal people of District Chhindwara, Madhya Pradesh, India. This forest area is full of natural resources and has rich flora. Ethno-botanical studies deal with the immediate relationship between human societies and plants. Medicinal plants provide continuous health security to rural and tribal people worldwide. The plant biodiversity provides a multi-variety of curing properties through is used throughout the world and this district is rich in plant biodiversity. The type of forest is tropical dry deciduous teak, mixed; Sal of this district flourishes with the number of medicinal plants in their region. The medicinal plant fulfils the demand for the basic raw herbal material in the Indian system of medicine like Ayurveda, Siddha and Unani. These Indian systems of medicine together with homeopathy and folk medicine continue to play a vital role largely in the health care system of the population. India's tribal and rural people primarily depend on their health care needs on medicinal plants found near their forest areas. In this regard, this paper shows the relationship between the district Chhindwara forest plants with rural and tribal people, who were receding near the forest. The paper summarized a study of 125 medicinal plants belonging to 54 numbers of families, used in curing health problems. These plants required conservation for the futuristic demand for ISM drugs. Most healers/practitioners of the traditional systems of medicine prepare formulations by their own recipes and dispense them to the patients. In Western countries, approximately 40 percent of people are using herbal medicine for the treatment of various diseases.

This interest in traditional medicines is growing rapidly due to the attention being given to it by governmental agencies and different NGOs comprising the public and researchers as well as the increased side effects, adverse drug reactions, and cost factors of modern medicines. It is, therefore, necessary to preserve this indigenous knowledge of traditional medicines by proper documentation, identification of plant species used, and herbal preparation. To save medicinal plants from further loss, involving local communities in the cultivation of the most utilized medicinal plants is recommended.

Study area

Chhindwara district was formed on 1st November 1956. It is located on the South-West region of 'Satpura Range of Mountains'. It is spread from $21^0$28' to $22^0$49' Deg. North (longitude) and $78^0$10' to $79^0$28'Deg. East (latitude) and spread over an area of 11,815 Sq. Km. This district is bound by the plains of Nagpur District (in Maharashtra State) on the South, Hoshangabad and Narsinghpur District on the North, Betul District on West and Seoni District on the East. Chhindwara District ranks 10th in area in Madhya-Pradesh State and occupies 2.67% of the area of the state. The District is divided in to nine Tahsils (Amarwara, Bicchua, Chhindwara, Chourai, Junnardeo, Pandurna, Parasia, Sausar and Tamia), 11th Development Blocks (Amarwara, Bicchua, Chourai, Chhindwara, Junnardeo, Pandurna, Parasia, Sausar, Harrai, Mohkhed and Tamia), and eight Panchayats (Sausar, Newton chocki, Chandameta Butaria, Harrai, Mohgaon, Chourai and Lodhikheda).

Patalkot

"Patalkot" situated in the hilly block 'Tamia' of Chhindwara district, Madhya Pradesh has acquired great importance because of its geographical and scenic beauty. Patalkot is a lovely land scape located at a depth of 1200-1500 feet in a valley. Because of the great depth at which it is located this place is christened as 'Patalkot' (Patal means very deep, in Sanskrit). When one looks down the place sitting at the top of the valley, the placed looks like a horse shoe in shape. People belive it as the entrance to 'Patal'. There is one more belief that after worshipping 'Lord Shiva' Prince 'Meghnath' had gone to Patal-lok through this place only. Patalkot is spread over an area of 79 Sq. Km. at an average height of 2750-3250 feet above mean sea level. 'Doodhi' river flows in the picturesque valley. It is a treasure of forest and herbal wealth. There are 12 villages and 13 hamlets in this valley, Patalkot valley that included- Chimtipur, Jadmandal, Talabadla, Rated, Pachgol, Sahra, Harra kachar, Ghatlinga, Gujja, Dongri, Gaildubba, Kareyam, Ghana, with a total population of 2012 (1017 male and 995 female). Most of the people belong to 'Bharia' and 'Gend' tribes. The place is spread over an area from 22.24˚ to 22.29˚ north. 78.43˚ to 78.50˚ East. The place is located at a distance of 62 Km. from the district Chhindwara headquarters in the North-West direction, and 23 km. from Tamia in North-East direction.

Forest vegetation

Forest vegetation of Chhindwara district can be classified as tropical dry deciduous teak, mixed, Sal type on the basis of classification given Champion and Seth (1964); classification the forest can be classified as under:

Tropical dry deciduous teak forest
Tropical dry deciduous mixed forest
Tropical dry peninsular Sal forest

In the district forest have been divided in to two groups:

Reserve forest
Protected forest

Reserve forest and protected forest are heterogeneous in composition, quality, density and physiognomy due to undulating, topography, variation is soil depth and intensity of biotic factors. The most commonly recorded species of these forests are viz.

Methodology

Present work is based on the result of intensive survey, collection, and study of plant species of urban area, Chhindwara District. The field work has been conducted following the suggestion of Santapau (1955) [1]. The field trips were arranged 4-6 times in a month, in such a way so as to cover all parts of the areas and to collect all plants in flowering and fruiting stages. Field observations were recorded in note book. Observation includes information on habitat, habit, size of the plant, leaf, colour, variation of the flowers, scent of the flower association etc. Local name were also noted. To illustrate the range of variation of the plants, 5-6 specimens from different localities have been collected, for each species. During collection following precautions have been taken. As far as possible specimens were collected on a clear dry day and were studied and examined as early as possible at the end of the day of collection. Whole plants were collected in case of plant, small piece of twig with leaves; flowers were taken for the preparation of herbarium specimens. The ethnobotanical data were obtained from tribal people, Vaidyas, Ojha and other experienced of herbal having knowledge of folk medicine. During the interviews local names, family, useful plant parts, ailments were recorded and presented alphabetically (Table-1). The ethnobotanical data was collected according to the methodology suggested by Jain and Goel (1995) [7]. The plants were collected with the help of floristic literature (Oomanchan, 1996) [8], and their herbarium was prepared as per standard protocol as described by Varghese (1996) [9] and Dwivedi and Pandey (1992) [5]. Considerable work has been done various ailments by of Madhya Pradesh Omkar Bawistale, T. R. Sahu, Pankaj Sahu and Brajesh Sahu (2007) [15]; Omkar Bawistale, Brajesh Sahu and Pankaj Sahu (2010) [18]; Omkar Bawistale, T. R. Sahu, Pankaj Sahu and Brajesh Sahu (2010) [18]; Omkar Bawistale, T. R. Sahu (2011) [17]; Omkar Bawistale, T. R. Sahu (2012); Bawistale Omkar, Dua V.K. & Sahu T. R. (2014) [23]; Omkar Bawistale, Pankaj Sahu, T. R. Sahu, Dev Nandini Sonekar & V.K. Dua (2015) [23]; Omkar Bawistale (2015) [26]; Omkar Bawistale, Omkar Solunke & T. R. Sahu (2018) [30]; Sharma Vikas, Rao, Sudhakar V, Diwan, R.K. Saxena, R.C. and Shrivastava, D.N. (2010) [19]; Rai M.K., Pandey A.K. and Pandey A.K. and Shukla P.K. (2008) [16]; Pandey A.K., Patra A.K. and Shukla P.K. (2005) [12]; Rai R, Nath V, Shukla PK (2002) [11]; Mukta Shrivastava (1994) [6].

Voucher Specimen Collection

The voucher specimens were collected onsite during guided field walk, numbered, pressed, dried, and deep frozen for identification. Identification of specimens was carried out both in the field and in the herbarium. Identification was also carried out using Flora comparing with already identified specimens. Finally, the identified specimens were stored at the Department of Botany, Rajmata Sindhiya Govt. P.G. Girls College Chhindwara, and Madhya Pradesh.

Data Availability

The data used in this study is available with the corresponding author upon request.

Species enumeration

In the following enumeration, the plant species are arranged with their scientific names, family, local name & vernacular names, urban uses and a brief note on medicinal plant parts used and mode of utilization and dosage.

Results and discussion

Extensive the study was to study have been carried out from time to time in the district of Chhindwara to explore the diversity of medicinal plants used in the Ayurveda system. During the present investigation, 125 species of plants belonging to 54 families were collected and identified. Out of 125 species for curing various ailments such as fever, malaria, cough cold, bronchitis, asthma, stomach disorders, headache, body pain, joint pains, swelling of the body, respiratory infection, brain tonic, cardiac problems, sexual diseases, infertility, rickets, antiseptic, diarrhoea, dysentery, jaundice, bone fracture, toothache and gum swelling, urinary diseases, skin diseases and ailments related to an easy delivery, scorpion bite, digestive system, respiratory system, and liver complaints, etc. Fever; cough cold, digestive diseases, asthma, arthritis, and body pain, joint pains, diarrhoea, dysentery, jaundice are common diseases in the district's people. The dosage and time duration of the treatment of these medicinal plant drugs varies from one vaidya and local healer to another. This information was gathered through the questionnaire method and discussions with tribal and local healers of this area. During the discussions, it came to light that tribals and rural people possess a good deal of knowledge about the medicinal uses of plants and use the plants frequently. Only old age people were found to possess vast knowledge about plant medicine compared to young people who lived in this area and used plants as medicine. The younger people have less knowledge because they are interested to learn about the traditional knowledge of medicine; some young people also treated sick persons using the knowledge gained by their elders. These people and villagers preserved the knowledge as one of the primitive and aboriginal cultures. They are also very confident about the mode and treatment of different diseases.

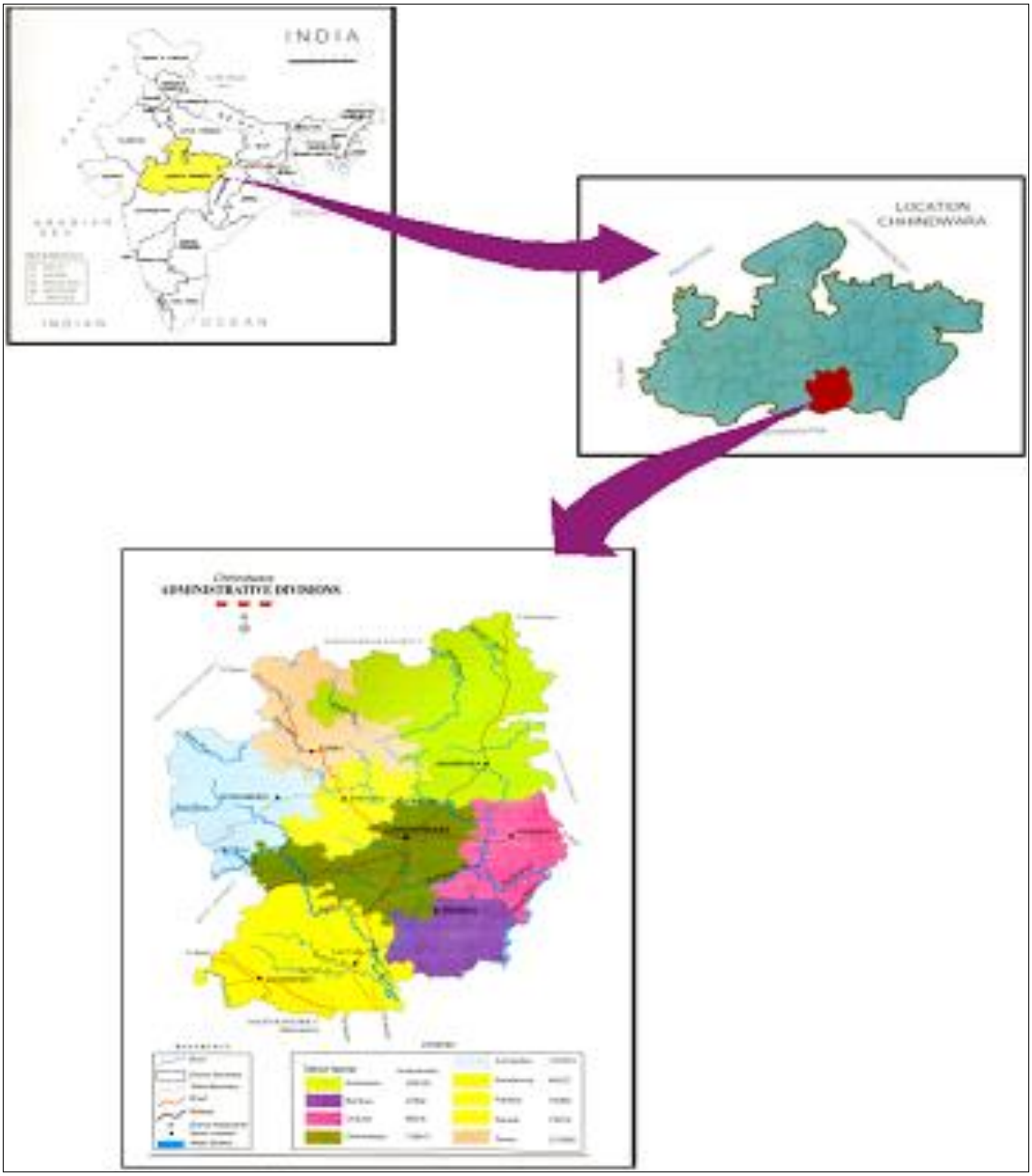

Fig 1: Bhumka in Patalkot, Tamia District Chhindwara

Fig 2: Patalkot view in Tamia, District Chhindwara

Fig 3: Information given in Bhoomkar, vaid, Local people in District Chhindwara M.P

Table1: Plant list used in Chhindwara District M.P

S. N.	Plants Name & Family	Local Name	Medicinal Plant Uses	Status
1.	*Abelmoschus manihot* (Linn.) Medik. Malvaceae	Jangli bhendi	Root extract given internally for a long duration in case of male impotency.	R
2.	*Abrus precatorius* Linn. Fabaceae	Gaungchi.	Whole plants Ganchi used in the form of powder to treat dental caries, and dandruff.	C
3.	*Achyranthes aspera* Linn. Amaranthaceae	Ulta kata	Root use antidote in scorpion bite.	C
4.	*Acorus calamus* Linn. Araceae	Bach	The rhizome of plants used stimulant, stomachache, emetic	R
5.	*Adhatoda zeylanica* Medik. Acanthaceae	Adusa	Decoction of leaves is taken orally 2 teaspoons 2-3 times daily in bronchitis.	R
6.	*Aegle marmelos* (Linn.) Corr. Rutaceae	Bel	The pulp of ripe fruit is used in stomach disorders.	C
7.	*Ailanthus excelsa* Roxb. Simaroubaceae	Maharukh	Stem of crushed leaves inhaled in tetanus, leaf decoction given internally as long treatment for joint pains.	R
8.	*Aloe vera* Linn. Liliaceae	Gawarpatha	Leaf use in fractured bone. Leaves used for skin diseases, and digestion.	C
9.	*Amorphophallus campanulatus* Blume. *ex* DC. Araceae	Suran	The tubers are crushed and applied in cases of snake bite.	R
10.	*Andrographis paniculata* Wall. ex. Nees. Acanthaceae	Kalmegh	Whole plant is boiled in water and the filtrate (About 2 teaspoons) is given for three-five days to treat malaria.	C
11.	*Annona squamosa* Linn. Annonaceae	Sitaphal.	Leaf paste is applied to treat tumours and boils. Bark juice is given as an antidote for snakebite.	C
12.	*Argemone mexicana* Linn. Papaveraceae	Pili katari	The root in the form of powder and latex of hairband is used against small pox,	C
13.	*Asparagus racemosuss* Willd. Liliaceae	Satawari	Tuber is given orally to nursing mothers for seven days early in the morning for lactation.	R
14.	*Azadirachta indica* (Linn.) A. Juss. Meliaceae	Neem	It is believed that on brushing the teeth daily with the stick, the body becomes resistant against snake bite and bathing to cure skin afflictions.	C
15.	*Bacopa monnieri* (Linn.) Wettst. Scrophulariaceae	Brahmi	Whole plants used nervine tonic.	C
16.	*Bauhinia variegata* Linn. Caesalpiniaceae	Kachnar	Roots used oral contraceptive.	C
17.	*Biophytum sensitivum* Linn. Oxalidaceae	Badi Lajwanti	Plant extract is given to children orally in dysentery.	R
18.	*Boerhavia diffusa* Linn. Nyctaginaceae	Vishpatti	Leaves are chewed by the in scorpion bite.	C
19.	*Bombax ceiba* Linn. Bombacaceae	Semal	The roots of young seedlings are chewed for more vitality. The flowers are also given against semen discharge.	R
20.	*Butea monosperma* Lam. Fabaceae	Dhauk, Palas	Seed is used cure asthma	C
21.	*Caesalpinia bonduc* Linn. Caesalpiniaceae	Gattar	The stem bark paste is eaten to stomach pain.	C
22.	*Caeselpinia crista* Linn. Caeselpiniaceae	Gatayar	Root is used to treat fever	R
23.	*Calotropis gigantea* (Willd.) Ait. Asclepiadaceae	Safed Akwan	The milky latex is applied on the inflamed parts of the body to reduce pain and swellings.	C
24.	*Calotropis procera* R. Br. Asclepiadiaceae	Aak, Madar	Latex is used antidote in scorpion bite.	C
25.	*Capparis zeylanica* Linn. Capparaceae	Ardanda	Root and bark decoction is given to treat fever, stomach pain.	C
26.	*Carica papaya* Linn. Caricaceae	Papita	Seed used oral contraceptive, digest ant, rubefacient.	C
27.	*Carissa congesta* Wt. Apocynaceae	Karonda	The juice of root bark is given in fever.	R
28.	*Cassia fistula* Linn. Caesalpiniaceae	Amaltas	The fruit pulp is given in diabetes as a long term treatment.	C
29.	*Cassia auriculata* Linn. Caesalpiniaceae	Amoli, Chhoti.	The bark, flower and seeds in the form of decoction, juice or powder used to treat wound, diarrhea, dysentery, worms, stops blood flow, diabetes.	C
30.	*Catharanthus roseus* Linn. Apocynaceae	Sadabahar	Root is used anticancer, and anti-diabetic.	C
31.	*Celastrus paniculatus* Wild. Celastraceae	Malkangni	The seed oil is used as massage oil in the cases of leprosy and body ache.	R
32.	*Centella asiatica* Linn. Apiaceae	Jal brahmi/ Brahmi	Brain tonic. The decoction of the plant is given against discharge of yellowish urine.	C
33.	*Chlorophytum arundinaceum* Baker. Liliaceae	Safed musli	Root is taken as an aphrodisiac, diarrhea, Menstrual disorders and Tonic.	R
34.	*Cissampelos pareira* Linn. Var. *hirsuta*	Akandi, Kadu	Powder of root and leaves of Kadu Patha used to treat fever, diabetes,	R

	Buch-Ham. *Ex* DC. Menispermaceae	patha.	wound and also used for easy delivery.	
35.	*Cissus quadrangularis* Linn. Vitaceae	Hadjod	The entire plant Crushed into paste is eaten and applied on bone fracture. The wound heals shortly.	C
36.	*Cleome viscosa* Linn. Capparaceae	Hulhul	The seeds, leaves and root are used in the form of juice and powder to treat earache, arthritis, indigestion, abdominal pain.	C
37.	*Cocculus hirsutus* (Linn.) Diels Menispermaceae	Jamti ki bel, Til dhara	The root is used in the form of decoction to treat snake-poisoning.	C
38.	*Convolvulus pleuricaulis* Linn. Convolvulaceae	Shankhpushp	Flowers used to brain tonic	C
39.	*Costus speciosus* (J. Koenig) Sm. Costaceae	Keo – kanda	The rhizome of Keo kanha is used in the form of juice and powder to treat worms and paralysis.	R
40.	*Crotalaria juncea* Linn. Fabaceae	Sann	Fine powder of seeds used in obesity, especially of women.	R
41.	*Curculigo orchioides* Gaertn. Hypoxidaceae	Kali musli	Tuber powder is used to leucorrhoea, and rickets.	R
42.	*Curcuma amada* Roxb. Zingiberaceae	Jangli haldi/ Aama haldi	Tuber powder is given orally to cure rickets, infertility for men.	C
43.	*Curcuma angustifolia* Roxb. Zingiberaceae	Haldi	The rhizome paste mixed with milk is given in empty stomach in cases of fever, two times in a day up to seven days.	R
44.	*Cynodon dactylon* Linn. Poaceae	Doob	Whole plant extract is taken orally by the tribal's indigestion.	C
45.	*Dalbergia latifolia* Roxb. Fabaceae	Kala sisam	Leaf extract is taken orally by the tribals in dysentery.	C
46.	*Datura stramonium* Linn. Solanaceae	Dhatura	Whole plant used anti-inflammatory, antispasmodic	C
47.	*Dendrocalamus strictus* Nees. Poaceae	Bans	Leaves is used to astringent tonic	C
48.	*Dillenia pentagyna* Roxb.Dilleniaceae	Kelia sag	This mixture is then given to ladies for easy delivery, two times in a day upto three weeks.	R
49.	*Dioscorea bulbifera* Linn. Dioscoreaceae	Jangli mataru	Boil and made a powder of tubers use for child patient suffering from typhoid.	C
50.	*Diplocyclos palmatus* (Linn.) C. Jeffrey. Cucurbitaceae	Shivlingi	Fine powder of seeds in milk is used in cases of both male and female sterility.	C
51.	*Eclipta alba* Hassk. Asteraceae	Ghamira	Whole plant used to liver tonic, antiseptic	C
52.	*Euphorbia hirta* Linn. Euphorbiaceae	Dhudhi/ Choti dudhi	Plant paste is taken with water to cure dysentery and liver dieses. Plant juice used to Infantile, diarrhea.	C
53.	*Euphorbia nerifolia* Linn. Euphorbiaceae	Sehund	Latex is mixed with haldi powder and a paste is prepared, this paste is applied over swelled part of body.	R
54.	*Ficus bengalensis* Linn. Moraceae	Bargad	Prop roots used abortion purpose.	C
55.	*Ficus glomerata* Roxb Moraceae	Umer	Bark used as male contraceptive	C
56.	*Ficus hispida* Linn. Moraceae	Bhui gular	Fruit boiled in goat's milk, strained and given in enlargement of liver and also in jaundice.	C
57.	*Ficus racemosa* Linn. Moraceae	Gular	Fruits given in diabetes and to check abortion.	C
58.	*Ficus religiosa* Linn. Moraceae	Peepal	The young leaves are used in snake bite. It is believed that the leaf petiole when inserted in both the ears sucks poison from the body.	C
59.	*Flacourtia indica* (Burm. *f.*) Mer. Flacourtiaceae	Dollar	The root paste is applied externally in skin diseases.	R
60.	*Gloriosa superba* Linn. Liliaceae	Kalihari	The root and flower paste is used for killing the mouse and birds in crop fields and root paste is administered in the pregnancy upto four month.	EN
61.	Gymnema sylvestre (Retz.) R. Br. *ex.* Schult. Asclepidiaceae	Gudmar	The leaf powder is applied on Diabetes and Menstrual disorders.	C
62.	*Helicteres isora* Linn. Sterculiaceae	Marorphalli	The aqueous extract of the seed in small quantity is given to children in dysentery and Root extract is given in fits and diabetes.	R
63.	*Hemidesmus indicus* R. Br. Asclepiadiaceae	Dudhi	The root paste mixed with water is given in small quantity to children in dysentery.	R
64.	*Holoptelea integrifolia* Planch. Ulmaceae	Bander buti	Leaf paste is applied locally to cure eczema.	C
65.	*Hybanthus enneaspermus* Linn. Violaceae	Ratanpuras, Varuna.	The root is used to treat urinary affection and bowel complaints of children.	C
66.	*Indigofera tintoria* Linn. Fabaceae	Neel	Seed paste soaked overnight in clean water, strained in the morning through a clean cloth.	R
67.	*Ipomoea fistulosa* Mart. Convolvulaceae	Beshram	Leaf paste applied to sprains	C
68.	*Jasminum auriculatum*	Chameli	Leaves oral ulcers	C

	L. Oleaceae			
69.	*Jatropha curcas* Linn. Euphorbiaceae	Ratanjot	The stem is used as tooth brush to relieve toothache and gum swelling.	R
70.	*Jatropha gossypifolia* Linn. Euphorbiaceae	Kosoronda,	Fresh latex applied on the cuts and wounds as antiseptic	C
71.	*Lathyrus aphaca* Linn. Fabaceae	Jangali matar	Seeds used famine food.	C
72.	*Lawsonia inermis* Linn. Lythraceae	Mehandi	The whole plant is crushed and the paste is applied on Boils Burn, Headache, Piles, Rheumatism, and Snake bite.	C
73.	*Leucas aspera* (Willd.) Link. Lamiaceae	Chota halkushra	Whole plant is placed in hot water and the vapour is inhaled to treat migraine	C
74.	*Luffa acutangula* (Linn.) Roxb. Cucurbitaceae	Kadvi turai	Fine seed powder inhaled for cure of jaundice. Very clean juice of fruits is used as eye drops in conjunctivitis.	C
75.	*Madhuca longifolia* (Koenig) Mac. Bride var. *latifolia* (Roxb.) Chev. Sapotaceae	Mahua	A sweet dish made by boiling the flowers in milk and taken regularly for a long duration to cure male impotency. Bark paste applied externally on tonsils.	C
76.	*Malinkara hexandra* Roxb. Sapotaceae	Khirni	The stem bark boiled with water is used for bathing to body ache.	R
77.	*Martynia annua* Linn. Martyniaceae	Bichhu	The seed oil is applied in case of eczema.	C
78.	*Mauritiana Ziziphus* Lamk. Zingiberaceae	Ber	Leaf paste or bark is applied over the place of scorpion sting.	C
79.	*Melia azedarach* Linn. Meliaceae	Bakain	Leaf paste is massaged on the body of children to cure rickets.	C
80.	*Mentha longifolia* Linn. Lamiaceae	Pudina	Leaves used in abdominal disorders	C
81.	*Mimosa pudica* Linn. Mimosaceae	Lajwanti	Roots, leaves used carminative, aphrodisiac	R
82.	*Momordica charantia.* Linn. Cucurbitaceae	Karda	The juice of the fruits is given in diabetes till it is cured.	C
83.	*Momordica dioica* Roxb. Ex. Willd. Cucur bitaceae	Parora	Unripe fruits used nutritive supplement. The Seeds are used to remove kidney stone, diabetes and fever.	C
84.	*Morus alba* Linn. Moraceae	Shehtut	Bark used Purgative.	C
85.	*Mucuna pruriens* (L.) DC. Fabaceae	Kevach/ Kemanch	Root paste applied externally on facial and paralytic places and root extract is given with water in empty stomach to sexually weak male. Seeds used oral contraceptives.	R
86.	*Ocimum americanum* Linn. Lamiaceae	Tulsi	The leaves are crushed and mixed with salt, and eaten to increase the taste of tongue.	C
87.	*Ocimum basilicum* Linn. Lamiaceae	Kali tulsi	The leaf decoction mixed with saline water is used to keep away the snakes.	C
88.	*Ocimum sanctum* Lamiaceae	Tulsi	Leaves used cough, cold and fever.	C
89.	*Parthenium hysterophorus* Linn. Asteraceae	Gajarghas	Whole plant used allergies	C
90.	*Phoenix sylvestris* Roxb. Arecaceae	Khajoor	The heartwood is given to ladies for increasing lactation after child birth.	R
91.	*Phyllanthus emblica* Linn. Euphorbiaceae	Aonla, Aonwala	The fruit and seeds are used in the form of powder and juice to treat fever, loss of appetite, piles, worms, jaundice, cough, fainting, heart diseases and vomiting.	C
92.	*Phyllanthus fraternus* Webst. Euphorbiaceae	Bhui – amla	Plant extract is given orally once or twice in a day to children as febrifuge.	R
93.	*Phyllanthus urinaria* Linn. Euphorbiaceae	Lal bhuin	Whole plant extract is given to treat liver diseases.	C
94.	*Phyllanthus virgatus* Forst. Euphorbiaceae	Bhui aonla	Extract of the whole plant given in malaria.	C
95.	*Physalis minima* Linn. Solanaceae	Jangali Rasbhai	Two and a half leaves are eaten to cure fever and fruits are eaten to maintain body heat.	C
96.	*Piper longum* Linn Piperaceae	Peppli	Fruits used stomachic	C
97.	*Plumbago zeylanica* Linn., Plumbaginaceae	Kala Chirayt	The root and bark of chirchitta is used in the form of powder and decoction to treat piles, diarrhea, cough, hardness of voice, diabetes, skin diseases, anemia and filarial.	VU
98.	*Rauvolfia serpentina* (L.) Benth. ex Kurz Apocynaceae	Sarpagandha	Roots, tubers used antihypertensive	R
99.	*Ricinus communis* Linn. Euphorbiaceae	Castor	Seed oil used oral contraceptive	C
100.	*Saraca indica* Linn. Caeslpiniaceae	Ashoka	Bark used brain tonic	C
101.	*Senna tora* Linn. Caesalpiniaceae	Puwadia	The seeds are crushed with water and applied in eczema and hemicranias.	C

102.	*Sida acuta Burm f.* Malvaceae	Kamraj	Seeds used sexual vitality	C
103.	*Solanum incanum* Linn. Solanaceae	Khatti ringdi	The seed powder is applied inside the mouth to cure toothache.	C
104.	*Solanum nigrum* Linn. Solanaceae	Makoya/ Bhutta kateli	Leaf used poultice used in Scrotum swelling. Fruit cut in lengthwise, filled with purified butter is eaten in cough and cold.	C
105.	*Solanum surattense* Burm *f.* Solanaceae	Kateli	Anthers used upper respiratory tract infections	C
106.	*Solanum virginianum* Linn. Solanaceae	Kateli	The seed powder is applied inside the Asthma, Cough and rheumatisms.	C
107.	*Sterculia urens* Roxb. Sterculiaceae	Kullu	Gum paste is applied locally in eczema and taken orally urinary diseases	C
108.	*Sterculia villosa* Roxb. Sterculiaceae	Kudawala	The root paste is given orally and also applied on the inflamed parts of the body to reduce Swellings and Bark used in asthma.	R
109.	*Syzygium cumini* Linn. Myrtaceae	Jamun	Seed powder used diabetes	C
110.	*Tamarindus indica* Linn. Caesalpiniaceae	Imali	Ripe fruit pulp use laxative	C
111.	*Tectona grandis* Linn. Verbenaceae	Sagon	Stem bark is chewed in the case of any mouth disease.	C
112.	*Tephrosia purpurea* Linn. Fabaceae	Silpoka	Root and leaves used cough, asthma	C
113.	*Terminalia arjuna* W. & A Combretaceae	Kahara, Arjun	Bark used cardiac problems	C
114.	*Thevetia pevuriana* Mier. Apocynaceae	Kaner	Seed used in abortifacient	C
115.	*Tinospora cordifolia* (Willd.) Miers. *ex* Hook. *f.* & Thoms Menispermaceae	Gulancha, Gulel, Gurbel	The stem, root and leaves of gulancha are used in the form of juice and decoction to treat irregular fever, chronic fever, jaundice, vomiting, and acidity and skin diseases.	C
116.	*Trichosanthes cucumerina* Linn. Cucurbitaceae	Tambakasri	The fruits are kept in water for 12 hours and used to give bath to patients suffering from jaundice.	C
117.	*Tridax procumbens* Linn. Asteraceae	Phulani	The paste of whole plant is used to stop bleeding caused by any outer stroke.	C
118.	*Vanda tessellata* Linn. Orchidaceae	Hajodi	Rhizomes used bone fractures	VU
119.	*Ventilago denticulate* Willd. Rhamnaceae	Ghurbel	The stem bark paste mixed with sugar is given two times in a day for cooling effect.	C
120.	*Vetiveria zizanioides* Nash. Poaceae	Khasghars	Root used Head ache	C
121.	*Vicia sativa* Linn. Fabaceae	Akari	Seeds used antiseptic	R
122.	Vitex negundo Linn. Verbenaceae	Nirgundi	Leaf juice is mixed with the seeds of ajwain and is given (a teaspoon) in stomach disorders.	C
123.	*Withania somnifera* (Linn.) Dunal. Solanaceae	Aswagandha	Roots used sexual impotency	R
124.	*Xanthum strumarium* Linn. Asteraceae	Gokhru	The seed paste is applied in forehead to cure headache and decoction of whole plant is given for three days to treat liver disorder.	C
125.	*Zingiber roseum* Rosc. Zingiberaceae	Jangli adrak	The rhizome paste is applied on the body and the juice of the rhizome is given three times in a day to cure general fever.	R

Conclusion

This research work provides not only an excellent reference material but also a practical guide for preparing herbal drugs in standardized form by the pharmaceutical industries using the knowledge of vaidya and local healers in the district of Chhindwara, Madhya Pradesh. Also, recommended to the conservation of these indigenous medicinal plants before their exploitation.

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