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Exploration of ethno-medicinal herbs and their practices by indigenous people of Achanakmar regions of Chhattisgarh State, India

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Abstract: The study was performed in the Achanakmar regions of Chhattisgarh state, India. At the study site, a total of 54 herbaceous medicinal plants belonging to 30 families were documented. Between March 2020 and March 2022, intensive field surveys were conducted in the research areas. Native knowledge of wild medicinal plants was obtained on field trips through questionnaires, discussions, and in-person interviews. In accordance with their correct nomenclature, plants were organized according to their botanical name, family, common name, parts used and diseases treated. The Zingiberaceae family was the most prevalent in the current study, accounting for 5 plant species used by the region's indigenous people. This was followed by the Amaranthaceae, Acanthaceae, Fabaceae, Asteraceae and Lamiaceae families, each representing 3 species of plants. For a longer period of time, the rural residents of the Achanakmar region have used native flora for primary healthcare and the treatment of various diseases. However, there was little information about traditional knowledge of medicinal plants documented. Rural Achanakmar people asserted that younger generations are less interested in traditional knowledge of medicinal herbs due to societal development. Therefore, it is crucial to document ethnomedicinal plants before they are no longer available and go extinct. In order to effectively conserve plants and traditional knowledge for the future, this ethnobotanical database will be helpful to scientists, naturalists, planners, policymakers and chemists.

Introduction

Rural populations around the world rely on conventional local knowledge of medicinal plants for their primary healthcare (WHO, 2019; WHO, 2013; Acharya et al., 2022). The study of the relationship between pre-colonial human civilizations and plant habitats is known as ethnobotany. Knowledge of traditional medicinal plants has been passed down through the generations to rural communities (Taek et al., 2019; Mahmood et al., 2011). Ethnobotanical studies are crucial in the quest for contemporary medications derived from naturally occurring medicinal plant resources (Idolo et al., 2010; Njoroge et al., 2004). The utilisation of plant species as traditional remedies offer rural communities in poor nations a good alternative to healthcare institutions (Mahmood, et al., 2013; Hayta et al., 2014). According to reports, 80% of people in developing nations rely on traditional medicines for their main healthcare. These medicinal plants are frequently cited as being secure, affordable, and easily accessible in the local environment (Fabricant and Farnsworth, 2001; Rahman et al., 2004). Approximately 7500 plant species in India have been recorded to be used medicinally in both traditional and modern medical systems (Arti et al., 2014; Gowthami et al., 2021).

Plants have been used in India for food and medicine since the time of the Vedas. The earliest writings on plant medicine are found in the Rig Veda and Atharvaveda (Wani and Kumar, 2016). Approximately 75% of people in India live in rural areas. Most rural communities rely on natural resources like wild edible plants to meet their food needs during times of food scarcity (Rashid, 2008). Rural cultures consume over 800 varieties of food plants (Singh and Arora 1978). Since the beginning of time, wild plants have been used extensively in human life for various reasons, including food, medicine, fibre, and cattle feed. Wild edible plants are important to people and have been suggested as a way to maintain a balance

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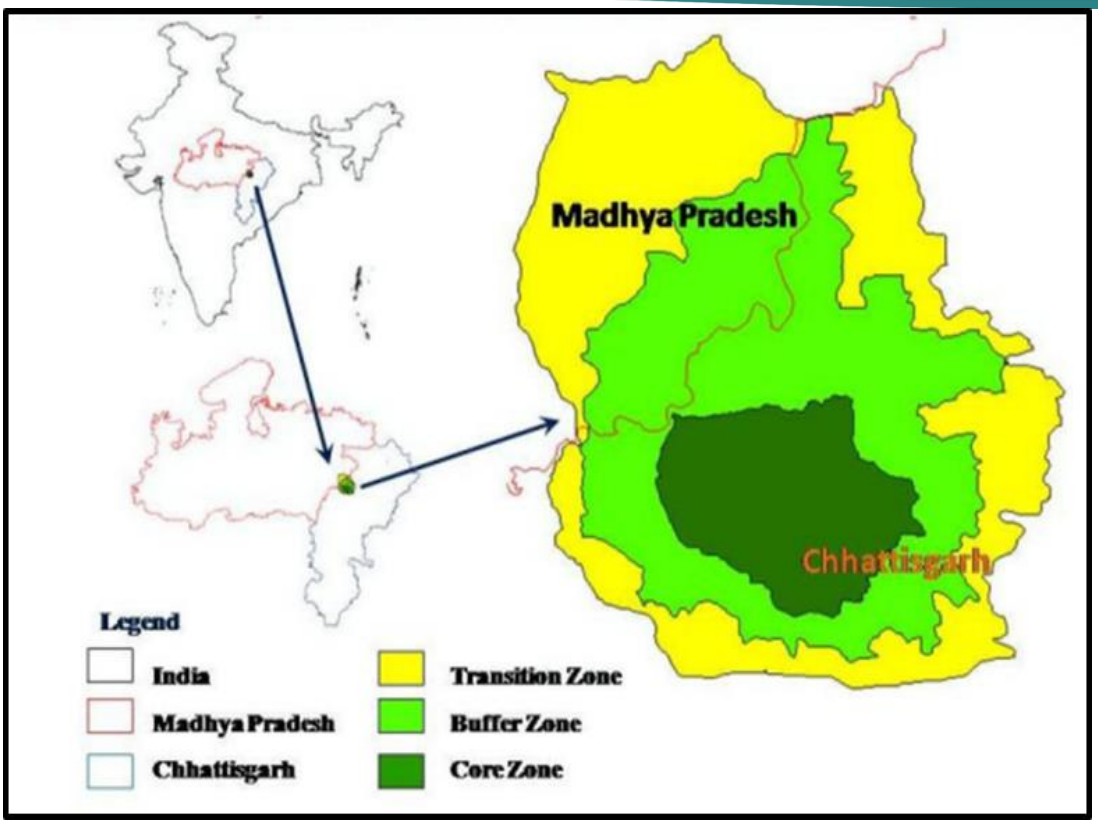

Figure 1. Study area (*Source*: Roychaudhury et al., 2016)

between population growth and agricultural output, especially in developing countries (Vishwakarma and Dubey 2011). According to reports, 54 million tribal people are living in India. Local people in rural areas rely on trees and forest products to maintain daily activities. Most tribal communities still depend on regional traditional medicines to survive (Phillips et al., 1994; Musa et al., 2011; Zeeshan et al., 2021).

Local people of these regions depend on these traditional medicinal plants for various ailments as they lack a good transport system and instant medical care. This traditional knowledge of medicinal plants has been transferred from generation to generation without its proper documentation. Sometimes it has been a 'close secret' to the primary inhabitants of natural habitats and traditional healers (Antony et al., 2018; Saba, 2014; Kumar et al., 2021; Chauhan, 2020).

So, this phyto-therapeutic knowledge is very precious for discovering the drugs benefitting humankind. The age-old practice of these traditional medicinal plants written in ancient literature like 'Charak Sanhita, Sushrut Sanhita' etc. and their present utilisation by tribal healers justifies its authenticity. It will be helpful for future novel drug discoveries if it has been properly surveyed, documented and enumerated.

In the Achanakmar region of Mungeli district in the Chattisgarh state, India, there are several plants that are used medicinally and some researchers have made an effort to record this beneficial indigenous knowledge. The phyto-sociological survey of the research area can serve as a useful starting point for further phyto-pharmacological study in the field of medicine. With these considerations in mind, the current study's goal was to identify the diverse medicinal plants' uses. To identify the chemical elements contained in medicinal plants that are responsible for the many biological functions, more research is required.

Materials and Methods

Study area

Achanakmar Wildlife Sanctuary is a sanctuary in the Indian states of Madhya Pradesh's Anuppur and Dindori districts as well as the Mungeli district of Chhattisgarh, some parts of Shivtarai, Kota, Bilaspur. It was formed in 1975 in accordance with the Indian Wildlife Protection Act of 1972, and in 2009, Project Tiger designated it as a tiger reserve. It is a section of the Achanakmar-Amarkantak Biosphere Reserve. The survey was conducted in Mungeli district of Chhattisgarh co-ordinates Latitude 22°4' 6.7512" N and Longitude 81°41' 8.4624" E, a small district centre that is situated in the state's centre, covers a 557 sq km area in the Chhattisgarh district of Bilaspur's Kota Taluk (Figure 1). In this hilly landscape, the altitude ranges from 200 to 1000 metres above sea level. With a population of around 55,000, the municipality is quite big. The town has a rather high literacy rate, with over 78% of men being literate. Summertime temperatures can reach 45^0C, and dust

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cyclones are common. This study emphasized herbaceous medicinal plants that are significant in the lives of rural residents in the Achanakmar region and documented ethnobotanical knowledge.

One of the largest tehsils of the 142-year-old state, Mungeli was made a district. Chief Minister Dr. Raman Singh inaugurated the new district. The population of this new district with 3 development blocks is about 5 lakh. Mungeli got the status of tahsil in 1860. Thus, after 142 years, it became a district from Mungeli tehsil. The new district comprises three Tehsil Mungeli, Patharia and Lormi. The district's total area is 1 lakh 63 thousand 942 square kilometers.

Data Collection:

Between March 2020 and March 2022, intensive field surveys were conducted in the research area. After being dried, the collected plant specimens were mounted on herbarium sheets with labels indicating the date and method of collection. The plants were identified by the standard taxonomic literature.

The quadrate method was applied to find out the density, frequency and abundance of medicinal herbal species of the studied region by the following formula:

$$\textbf{Density} = \frac{\text{Total number of individuals of a species in all quadrates}}{\textit{Total number of quadrates studied}}$$

$$\textbf{Frequency (\%)} = \frac{\text{Number of quadrates in which the species occurred}}{\text{Total number of quadrates studied}} \times 100$$

$$\textbf{Abundance} = \frac{\text{Total number of individuals of a species in all quadrates}}{\text{Total Number of quadrates in which the species occur}}$$

$$\textbf{Use value (UV)} = \sum \frac{\text{Ui}}{n}$$

Where, U_i represents the number of usages reported by the indigenous respondents for a particular plant species. *N* represents the total number of informants. If there is much evidence for the usages of a particular plant as reported by the respondents, then the use value of this particular species is high, similarly there are few reports available signifies the lowest use value of particular species (Phillips et al., 1994; Musa et al., 2011).

During field expeditions, native knowledge of wild medicinal plants was gathered through questionnaires, conversations, and in-person interviews. The majority of respondents, it was discovered, were between the ages of 50 and 65. Each informant consented to participate voluntarily and was free to end the interviews whenever they wanted. The field investigation was conducted with the assistance of locals, and samples of medicinally significant plants were obtained with local identity confirmation provided by informants (Figure 2).

Figure 2. Field survey and data collection

Results and Discussion

The current survey identified 54 herbaceous medicinal plants from 30 families that the tribal people utilize to treat various diseases and ailments. Table 1 lists plants alphabetically by family, scientific name, local name, parts used, and numerous therapeutic purposes. The study reveals that the family Zingiberaceae was the dominant family, representing 5 species of therapeutic significance. The other major plant families like Amaranthaceae (3

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species), Acanthaceae (3 species), Fabaceae (3 species), Asteraceae (3 species) and Lamiaceae (3 species) were used by the tribal people for their primary health care needs.

The survey documented the information based on primary sources and locally available plants by the tribal people for their household remedies. For the treatments of various diseases, the tribal people most commonly used Fruits (9.20 %), Leaves (37.03%), Whole plants (12.96%), Rhizome (9.2%), Root (11.11%), Tuber (11.11%), Seed (7.40%), Stem (1.85%).

The scientific name, common name, parts used, medicinal use, frequency, density and abundance of the studied plants were enumerated in Table 1.

The survey records diverse plant families that are used for medicinal purposes, as represented in Figure 3. The result shows that Zingiberaceae occupies the highest position from which indigenous people utilized the plant for various medicinal purposes.

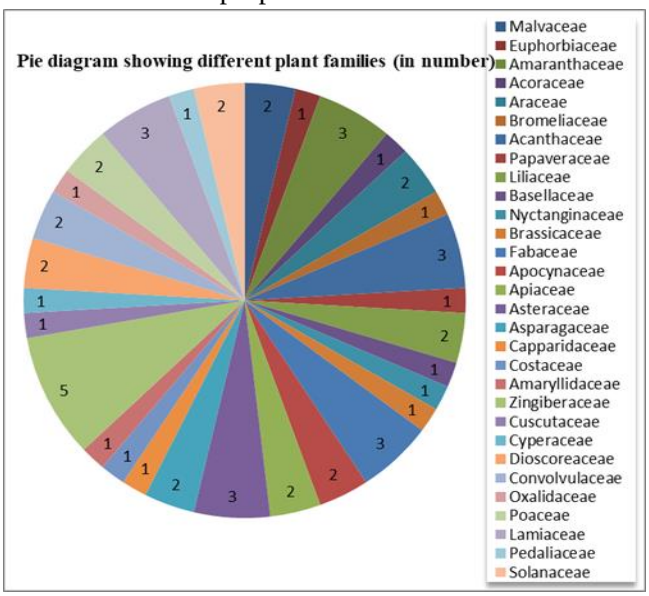

Figure 3. Pie diagram showing different plants of different used plant parts

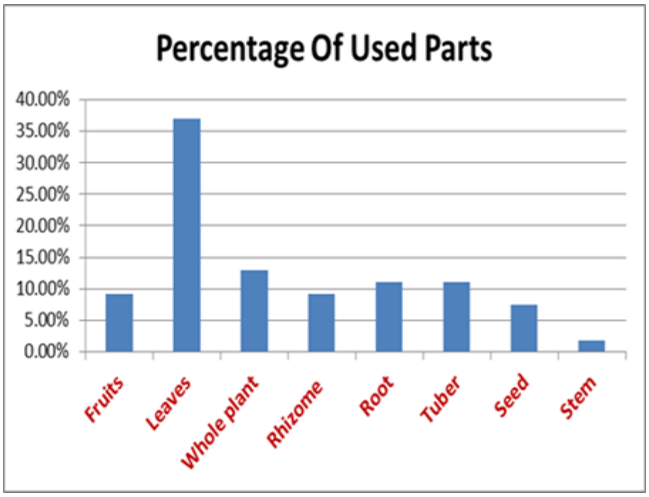

Figure 4. Diagram showing percentages of families having medicinal values

The survey documented the information based on primary sources and locally available plants by the tribal people for their household remedies. For the treatments of various diseases, the tribal people most commonly used Fruits (9.20%), Leaves (37.03%), Whole plants (12.96%), Rhizome (9.2%), Root (11.11%), Tuber (11.11%), Seed (7.40%) and Stem (1.85%) has been represented in Figure 4.

The extensive field survey and interviews with the actual informants reveal the UV (Use Value) of individual plant species represented in Table 1 and Figure 5. It was found that to cure diabetes, people use a maximum number of plant species (5, UV=0.33), namely *Abelmoschus esculentous* L. (Moench), *Ateracantha longifolia, Chlorophytum arundinaceum* Baker, *Costus specious, Puraria tuberose.* To cure an insect bite, the number of plant species (4, UV=0.26), namely *Acalypha indica* L., *Achyranthes aspera* L., *Eclipta alba* (L.) Hassk. *Acorus calamus* L. Several plant species like *Amaranthus gangaticus* L. (1, UV=0.06), *Amaranthus caudatus* L. (1, UV=0.06), *Amorohophallus paeoniifolius* (Dennst) Nicolson (1, UV=0.06), *Ananas comosus* L. (1, UV=0.06), *Andrographis paniculata* (Burm.f.) Wall (1, UV=0.06), *Argemone Mexicana* L. (1, UV=0.06), *Asparagus racemosus* (1, UV=0.06) bearing various disease healing properties like Hepatitis, Nutrient deficiency, Control headache, Stomach problem, Constipation and Jaundice, To relieve from Cough, Malaria, Nerve disorder respectively. To treat Urinary disorder, four plant species (4, UV=0.26) have been utilized: Basella *alba, Brassica niger* (L.) WDJ. Koch., *Cassia tora* and *Solanum Xanthocarpum* etc.

To cure Jaundice, *Boerhaavia diffusa* L. (1, UV=0.06) species were used. For Muscle pain, CNS depression, *Catharanthus roseus* (L.) G. Don. (1, UV=0.06) used. For other disease ailments like Chronic dysentery, *Centella asiatica,* (1, UV=0.06) *for* Wound healing, *Centratherum anthelminticum* (L.) (1, UV=0.06), for Antiseptic, *Cleome viscosa* L. (1, UV=0.06), for Liver tonic, *Colocasis esculenta* L. (1, UV=0.06), for Diarrhea, *Curculigo orchids* Gaertn, *Hordium vulgare* L. (2, UV=0.13), for Kidney stone, *Curcuma angustifolia* (1, UV=0.06), *for* Asthma and bronchitis, *Curcuma amada Roxb.* (1, UV=0.06), *for* Skin infection and allergy, Caugh *Curcuma longa* (1, UV=0.06), for Bone fracture *Cuscuta reflexa* Roxb. (1, UV=0.06), for Indigestion and Chronic Dysentery, *Cyperous scariosus* R. Br., *Dioscorea belophylla* Prain (2, UV=0.13), for Blood purifier, *Enhydra fluctuans Lour.* (1, UV=0.06), *for* Acidity, *Foeniculum vulgare* Mill. (1, UV=0.06) for Skin infections, *Ipomoea pes-caprae* (L.) R.Br., *Gloriosa*

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Table 1. Traditional Uses of Herbaceous Medicinal Plants in the Achanakmar regions of Chhattisgarh state, India.

Sl. No	Scientific Name	Local Name	Family	Accession No.	Parts Used	Uses	TNI	NQS	TQS	F (%)	A	D	UV
1	*Abelmoschus esculentous* L. (Moench)	Bhendi	Malvaceae	CVRU/BOT/AST/140	Fruit	Diabetes	12	4	10	40	3	1.2	0.33
2	*Acalypha indica* L.	Muktojhuri	Euphorbiaceae	CVRU/BOT/AST/141	Leaves	Insect Bite	14	7	10	70	2.3	1.4	0.26
3	*Achyranthes aspera* L.	Chirchira	Amaranthaceae	CVRU/BOT/AST/143	Whole plant	Scorpion bite	14	5	10	50	2.8	1.4	0.26
4	*Acorus calamus* L.	Gorbach	Acoraceae	CVRU/BOT/AST/145	Rhizome	Hepatitis	15	4	10	40	3.8	1.5	0.06
5	*Amaranthus gangaticus* L.	Jadi	Amaranthaceae	CVRU/BOT/AST/142	Leaves	Nutrient deficiency	14	9	10	90	1.9	1.4	0.06
6	*Amaranthus caudatus* L.	Marshisak	Amaranthaceae	CVRU/BOT/AST/144	Leaves	Control headache	5	2	10	20	2.5	0.5	0.06
7	*Amorohophallus paeoniifolius* (Dennst) Nicolson	Zimikand	Araceae	CVRU/BOT/AST/150	Leaves	Stomach problem	7	5	10	50	1.4	0.7	0.06
8	*Ananas comosus* L.	Anaras	Bromeliaceae	CVRU/BOT/AST/151	Fruit	Constipation	9	4	10	40	2.3	0.9	0.06
9	*Andrographis paniculata* (Burm.f.) Wall	Kalmegh	Acanthaceae	CVRU/BOT/AST/152	Leaves	To relieve from Cough	15	9	10	90	1.7	1.5	0.06
10	*Argemone Mexicana* L.	Peeli kater	Papaveraceae	CVRU/BOT/AST/153	Leaves	Malaria	14	7	10	70	2	1.4	0.06
11	*Asparagus racemosus*	Satawar	Liliaceae	CVRU/BOT/AST/154	Root	Nerve disorder	7	3	10	30	2.4	0.7	0.06
12	*Ateracantha longifolia*	Mokhla	Acanthaceae	CVRU/BOT/AST/155	Seed	Diabetes	3	2	10	20	1.5	0.3	0.33
13	*Basella alba*	Poibhaji	Basellaceae	CVRU/BOT/AST/156	Leaves	Urinary disorder	14	10	10	100	1.4	1.4	0.26
14	*Boerhaavia diffusa* L.	Punarnova	Nyctanginaceae	CVRU/BOT/AST/157	Whole plant	Jaundice	4	2	10	20	2	0.4	0.06
15	*Brassica niger* (L.)WDJ. Koch.	Kalisarson	Brassicaceae	CVRU/BOT/AST/158	Leaves	Urinary disorder	6	3	10	30	2	0.6	0.06
16	*Cassia tora*	Charota	Fabaceae	CVRU/BOT/AST/159	Leaves	Urinary disorder	11	4	10	40	2.8	1.1	0.06
17	*Catharanthus roseus* (L.) G.Don.	Nayantara	Apocynaceae	CVRU/BOT/AST/160	Leaves	Muscle pain, CNS depression.	10	2	10	20	5	1.0	0.06
18	*Centella asiatica*	Thankun	Apiaceae	CVRU/BOT/AST/161	Leaves	Chronic dysentery	12	3	10	30	4	1.2	0.06
19	*Centratherum anthelminticum* (L.)	Vanjira	Asteraceae	CVRU/BOT/AST/162	Seed	Wound healing	11	5	10	50	2.2	1.1	0.06
20	*Chlorophytum arundinaceum* Baker	Safedmusli	Asparagaceae	CVRU/BOT/AST/163	Root	Diabetes	12	2	10	20	6	1.2	0.06
21	*Cleome viscosa* L.	Hurhur	Capparidaceae	CVRU/BOT/AST/164	Whole plant	Antiseptic	14	8	10	80	1.5	1.4	0.06
22	*Colocasis esculenta* L.	Bankochai	Araceae	CVRU/BOT/AST/170	Root	Liver tonic	14	9	10	90	1.6	1.4	0.06
23	*Costus specious*	Keokand	Costaceae	CVRU/BOT/AST/165	Root	Diabetes	12	4	10	40	3	1.2	0.33
24	*Curculigo orchids* Gaertn	KaliMusali	Amaryllidaceae	CVRU/BOT/AST/166	Leaves	Diarrhea	12	7	10	70	1.8	1.2	0.16
25	*Curcuma angustifolia*	Tikhur	Zingiberaceae	CVRU/BOT/AST/167	Rhizome	Kidney stone	3	1	10	10	3	0.3	0.06
26	*Curcuma aromatica*	Jangali Haldi	Zingiberaceae	CVRU/BOT/AST/168	Rhizome	Insect Bite	5	2	10	20	2.5	0.5	0.26
27	*Curcuma amada Roxb.*	Amada	Zingiberaceae	CVRU/BOT/AST/169	Rhizome	Asthma and bronchitis.	8	5	10	50	1.6	0.8	0.06
28	*Curcuma longa*	Halud	Zingiberaceae	CVRU/BOT/AST/171	Rhizome	Skin infection and allergy	4	2	10	20	2	0.4	0.06
29	*Cuscuta reflexa* Roxb.	Alok-jui	Cuscutaceae	CVRU/BOT/AST/173	Whole plant	Bone fracture	10	4	10	40	2.6	1.0	0.06
30	*Cyperous scariosus* R. Br.	Muthaghas	Cyperaceae	CVRU/BOT/AST/173	Tuber	Indigestion and Chronic Dysentery	5	3	10	30	1.7	0.5	0.13
31	*Dioscorea hispida* Dennst.	Baichandi	Dioscoreaceae	CVRU/BOT/AST/174	Tuber	Indigestion	7	1	10	10	7	0.7	0.16
32	*Dioscorea belophylla* Prain	Genthi Kanda	Dioscoreaceae	CVRU/BOT/AST/175	Tuber	Indigestion and Chronic Dysentery	6	1	10	10	6	0.6	0.13

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33	*Enhydra fluctuans Lour.*	Hinche	Asteraceae	CVRU/BOT/AST/176	Leaves	Blood purifier	3	2	10	20	1.5	0.3	0.06
34	*Eclipta alba* (L.) Hassk	Keshunt	Asteraceae	CVRU/BOT/AST/177	Leaves	Scorpion bite	4	3	10	30	1.4	0.4	0.26
35	*Foeniculum vulgare Mill.*	Mouri	Apiaceae	CVRU/BOT/AST/178	Fruits	Acidity	2	1	10	10	2	0.2	0.06
36	*Gloriosa superba* (L.)	Kalihari	Liliaceae	CVRU/BOT/AST/182	Whole plant	Skin infections	4	2	10	20	2	0.4	0.13
37	*Hygrophila spinosa* T.	Kulekhara	Acanthaceae	CVRU/BOT/AST/179	Whole plant	Anaemea	12	5	10	50	2.4	1.2	0.13
38	*Ipomea aquatic* Forssk.	Kolmisak	Convolvulaceae	CVRU/BOT/AST/180	Leaves	Wounds	6	1	10	10	6	0.6	0.06
39	*Ipomoea pes-caprae* (L.) R.Br.	Bay-hops	Convolvulaceae	CVRU/BOT/AST/181	Leaves	Skin infections, ulcers, boils.	7	2	10	20	3.5	0.7	0.06
40	*Hibiscus cannbinus* L.	Patwabha	Malvaceae	CVRU/BOT/AST/183	Stem	Anaemea	4	1	10	10	4	0.4	0.06
41	*Hordium vulgare* L.	Jow	Poaceae	CVRU/BOT/AST/	Leaves	Diarrhea	11	5	10	50	2.2	1.1	0.06
42	*Leucas aspera* L.	Bodkibha	Lamiaceae	CVRU/BOT/AST/184	Leaves	Fever, cough, cold	12	1	10	10	12	1.2	0.06
43	*Mimosa pudica* L.	Lajwanti	Fabaceae	CVRU/BOT/AST/185	Root	Toothache	11	4	10	40	2.8	1.1	0.06
44	*Oxalis corniculcta Linn.*	Amrulsak	Oxalidaceae	CVRU/BOT/AST/186	Whole Plant	Colon inflammation	11	6	10	60	1.9	1.1	0.06
45	*Ocimum americamum*	Bantulsa	Lamiaceae	CVRU/BOT/AST/187	Leaves	Insecticide	12	5	10	50	2.4	1.2	0.06
46	*Ocimum sanctum* L.	Tulsi	Lamiaceae	CVRU/BOT/AST/188	Leaves	Cough	4	1	10	10	4	0.4	0.06
47	*Paspalum scrobiculatum*	Kodo	Poaceae	CVRU/BOT/AST/189	Seed	Lower cholesterol	7	2	10	20	3.5	0.7	0.13
48	*Puraria tuberose*	Patal Kumbhda	Fabaceae	CVRU/BOT/AST/190	Tuber	Diabetes	5	4	10	40	1.3	0.5	0.33
49	*Rauvolfia serpentina*	Sarpgandha	Apocynaceae	CVRU/BOT/AST/191	Root	Hypertension	4	1	10	10	4	0.4	0.06
50	*Sesamum indicum* L.	Till	Pedaliaceae	CVRU/BOT/AST/192	Seed	Lower cholesterol	2	1	10	10	2	0.2	0.06
51	*Solanum nigrum*	Mokaya	Solanaceae	CVRU/BOT/AST/193	Fruit	Liver disorder	7	1	10	10	7	0.7	0.06
52	*Solanum Xanthocarpum*	Bhaskatiy	Solanaceae	CVRU/BOT/AST/195	Fruit	Urinary disorder	8	2	10	20	4	0.8	0.06
53	*Urginea indica*	Bangonda	Asparagaceae	CVRU/BOT/AST/194	Tuber	Vomiting	3	1	10	10	3	0.3	0.06
54	*Zinziber roseum* Roscoe.	Jangali Adrak	Zingiberaceae	CVRU/BOT/AST/138	Tuber	Indigestion	21	9	10	90	2.4	2.1	0.16

TNI= Total number of individuals of a species in all quadrates; NQS= Total Number of quadrates in which the species occur; TQS= Total number of quadrates studied; F (%)= Frequency; A= Abundance D= Density; UV= Use Value

superba (L.) (2, UV=0.13), for Anaemea, *Hygrophila spinosa* T., *Hibiscus cannbinus* L. (2, UV=0.13), for Wounds, *Ipomea aquatic* Forssk. (1, UV=0.06), for Skin infections, ulcers boils, *Ipomoea pes-caprae* (L.) R.Br. (1, UV=0.06), for Fever, cough, cold, *Leucas aspera* L. (1, UV=0.06) for Toothache, *Mimosa pudica* L. (1, UV=0.06), for Colon inflammation, *Oxalis corniculcta Linn* (1, UV=0.06)., for Insecticide, *Ocimum americamum*, (1, UV=0.06) for Lower cholesterol, *Paspalum scrobiculatum* (1, UV=0.06), for Hypertension *Rauvolfia serpentina* (1, UV=0.06) for Liver disorder *Solanum nigrum* (1, UV=0.06) for Vomiting *Urginea indica* (1, UV=0.06), for Indigestion, *Zinziber roseum* Roscoe. (1, UV=0.06) has been used by the indigenous people of studied regions.

Conclusion

The ethno-botanical investigation reveals that traditional people use fifty-four (54) medicinal plant species for their primary health care needs. Out of them, the family Zingiberaceae represented the dominant family, representing 5 species of therapeutic significance, followed by Amaranthaceae (3 species), Acanthaceae (3 species), Fabaceae (3 species), Asteraceae (3 species) and Lamiaceae (3 species).

It has been seen that these plant parts are used in various ailments, including diabetes, colon inflammation, abdominal trouble, jaundice, skin infections, ulcers, boils, urinary diseases and many others. For the treatments of various diseases, the tribal people most commonly used Fruits (9.20 %), Leaves (37.03%), Whole plants (12.96%), Rhizome (9.2%), Root (11.11%), Tuber (11.11%), Seed (7.40%), Stem (1.85%). The present

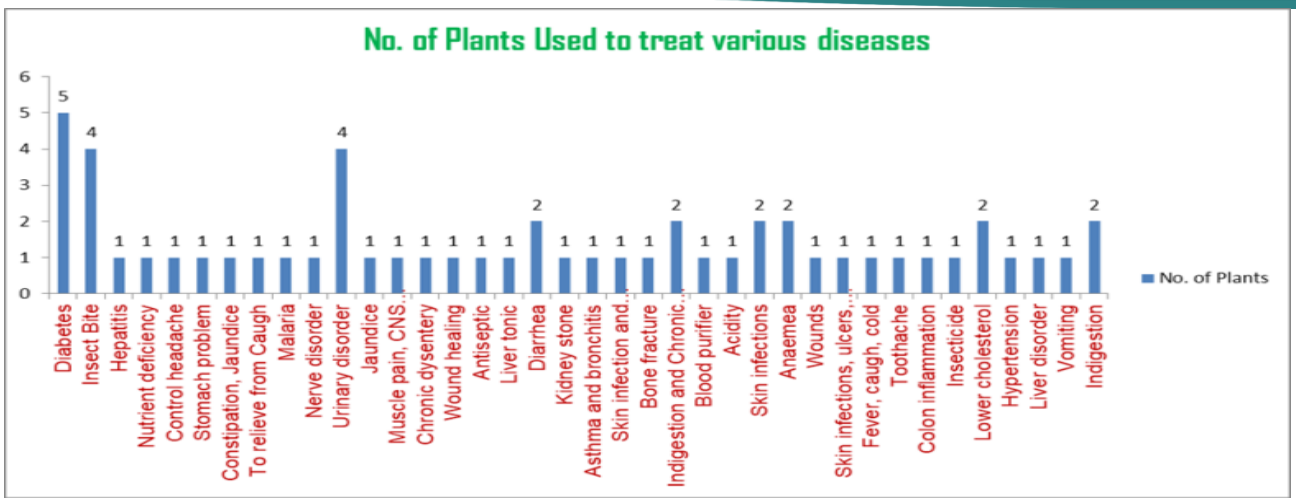

Figure 5. Diagram showing the number of plants used in various diseases

study also reveals that to cure diabetes. People use a maximum number of plant species (5, UV=0.33), namely *Abelmoschus esculentous* L. (Moench), *Ateracantha longifolia*, *Chlorophytum arundinaceum* Baker, *Costus specious*, *Puraria tuberose*. These phytotherapeutic practices will give insight into the hidden aspects of utility of various natural products from plants and may pave the way to future novel drug discovery.

As there is a lack of organized data regarding the utility of these medicinally important plant species in the studied region, the preliminary information obtained from the tribal people and compiled in this paper may be of great use for further research in the field of ethnic-medico-botany, phytochemistry and pharmacology by researchers in future.

Future scope

Traditional knowledge has been depleted daily due to a lack of documentation and proper scientific investigation. The knowledge has been closely guarded by 'Plant doctors' or 'folk medicine men' and has been transferred from generation to generation. It is very difficult to acquire knowledge from these people. So, the knowledge which has been documented in this paper is very precious and has much important for the researchers, botanists, chemists, druggists and for many pharmaceutical companies for isolation and identification of 'active principles' or 'secondary metabolites' for future novel drug discoveries and successive bioactivity studies.

Conflict of interest

There is no conflict of interest.

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