

# Medicinal plants used for diabetes and for dental problem in central part of Chhattisgarh, India.

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## Abstract

Utilization of herbal medicines over the world is increasing day by day due to their low side effect, minimum price and for easily availability. There are many plants having potential values for treatment of varied diseases like Diabetes, Dental problem etc. Among the diverse Medicinal plants some are of remarkable potential for Diabetes and Dental problem which are focused in the current paper. India having around 45000 plant species, out of them many species of Medicinal plants are of rich potential for various diseases. Presence of the plants, traditional knowledge and mode of preparation are main factors leading to successful curing of the particular diseases. The present paper deals with the collection of information about the Medicinal plants used by local peoples from central parts of the Chhattisgarh state in India. Many Medicinal plants are utilized for various purposes. Out of them 30 and 25 plants were selected to document each problem as for Diabetes and for Dental problem. The observed plants are listed following their Botanical name, Common name, Family, Habit, Parts used, Mode of utilization and Propagation methods.

**Keywords:** Dental problem, Diabetes, Medicinal plants

## INTRODUCTION

Diabetes is an endocrine disease which involves metabolic disorders. According to World Health Organization till the year of 2025 around 57 millions peoples will be affected by Diabetes in India. This data will be highest number in the World [1]. Dental problem among peoples also increasing day by day. So, focusing of the present scenario there is a need of to get a alternative source for the problems. Plants have associated for primary health care among the peoples over the world.

Indigenous knowledge on medicinal plants by local peoples for the above purpose will be a source to face the problem related to health. Medicinal plants are major source of drugs and this may be variable based on the plant diversity, their age and climate etc. Chemical compounds present in the plants are a major source of curing the problems. So, they are utilizing as a potential medicinal sources for Diabetes and for Dental problem. Plants are utilizing for the treatment of many diseases since origination of human civilization. The presence of the plants and mode of utilization leads to treat diseases in certain duration and is variable from disease to disease. Medicinal plants are main source of traditional medicine among local peoples.

Diverse group of the medicinal plants are used for various purpose over the world. Numerous of Medicinal plants are utilized in varied system of medicine in India. The types of active ingredients are variable plant to plant; their amount is also differing from various

plant parts. Constituent amount and quality depends on environmental conditions as well as the genetic make-up of the plants.

Many researchers have been done in central India on Medicinal plants like [3], [17], [18], [9], [15], [10], [8] etc. Herbal medicines have remarkable role in primary health care over the world. Utilization of Medicinal plants is differing from place to place based on knowledge, presence and potential of the Medicinal plants for specified purpose. The goal of the present research was to collect information regarding utilization of Medicinal plants for Diabetes and for Dental problems especially.

India is endowed with rich biodiversity where Medicinal plants diversity is also significant spreading over the country. India is a mega biodiversity country among 12 in the world. Among nearly 45000 plant species in India about 7000-8000 species of the plants are reported as medicinal plants used by local peoples [4]. Oldest method for primary health care among the local peoples is the use of herbal medicines. Around 85 % Traditional medicines are derived from herbs and utilized for various disorders.

Utilization of the herbal medicines based on traditional knowledge is recorded by [12]. Documentation of the Medicinal plants is important not only for focusing of its utility but also for the need of their conservation. Traditional knowledge on Medicinal plants used by tribes of Hasanur hills, Erode district, Tamilnadu, India was observed by [14]. The notable contribution on floral diversity in M.P. was made by [5], [6], and [7]. Documentation of traditional knowledge of Medicinal plants to cure many diseases has been carried out by [11] and [19]. Ethno-botanical studies in the world reported by [2], [16] and [13].

## MATERIALS AND METHODS

The present findings are collections of information among the local peoples with special references to utilization of Medicinal plants for Diabetes and for Dental problems.

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The information were gained and further more conformation was made by the peoples of different places than documented following their Botanical name, Common name, Family, Habit, Parts used, Mode of utilization and Propagation methods.

## RESULTS AND DISCUSSION

Results of the documented data on Medicinal plants used for Diabetes and for Dental problem is given in Table -01 and 02. Table -03, 04 and 05 are of Family wise distribution, Useful plant parts and Habit of the recorded Medicinal plants respectively.

There are 30 Medicinal plants used for Diabetes whereas 20 plants are showed their potential utility for Dental problem. Total 50 Medicinal plants are associated for Diabetes and Dental problem belonging to 30 families jointly.

Maximum numbers of Medicinal plants are belonging to the

family Fabaceae as 3-3 each for Diabetes and for Dental problem. Rest of the families includes intermediate number of species composition.

Useful parts of the Medicinal plants for above both purpose is categorized in to 17 types. Out of them maximum eight plants leaves are used for diabetes whereas for Dental problem thirteen plants stem are found useful. Among the recorded Medicinal plants maximum 26.66 % leaf for diabetes and for dental problem 65.00 % stem are used.

Other parts of the Medicinal plants used for the purpose are of variable trends. Medicinal plants showed their variation in Habits. 40.00 % Herbaceous and 60.00 % Tree species are found useful for Diabetes and for Dental problem respectively. Whereas minimum Herb/Climber and 05.00 % Shrubs found to be useful for the purpose separately.

Table 1. Medicinal plants used for Diabetes

S. No	Botanical Name	Common Name	Family	Habit	Parts used	Mode of Utilization	Propagation
1.	<i>Aegle marmelos</i> (L.) Corr.	Bael	Rutaceae	Tree	Fruit	Juice taken orally	Seed
2.	<i>Aerva lanata</i> (L.) Juss. ex Schult.	Sunny khur	Amaranthaceae	Herb	Leaf	Extract	Seed
3.	<i>Albizia leebek</i> Benth.	Siras	Fabaceae	Tree	Leaf	Juice taken orally	Seed
4.	<i>Allium sativum</i> Linn.	Garlic	Liliaceae	Herb	Bulb	Extract	Bulb
5.	<i>Andrographis paniculata</i> Nees	Bhui neem	Acanthaceae	Herb	Whole plant	Leaf powder with water	Seed
6.	<i>Annona squamosa</i> Linn	Sitafal	Annonaceae	Tree	Leaf	Extract	Seed
7.	<i>Asparagus racemosus</i> Willd.	Sataveri	Liliaceae	Shrub	Root	Decoction taken orally	Seed
8.	<i>Barleria prionitis</i> Linn.	Bajradanti	Acanthaceae	Shrub	Leaf, Stem	Extract, As Tooth brush	Seed
9.	<i>Beta vulgaris</i> Linn.	Garden beet	Amaranthaceae	Herb	Root	Extract	Seed
10.	<i>Boerhaavia diffusa</i> Linn.	Gadahpurna	Nyctaginaceae	Herb	Leaf	Extract	Seed/Stem cutting
11.	<i>Cajanus cajan</i> (L.) Millsp	Pigeon pea,	Fabaceae	Herb	Leaf	Extract	Seed
12.	<i>Catharanthus roseus</i> (L.) G. Don.	Sadabahar	Apocynaceae	Herb	Leaf	Leaf taken orally	Seed
13.	<i>Coccinia indica</i> (L.) J.Voigt	Little gourd	Cucurbitaceae	Herb/Climber	Leaf, Fruit	Extract	Seed
14.	<i>Emblica officinalis</i> Gaertn.	Amla	Euphorbiaceae	Tree	Fruit, Bark,	Bark , fruit juice taken orally	Seed
15.	<i>Eugenia jambolina</i> Lam.	Jamun	Myrtaceae	Tree	Fruit, Bark	Juice taken orally	Seed
16.	<i>Ficus bengalensis</i> Linn	Bargad	Ficaceae	Tree	Stem, Bark	Extract	Seed
17.	<i>Gymnema sylvestris</i> (Retz) R. Br.	Gudmar	Asclepiadaceae	Herb/Climber	Leaf, Root	Leaf fresh or dry	Seed/Stem cutting
18.	<i>Helicteres isora</i> Linn	Marod falli	Sterculiaceae	Shrub	Fruit	Decoction taken orally	Seed
19.	<i>Mangifera indica</i> Linn	Aam	Anacardiaceae	Tree	Leaf, Seed	Extract	Seed
20.	<i>Momordica charantia</i> Descourt.	Karela	Cucurbitaceae	Herb	Fruit	Orally	Seed
21.	<i>Moringa oleifera</i> Lam.	Munga	Moringaceae	Tree	Stem bark	Decoction taken orally	Seed
22.	<i>Morus alba</i> Linn.	Mulberry	Moraceae	Shrub	Leaf	Extract	Seed/ Stem cutting
23.	<i>Nelumbo nucifera</i> Gaertn.	Kamal	Nymphaeaceae	Herb	Rhizome	Rhizome Extract	Seed/Rhizome
24.	<i>Ocimum sanctum</i> Linn	Tulsi	Lamiaceae	Herb	Inflorescence	Powder taken orally with water	Seed
25.	<i>Punica granatum</i> Linn.	Anar	Puniaceae	Shrub	Fruit	Juice of Fruit	Seed
26.	<i>Termenalia arjuna</i> Roxb.	Arjun/Kauha	Combretaceae	Tree	Bark, fruit	Decoction Taken orally,	Seed
27.	<i>Tinospora cordifolia</i> (Willd.) Miers.	Giloye	Menispermaceae	Herb/Climber	Root bark	Extract	Seed/ Stem cutting
28.	<i>Trigonella foenum</i> Linn.	Methi	Fabaceae	Herb	Leaf, Seed	Extract	Seed
29.	<i>Zinziber officinale</i> Rose	Adarak	Zingiberaceae	Herb	Rhizome	Juice taken orally	Seed
30.	<i>Zizyphus mauritiana</i> Lam.	Ber	Rhamnaceae	Tree	Leaf	Chewed power taken orally with water	Seed

Table 2. Medicinal plants used for Dental problem :

S. No.	Botanical Name	Common Name	Family	Habit	Parts used	Mode of Utilization	Propagation
1	<i>Abutilon indicum</i> (L.) Sw.	Kanghi	Malvaceae	Herb	Leaf	Extract Gargle	Seed
2	<i>Acacia nilotica</i> (L.) Willd.	Babul	Fabaceae	Tree	Stem	AS tooth brush	Seed
3	<i>Achyranthos aspera</i> Linn.	Latjira	Amaranthaceae	Herb	Stem	AS tooth brush	Seed
4	<i>Azadirachta indica</i> A. Juss.	Neem	Meliaceae	Tree	Leaf, Stem	Extract gargle, As tooth brush	Seed
5	<i>Barleria prionitis</i> Linn.	Bajradanti	Acanthaceae	Shrub	Stem	AS tooth brush	Seed
6	<i>Butea monosperma</i> (Lamk.) Taub.	Palas	Fabaceae	Tree	Stem	Decoction gargle	Seed
7	<i>Carica papaya</i> Linn.	Papita	Caricaceae	Herb	Fruit	Locally Chewed	Seed
8	<i>Commiphora wightii</i> (Arn.) Bhandari	Guggal	Burseraceae	Herb	Gum	Lotion in water gargle	Seed
9	<i>Euphorbia hirta</i> Linn.	Dudhi	Euphorbiaceae	Herb	Whole plant	Juice gargle	Seed
10	<i>Ficus bengalensis</i> Linn	Bargad	Ficaceae	Tree	Stem	Decoction gargle	Seed
11	<i>Ficus glommarata</i> Roxb	Gular	Ficaceae	Tree	Stem	Decoction gargle	Seed
12	<i>Mangifera indica</i> Linn.	Aam	Anacardiaceae	Tree	Stem	Locally Chewed	Seed

13	<i>Pongamia pinnata</i> (L.) Merr.	Kanj	Fabaceae	Tree	Stem	As Tooth brush	Seed
14	<i>Psidium guava</i> Linn.	Bih	Myrtaceae	Tree	Stem, Leaf	As Tooth brush	Seed
15	<i>Shorea robusta</i> Roth.	Sarai	Combrataceae	Tree	Stem	As Tooth brush	Seed
16	<i>Sida acuta</i> Burm. F.	Balihari	Malvaceae	Herb	Stem	As Tooth brush	Seed
17	<i>Termenalia arjuna</i> Roxb.	Arjun, Kauha	Combrataceae	Tree	Stem	As Tooth brush	Seed
18	<i>Vitex negundo</i> Linn.	Nergundi	Verbenaceae	Tree	Leaf, Stem	As Tooth brush	Seed/ Stem cutting
19	<i>Xanthium strumarium</i> Linn.	Cocklebur	Asteraceae	Herb	Stem	As Tooth brush	Seed
20	<i>Zizyphus mauritiana</i> Linn.	Ber	Rhmaceae	Tree	Stem	Chewed power taken orally with water	Seed

Table 3. Family wise distribution of Medicinal plants and their Uses

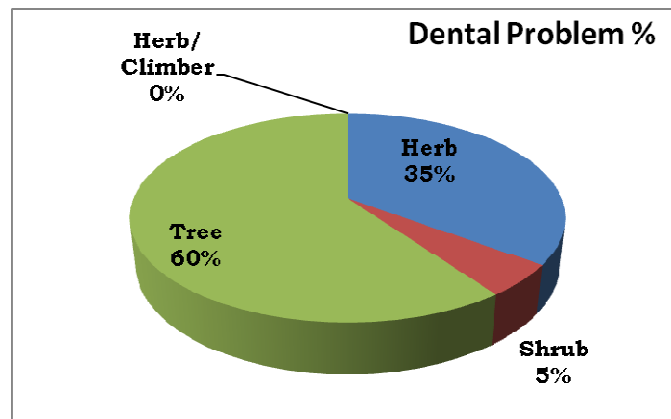
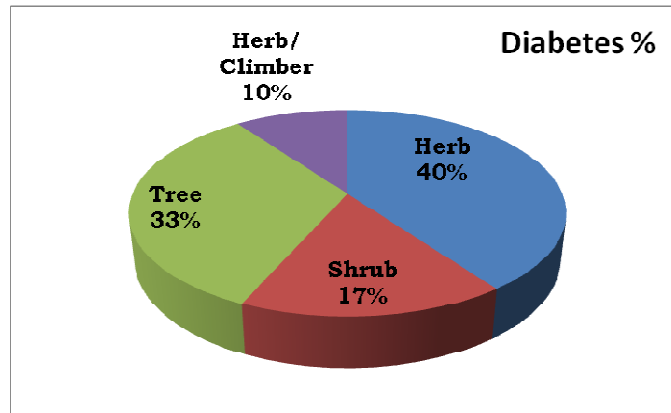
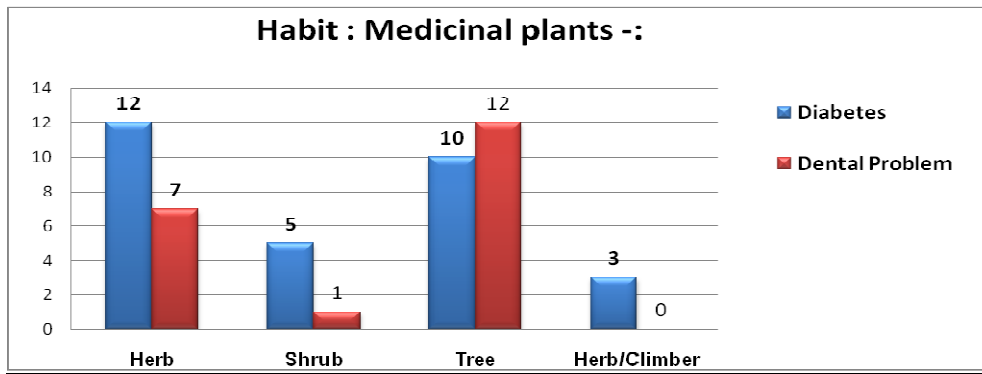
Sl. No	Family	Diabetes	Dental Problem	Total
1	Acanthaceae	2	1	3
2	Amaranthaceae	2	1	3
3	Anacardiaceae	1	1	2
4	Annonaceae	1	-	1
5	Apocynaceae	1	-	1
6	Asclepiadaceae	1	-	1
7	Asteraceae	-	1	1
8	Burseraceae	-	1	1
9	Caricaceae	-	1	1
10	Combrataceae	1	2	3
11	Cucurbitaceae	2	0	2
12	Euphorbiaceae	1	1	2
13	Fabaceae	3	3	6
14	Ficaceae	1	2	3
15	Lamiaceae	1	-	1
16	Liliaceae	2	-	2
17	Malvaceae	-	2	2
18	Meliaceae	-	1	1
19	Menispermaceae	1	-	1
20	Moraceae	1	-	1
21	Moringaceae	1	-	1
22	Myrtaceae	1	1	2
23	Nymphaeaceae	1	-	1
24	Nyctaginaceae	1	-	1
25	Puniaceae	1	-	1
26	Rhmaceae	1	1	2
27	Rutaceae	1	-	1
28	Sterculiaceae	1	-	1
29	Verbenaceae	-	1	1
30	Zingiberaceae	1	-	1
Total		30	20	50

Table 4. Useful plant parts of the Medicinal plants

S. No.	Parts used	Diabetes	%	Dental Problem	%
1	Bulb	1	3.33	1	5.00
2	Fruit	3	10.00	-	-
3	Fruit, Seed, Bark	1	3.33	-	-
4	Fruit, Bark	2	6.66	-	-
5	Gum	-	-	1	5.00
6	Inflorescence	1	3.33	-	-
7	Leaf	8	26.66	1	5.00
8	Leaf, Fruit	1	3.33	-	-
9	Leaf, Root	1	3.33	-	-
10	Leaf, Seed	2	6.66	-	-
11	Leaf, Stem	1	3.33	3	15.00
12	Rhizome	2	6.66	-	-
13	Root	2	6.66	-	-
14	Root, Bark	2	6.66	-	-
15	Stem	-	-	13	65.00
16	Stem, Bark	2	6.66	-	-
17	Whole plant	1	3.33	1	5.00
Total		30	100.00	20	100.00

Table 5. Habit variation of the Medicinal plants

S. No.	Habit	Diabetes	%	Dental Problem	%
1	Herb	12	40.00	07	35.00
2	Shrub	05	16.67	01	05.00
3	Tree	10	33.33	12	60.00
4	Herb/Climber	03	10.00	-	-
Total		30	100.00	20	100.00



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