

Folk medicinal uses and pharmacological studies of few plants of Distt. Goplaganj

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Abstract

District Goplaganj is rich in floristic biodiversity with tremendous medicinal potentialities. This is due to certain changes in physical features and soil texture as this district is located near the tarai of Nepal. This area is situated adjacent to Valmeki nagar, a place of rare vegetation and of very rich biodiversity. The plants in this area made the integral part of the routine health care system of the Gond, Tharu, Nat etc. residing in the small villages and towns. These peoples have immense knowledge about the uses of plants and plant parts. The present paper deals with the folk medicinal uses and pharmacological studies of plants by Gond, Tharu, Nat, Banjara etc. of three blocks named Hathwa, Kuchaikote and Sidhwalia of Goplaganj district of North Bihar. The ethno-medicinal information was gathered through several visits, questionnaire, group discussion with Local people, Vaidyas, Gond, Tharu, Nat, Bnjara etc. The study was carried out during January to December of 2011. This paper records their botanical names, name of the families, english and local names and ailments with the purpose of contributing to the knowledge and preservation of a part of natural cultural heritage and finding out new or rare uses of medicinal plants which could lead to the use of new plant based medicines.

Key words: Folkrore use, Ethnomedicine, Pharmacology, Tribal people.

Throughout the ages, humans have relied on nature for their basic needs like production of food, shelter, clothing, transportation, fertilizers, flavours and fragrances and medicines⁵.

Plants have formed the basis of sophisticated traditional medicine systems that have been in existence for thousands of years and continue to provide mankind with new remedies. About

80% populations of developing countries depend directly on plants for medicines according to WHO. It indicates that herbal medicines have been derived from rich tradition of ancient civilization and scientific heritage. Among the ancient civilizations, India has been known to be rich repository of medicinal plants. The classical Indian texts Rig-Veda, Athervaveda, Charak Samhita and Sushruta Samhita are the evidence of the use of plants by our ancestors.

The forests in India are the principal repository of large number of medicinal and aromatic trees, which are largely collected as raw materials for manufacture of drugs and perfumery products. There are about 8,000 medicinal plants listed in different classical and modern texts on medicinal plants. Around 2,000 species are documented in Indian systems of medicine like Ayurveda, Unani and Siddha. The all India Ethnobotanical survey estimated that over 7,000 plant species are used by 4,539 ethnic communities for human and veterinary care across the country. About 960 medicinal plants are in active use in all India. The knowledge of these indigenous drugs has come through generations verbally is the main subject of ethnobotany⁷. The specific plants to be used and the methods of application for particular ailments were passed down through oral tradition. Eventually information regarding medicinal plants was recorded in herbal Pharmacopoeias². Natural products and their derivatives represent more than 50% of all the drugs in clinical use in the world today^{4,6}. There are considerable economic benefits in the development of indigenous medicines and in the use of medicinal species for the treatment of various diseases¹.

In order to assess the use and consumption of traditionally important and indigenous medicinal plants survey was carried out during January to December 2011 in the different areas like Hathwa, Kuchaikot and Sidhwalia of Distt Gopalganj, Bihar.

The floristic surveys were conducted throughout the study period (January to December 2011) in three different block areas like Hathwa, Kuchaikote and Sidhwalia of Distt. Gopalganj of North Bihar among the peoples like Vaidyas, Gond, Tharu, Nat and Banjara. Gopalganj district lies in between 26.12 to 26.39 North Latitude and 83.54 to 85.56 East Longitude, situated at East of Uttar Pradesh and South of Tarai of Nepal.

The plant specimens were collected during this survey were identified and preserved. The field data was compared with the literatures on the medicinal plants of Tharu belt of Valmeki Nagar of Distt. West Champaran and some literatures of ethnobotany have also been considered. The medicinal application of 20 plant species belonging to 16 families were reported here which are used to cure different diseases and problems like skin disease, dysentery, bone fracture, asthma, rheumatism, fistula, parkinson's disease etc. by local rural and poor peoples.

The method used to collect the data was:

1. The information was collected from the elderly of the rural community in the areas.
2. Interview were conducted using structures questionnaire prepared for Traditional Medicinal Practitioners (TMPs)
3. Data was collected for species found to be in use *i.e.* sold in market by traditional practitioners.

Table:

Sr. No.	Botanical name	English name and Common name	Taxonomic identification	Active constituents	Disease	Folk medicinal use
01.	<i>Tamarindus indica</i> L. Family: Caesalpinaceae	English name: Tamarind Common name: Imli	Plant is a large tree; Flowers small, red and yellow; Pods covered linear somewhat compressed; Wid.	Leaf: Flavones, Vitexin; Fruit: Tartaric acid, Malic acid, Laucine; Seed: Lauric acid, Palmitic acid, Myristic acid, Stearic acid.	Skin disease, Leucoderma.	Seeds are soaked in water and then outer testa are removed, 12 gm. of these seeds mixed with 6 gm. of crystalline sugar are made into divided dose and given daily for three days to treat fistula in anus. Wood coke is kept in dew overnight and ground with 'kalmi shora' (potassium nitrate); this powder is mixed with little water and applied on white spots of affected skin Rheine daily for 45 days to treat leucoderma
02.	<i>Phyllanthus fraternus</i> Webster. Syn: <i>Phyllanthus niruri</i> Auct Pl. Non.L. Family: Euphorbiaceae	English name: Aml. Common name: Bhuiamla.	Plant as an erect glabrous herb; Flowers axillary and yellowish-greenish in colour; Capsules depressed globose and smooth; Wild.	Plant: Flavonoids- Quercetin, Astragalin, Nirurine; Leaf: Lignans- Phyllanthin, Niranthin, Phytetralin;	Sciatica, cuts and Wounds, acute jaundice.	Plant paste is applied locally on cuts and wounds. The paste of whole plant is applied locally and bandaged; simultaneously paste (50 gm.) is given orally once daily, for 21 days in case of sciatica.
03.	<i>Terminalia bellirica</i>	English name:	Plant is a deciduous tree; Flowers spikes,	Fruit: Beta-sitosterol,	Cancer	Equal quantities of the dried fruits of the bahera 'aonla'

	(Gaertn.) Roxb. Family: Combretaceae	Belliric Myrobalan Common name: Bahera	greenishyellow, foetid- smelling; Fruits drupes ovoid or ellipsoide, 5-ridged, gray-velvety; Wild.	Galic acids, Ellagic acids, Athylgallate, Chebulagic acids.		(<i>Phyllanthus emblica</i> L.) and black salt are mixed together, ground and filtered: 5 gram of this powder are taken with water three times daily for 3 days.
04.	<i>Mucuna pruriens</i> (L) DC. Syn : <i>Mucuna prurita</i> Hook Family: Papilionaceae	English name: Common cowitch. Common name: Kewanch, Kivacc.	Plant is a twining or climbing, annual, herb with hairy branches; Leaves trifoliolate densely clothed with silvery grey hairs; Flowers purple in axillary pendulous; Fruits pods ribbed curved, densely clothed with persistent pale brown irritant bristles; Seeds; Wild.	Seed: Gallic acid, Beta-sitosterol, Stearic acid, Palmitic acid, Myristic acid, Arachidic acid, Oleic acid, Linoleic acid, Serotonin, Mucunine, Mucunadine.	Menstruation, Gonorrhoea. Ulcer, Parkinson's disease,	3-4 seds are given to ladies after menstruation for 3-4 days only. Seeds are also used in gonorrhoea.
05.	<i>Centella asiatica</i> (L) Urban Family: Apiaceae	English name: Indian Pennywort. Common name: Brahmi, Bemgsag.	Plant is a perennial creeping herb; Leaves 1.5-3 cm. in diam. reniform; Flowers pink 3 cm. long arranged in umbellate clusters of 3 or 4 rarely solitary, sepals absent; Fruit ovoid, hard with a crown of persistent petals; Seeds brown and oblong. Wild.	Plant: Asiaticoside, Stigmasterol, Isothankuniside, Aspartic acid, Glycine, Glutamic acid, Vit. c, Beta-sitosterol, Palmitic acid, Steric acid, Antiprotozoal.	Post-natal fever; Improve memory; Sunstroke; Somatitis; Headache	Decoction of aerial parts with black pepper is given to treat post-natal fever. One spoonful juice of the leaves is given once in the morning for 3-4 months to improve memory. Plant part is crushed to make a fine paste and taken thrice daily for 3-4 days to treat sunstroke. Fresh leaves are chewed to treat somatitis. Plant paste is applied on fore- head to treat headache.
06.	<i>Vinca rosea</i> L.	English	Plant is a perennial	Plant:	Whole plant	Leaves are ground to make a

	<p>Syn: <i>Catharanthus roseus</i> (L.) G. Don., <i>Lochnera rosea</i> (Linn.) Reichb. Family: Apocyanaceae</p>	<p>name: Madagascar periwinkle, Indian periwinkle Common name: Sadabahar.</p>	<p>herb (30-80 cm. long); Stems pinkish-red; Leaves opposite, glabrous; Flowers white-pink; Fruits follicle, long and cylindrical; Seeds small & blackish-brown. Wild or ornamental.</p>	<p>Alkaloids- Vincarodine, Leurocolombine, Vinamidine; Root: Ursolic acid, Oleanolic acid, Bronesitol;</p>	<p>like leaves and roots</p>	<p>paste and a dose of 50 gram. which is given twice daily for 30 days to give in menstrual disorder, decoction of roots and leaves are given in hypertension. The leaves extract is also used in treating leukemia and other type of cancer and malignant growth.</p>
07.	<p><i>Calotropis procera</i> (L.) R. Br. Family: Asclepiadaceae</p>	<p>English name: Madar milkweed, Gigantic swallow wort. Common name: Akwan, Akhua, Madar.</p>	<p>Plant is an erect much branched milky shrub or small tree; Stem erect branched, tomentose clothed with soft, white, pubescent wool; Leaves opposite, sub-sessile, ovate, purplish-white in umbellatecymes; Fruits follicles, green; Seeds abundant with comma; Wild.</p>	<p>Plant: Beta-sitosterol, Cardiac glucosides, Calactin. Bark: Triterpene. Latex: Calotropains. Flower: Beta-amyrin.</p>	<p>Wounds, Filaria.</p>	<p>To ally inflammations due to filarial lymphoedema, fresh latex is applied externally on toe nails of the patients twice daily for 30-40 days. In the treatment of wounds in case of cattle, a leaf of about 8 cm x 15 cm size is fed daily till the cure is obtained.</p>
08.	<p><i>Datura fastuosa</i> L. Syn. <i>Datura metel</i> L. Family: Solanaceae</p>	<p>English name: White datura, White-thorn apple Common name:</p>	<p>Plant is annual-perennial herb or undershrub; Flowers purple outside whitish within; Fruits subglobose clothed with blunt tubercles (spines) dehiscing irregularly; Seeds</p>	<p>Plant, leaves and flowers: Scopolamine, Atropine, Norhyoscyamine, Vit. C.</p>	<p>Common fever; Malarial fever; Bronchial asthma.</p>	<p>Decoction of root is given for common fever. Seeds are burnt to make ash with clove and taken with honey to treat malarial fever. In case of bronchial asthma after removing the seeds half of one mature fruit with cloves then roasted ground and made</p>

09.	<i>Aloe vera</i> (L.) Burm.f. Syn: <i>Aloe barbadensis</i> Mill. Family: Liliaceae	Dhatura English name: Indian Aloe. Common name: Ghikumari.	palate brown; Wild. Plant is a stoloniferous perennial herb with succulent thorn edge leaves; Flowers vermilion- coloured; Fruits locuicidal capsule; Wild.	Plant: Isobarbaloin, Emodin. Leaf: Asparagine, Aspartic acid, Polysaccharide and Aloesin.	Rheumatic pain; Wound healing; Burns.	into pills. Leaf pulp is mixed with equal quantity of sugar and ghee then fried and cooled; 10 gm. of this preparation are taken once daily for three months to cure rheumatic pain.
10.	<i>Kalanchoe pinnata</i> (L.) Pers. Lam. Syn: <i>Bryophyllum calycinum</i> Salish Family: Crassulaceae	English name: Bryophyllum Common name: Phattar chatta.	Plant is a glabrous, perennial, succulent herb 40-100 cm. long; Leaves simple, opposite or trifoliate, elliptic or oblong; Flowers purple; Fruits follicles, reddish in developing cyme; Wild.	Plant: Sitosterol, Alpha-beta Amylin Leaf: Glycoside- Fumaric acid, Flavon, Isocitric acid, Citric acid.	Difficult urination; Calculi of kidney; Blood dysentery.	Leaf paste is applied externally over the abdomen of the patient in case of difficult urination.
11.	<i>Blumea balsamifera</i> (L) DC. Family: Asteraceae	English name: Nagai Camphor. Common name: Kakaronda	Plant is an erect leafy herb with aromatic smell like camphor; Leaves spatulate & dentate; Heads are placed in groups; Flowers yellow; Fruits achenes; Wild.	Plant: Essentialoil contains Flavonoids, L-Borneol, d-Camphor.	Plant used as fish poison and used in piles (anal-fissure).	Leaves along with equal quantities of Aloe, kalimirch (black pepper) and sange jarahat (soap stone) are paste. Pills of 0.5 gm. are prepared. One tablet is taken during night to treat piles.
12.	<i>Crateava nurvala</i> Buch.-Ham. Syn: <i>Crateava</i>	English name: Ashmaghna Caper tree.	Plant is moderate sized deciduous tree; Stem with yellowish-brown bark; Leaves tri-foliolate palmately compound;	Plant: Triterpenoids, Lupeol, Varunol, Choline,	Urinary tract infection, renal and bladder calculi,	Stem and root bark are very much useful to cure urinary tract infection.

	<i>religiosa</i> Family: Capparidaceae	Common name: Varuna.	Flowers many, white topale-yellow arranged in terminal corymb; Fruits many seeded, berry; Seeds yellow; Wild.	Rutin, Quercetin Isoquercetin;	diarrhea, dysentery, blood pressure etc.	
13.	<i>Asparagus racemosus</i> Willd. Family: Liliaceae	English name: Wild Asparagus Common name: Satawari	Plant is scandent spinous herb or shrub; Leaves and stems modified into spines and cladodes respectively; Flowers small, white; Fruits berries green to scarlet; Wild.	Plant: 4-Saponins (Shatavarin I to IV), Shatavarin IV is a glycoside of Sarsasapogein having 2 mols. of rhamnose and one mol. of glucose.	Common fever; Spermatorrhoea; Blood dysentery; Menstrual disorders; Leucorrhoea; Epilepsy; Leprosy.	Root powder with gur (solidified sugarcane juice) is made into tablets and given to treat common fever. Root paste is given with cow's milk for spermatorrhoea. Root powder is given to nursing mother to increase lactation.
14.	<i>Azadirachta indica</i> A Juss. Family: Meliaceae	English name: Neem tree, Margosa tree. Common name: Nim.	Plant is a perennial tree 10-20 m. tall; Bark blackish, rough with a characteristic odour; Leaves compound 15-20 cm. long, 3-6x1-2 cm. long, serrate acuminate, midrib not in the middle, petiole base swollen; Flowers 6 mm. in diameter, white arranged in axillary panicles usually shorter than leaves, Petals obovate, minutely ciliate, Stamens 10.	Stem bark: Tannin, Non-tannin, Nimbin, Nimbinin. Leaves: Nimbin, Nimbinene, 6-desacetylinibinene, Nimbandiol and Quercetin. Fruits: Gedunin, 7-deacetoxy-7 alpha-hydroxygedunin,	Malarial fever; Intermittent fever; Pain; Swelling; Eczema; Skin disease; Leprosy; Ulcer; Tuberculosis.	Leaves and bark of <i>Moringa angustifolia</i> are mixed with leaves and barks of <i>Azadirachta indica</i> , leaves of <i>Clerodendron viscosum</i> and leaves of <i>Murraya koenigii</i> in half cup of boiled water is taken twice a day for three days to cure fever and pain in body and feet. Leaves of <i>Azadirachta indica</i> , <i>Clerodendron viscosum</i> , <i>Justica adhatoda</i> and <i>Murraya koenigii</i> are boiled in water. One cup of the water is taken twice daily for 5-7 days in the morning and

				filaments united into one bundle, Carpels 3, ovary trilocular; Fruits 1-seeded drupe 1.5-2 cm. long; Seeds ellipsoid, cotyledons thick, fleshy and oily; Wild or ornamental.	Azadiradione, Azadirone.		evening to cure fever and all sorts of pain.
15.	<i>Euphorbia hirta</i> L. Family: Euphorbiaceae	English name: Pill-bearing spruge. Asthma plant. Common-name: Dhudia.	Plant is erect annual herb 20 cm. in height; Stem slender and reddish brown; Leaves opposite and oblong, involucre glands with a prominent limb; Flowers in clusters, glands with a large petaloid limbs; Seeds smooth;	Plant: Flavonoids, Terpenoids, Phenolic acids, Shikimic acid, Choline.	Common fever; Spermatorrhoea; Blood dysentery; Menstrual disorders; Leucorrhoea; Epilepsy; Leprosy.	Green plants dried in shade and make its powder to increase male sexual potency. It is also very useful in the treatment of kidney stone.	
16.	<i>Euphorbia nerifolia</i> Sensu.Hookf Syn: <i>Euphorbia ligularia</i> Roxb. Family: Euphorbiaceae	English name: Common milk hedge. Common name: Suru and Thundar	Plant is a large, erect, fleshy branched glabrous shrub or small tree; Involucres 3-nate in cyathium inflorescence; Fruits capsule, deep red or pale brown, smooth, glabrous; Wild.	Stem and leaf: Taraxerol, Euphol, Euphorbol, Hexacozoate, Cycloartenol.	Otorrhoe; To regenerate hair; Toothache; Gastrophy; Asthma; Cutaneous Diseases.	Fresh latex is poured in the ear to treat otorrhoea. Latex is applied on bald head to regenerate hair in early morning and night. Latex is carefully applied over the aching tooth once only.	
17.	<i>Bacopa monnieri</i> (L.)	English name:	Plant is prostrate or creeping juicy,	Plant: Alkaloid Brahmine,	Epilepsy; Constipation;	It is traditionally used against <u>epilepsy</u> and <u>asthma</u> .	

<p>Pennell. Family: Scrophulariaceae</p>	<p>Thyme leaved gratiola. Common name: Barami, Brahmi.</p>	<p>succulent, glabrous, annual herb rooting at the nodes with numerous ascending branches; Leaves simple, opp-decussate sessile, obovate, entire fleshy; Flowers pale- blue or white, axillary, solitary on long slender pedicels; Fruits capsule; Seeds minute and numerous, Wild.</p>	<p>Herpestine, Saponin, Monniern, Betulic acid etc.</p>	<p>Asthma; Bronchitis; Skin disease.</p>	<p>It is also used in ulcers, tumors, enlarged spleen, indigestion, inflammations, leprosy and anemia.</p>
<p>18. <i>Tribulus terrestris</i> L. Family: Zygophyllaceae</p>	<p>English name: Land- caltrops and Puncture- vine. Common name: Gokharu, Gokhru</p>	<p>Plant is annual or biennial, prostrate or decumbent herbs with many spreading branches; Leaves simple, pinnate opposite, leaflets almost sessile (2.5-6.5 cm. long); Flowers axillary, yellow, 0.5-1 cm. in diameter, solitary, pseudo- axillary; Fruits 5 angled spinous woody schizocarp separating into 5 cocci, each with two long, stiff, sharp divaricatespines towards the distal half</p>	<p>Plant: Saponin, Diosgenin, Gitogenin, Ruscogenin, Kaempferol, Flavonoid Tribuloside.</p>	<p>Gonorrhoea; Leprosy; Skin disease; Gonorrhoea.</p>	<p>The ash of whole plant is good for external application in rheumatritis. Leaves are useful in gonorrhoea, inflammation.</p>

19.	<p><i>Cissus quadrangularis</i> L. Syn: <i>Vitis quadrangularis</i> (Linn.)Wall. Ex Wight &Arm. Family: Vitaceae</p>	<p>English name: Adamant creeper, Bonesetter Common name: Hadjod, Hadjora.</p>	<p>and two shorter ones nearer the base; Seeds one or more in each coccus; Wild. Plant is perennial climbing shrub with stout fleshy jointed quadrangular stems; Tendrils simple and long; Leaves opposed, cordate or dentate;</p>	<p>Stem: Two asymmetric tetracyclic triterpenoids, Onocer-7-ene-3-alpha-beta-diol and Onocer-7-ene-3 beta, 21 alpha-diol and two steroids I & II, Beta-sitosterol.</p>	<p>Bone fractures Skin disease; Leprosy; Epilepsy</p>	<p>In case of bone fracture paste of stem is taken once daily for 3 days with animal fat. In another way root and stem are ground in 1:8 ratio and given orally in the dose of 100g. with water for 15-30 days once daily.</p>
20.	<p><i>Solanum xanthocarpum</i> Schrad. & Wendl. Syn: <i>Solanum surattense</i> Bum.f. Family: Solanaceae</p>	<p>English name: Yellow-berried nightshade Common name: Rengani, Katali, Kattay.</p>	<p>Plant is a prickly diffuse bright green annual herb with zig-zag spreading branches and straight sharp yellowish white prickles; Leaves hairy on both sides, armed on the midrib and the nerves with long sharp prickles; Flowers blue inextra-axillary cymes; Fruits drooping berry, yellow or white and persistent calyx; Seeds many, small, reniform smooth and yellowish brown; Wild.</p>	<p>Fruits: Carpesterol and Glucoalkoloids, Salosodine, Solasonine.</p>	<p>Cough; Urination; Colic; Constipation; Dental carries; Leprosy; Hypertension; Rheumatic fever; Asthma; Bronchitis; Cardiac disorders; Epilepsy etc.</p>	<p>The flower mixed with saffron and honey used in morning and night is very much useful in cough in children. The juice of this plant is mixed with curd is very useful to cure problem in urination.</p>

4. Plant identification and nomenclature are followed after the Flora of Presidency of Bombay (Cooke).
5. Standard method was followed with regard to collection of plant materials, drying, mounting, preparation and preservation of plant specimens¹¹. All the plants samples were pressed according to standard guides. If the plant samples were too long, then they were cut from several areas, so the sample contained the complete plant. At the next stage, samples were stick to the herbarium card boards and they were identified using floras, keys, illustrations and explanations which are available for different sources of plant species. Finally, the medicinal species belong to this family which was introduced using valid standard pharmacological sources.

All the plants mentioned in this paper are very popular among the people of District Gopalganj and enjoys a good reputation in trade medicinal practice in the areas. From this study, it was found that plants are used to treat many serious ailments.

We suggest a detail assessment of resource quantities productive potential, sustainable harvesting methods, domestication possibilities, market value of potentially promising species and importantly equitable benefit sharing regiments. This view is also shared by Shrestha and Dhillion¹¹. Bhat³ recently reviewed diverse sources of such information in traditional abstracting services as well as in a variety of online electronic databases. Properly studied and recorded, this traditional knowledge could revolutionize the world of medicine. It is suggested that, relative

studies for identification of other medicinal species and their importance in traditional medicine can give useful information for estimate of regional potential for production of medicinal plants. The relatively common use of these plants as food as well as medicine in the present study is in agreement with the findings of a similar study on food plant consumption in seven Mediterranean countries by Hadjichambis *et al.*,⁹. Earlier studies on traditional medicinal plants also showed that the economically backward local rural people of Gopalganj distt. of Bihar prefer folk medicine due to low cost and sometimes it is a part of their social life and culture. A vast knowledge of how to use the plants against different illness may be expected to have accumulated in areas where the use of plants is still of great importance⁸.

The results of this study have shown that most of the studied plants are potentially a good source of medicinal agent and support the traditional medicinal application of some plants by medicinal properties.

1. A list of local plants was prepared by enquiring from Vaidya, Gond, Banjara, Nat, Tharus etc. Some medicinal plant species which are found in this region of have been enumerated in the given table.
2. Results of survey shown that 20 plant species belong to 16 families are of medicinal values to treat various diseases.
3. Results showed in table was based on the survey of medicinal plants from different communities in district Gopalganj of state Bihar.
4. The present study documents data regarding

the availability of ethnomedicinal plant resources, which have different potential uses.

Now-a-days it has been realized that the ethnobotanical and pharmacological studies of different medicinal plants are going to play an important role for future in social health system. Rural people, Nat, Gond, Banjara etc. have good knowledge about the medicinal use of many plant species. The rural medicine men like Traditional Medical Practitioners (TMPs) and Vaidya of Distt. Gopalganj possess considerable knowledge of the therapeutic properties of local plants as compared to younger generation which has poor phytotherapeutic knowledge. Their ways to diagnose the disease are interesting as they use ear, nose and hand to diagnose the disease, because they live in interior areas and lack the use of modern scientific instruments; therefore they treat the disease by the use of medicinal plants¹⁰. The plant part used varies from plant to plant. Generally they use leaf juice, root decoction, root extract etc. of the plant specimen, is administered by TMPs in a proper dose.

The traditional use of plants has declined due to scarcity of plant species, because of human activities and also by over grazing by animals. Therefore it is become need of hour to conserve these plant species.

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