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Study of Some Tree Species used as Medecine by the Tribal People of Chandanpur Village of Purulia District, W.B

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Abstract

A survey of medicinal tree plants was carried out in the Chandanpur village of Purulia district along with their use by the residing tribal peoples for the treatment of various ailments in their daily life as well as for some serious diseases. The present project work deals with 27 plant species of 15 families are used by the tribal peoples for several common diseases like bronchitis, diabetes, leprosy, diarrhea, cough, skin disease etc. Documentation of such knowledge is important to evaluate culture and protection exert on local biodiversity.

Keywords: Medicine, Tree Sciences, Tribal People, Plants Drug.

Introduction

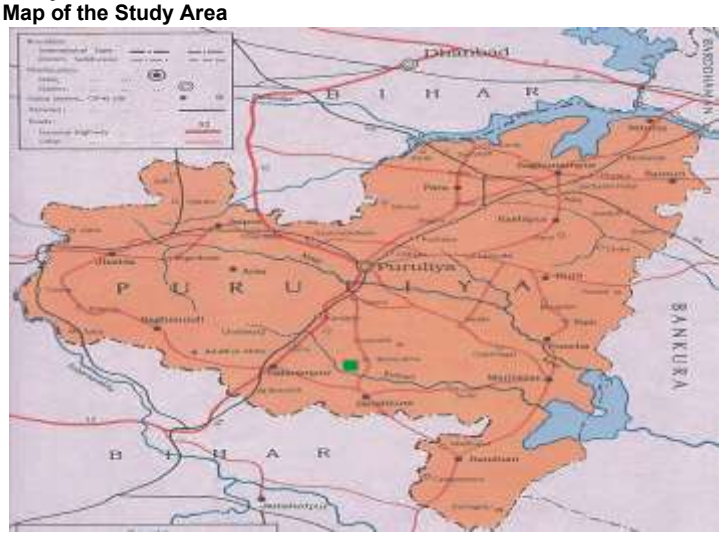
The use of various parts of several tree plant's drugs as indigenous medicine to cure specific ailments have been in vogue from ancient times. We have rich heritage of knowledge about medicinal plants with rural and tribals gathered through experience of generations in the form of folk medicine. But in the last few decades, there is an unprecedented depletion of biodiversity, its habitat and knowledge world over. This raised a global concern, as there 3 factors have been fundamental natural resources for human development. So far, the full potential of the folklore knowledge has not been scientifically explored.

The use of tree plants to cure specific ailments is an age-old practice in our country. Such treatments in the indigenous system have been documented in Ayurveda, Siddha, Unani and other type of therapies. But during the last one century, there has been a rapid extension of allopathic medicinal treatment in India and presently, it has become one of the most prevalent systems of medicine in the modern society of this 21st century. Not only are the curative natures of tree plants but also there affects also documented in this study.

A number of workers have drawn attention towards medicinal plants - Srivastava et al.(1987), Bennet, (1983), Binu, (2009), Krishnal, (1996). The present work is an effort to document and explore the common people's knowledge about some tree plants of Chandanpur village of Purulia district.

Study Area

Map of the Study Area



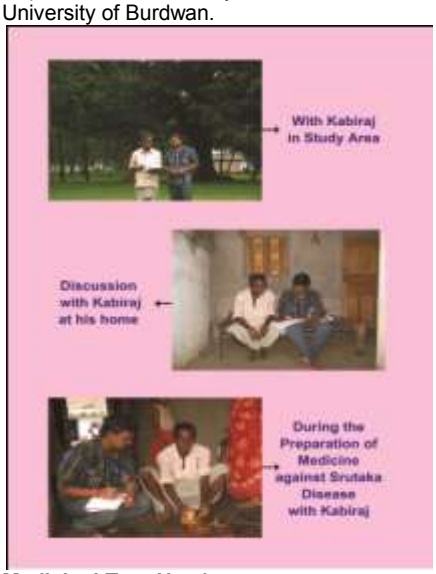
Chandanpur

Purulia lies between 22.60 degree and 23.50 degree north latitude and 85.75 degree and 86.65 degree east longitude. The geographical area of the district is 6259 sq. kms. This district is encircled by Bankura, Midnapore and Burdwan district of West Bengal and Hazaribag, Singbhum, Dhanbad, Ranchi, Jamshedpur and Bokaro of Jharkhand state. The total geographical area of the district is 6259 sq. kms (Census 2001). Out of which the Urban and Rural areas are 79.37 sq. kms (1.27%) (Municipalities & Non-Municipalities) and 6179.63 sq. kms (98.73 %) respectively.For the purpose of the present study, a remote village situated in the southern part of Purulia district was selected.

This small village under the Raotora bhagabandh Gram Panchayet and Barabazar Block. The dwellers are mainly tribals. The tribesman belong to different classes such as Santalis, Mundas, Kols, Kurmi, Sabar etc. There are 37 families and about 210 inhabitants are present in this village. In shape village is roughly rectangular and is about 2.5 sq km in area. The climate is tropical with distinct 3 seasons: Summer (Mar – Jun), Rainy (July – Oct) and winter (Nov – Feb). Temperature varies over a wide range from 7 degree Celsius in winter to 46.80 degree Celsius in the summer. Relative humidity ranges from 26% - 84% of which 80% falls during rainy season. The soil is reddish due to high content of iron.

Materials and Methods

Survey work carried out in different areas of the village. Regular field visits are undertaken to the study area twice a month during January 2012 to May 2012, local names, important medicinal tree plants given by medicine many Ojha, Baidya, Kabiraj and elderly persons were the source of information. Almost all the types of people were interviewed, to make effective communication. The correct Botanical name, with its family, local name, their medicinal properties, method of application, dosage are enlisted in the paper by the help of the Department of Botany, Rama nanda College under the University of Burdwan.



Medicinal Tree No: 1
Scientific Name : Gmelina arborea Roxb.
Family: Verbenaceae
Local Name: Gamari, Gambar, Gumbar
Chemical Constituents

A. Root: Thick yellow colored oil, resin, alkaloids and Benzoic acid.
B. Fruit: Butyric acid and Tartaric acid, also contains alkaloids, sugars, resins and some astringents contents.
C. Wood: It is mainly carbon with some water that is Hydrogen and Oxygen.
D. Ultrasonic gel is usually composed of Propylene glycol, water and occasionally a dye.

Plant Parts Used : Root, bark, leaf, flower, fruit.

Curative Nature	Dose
1. The root and bark of *Gmelina arborea* are claimed to be stomachic, galactagogue laxative, improve appetite	1. Thrice a day in empty stomach.
2. The root and bark is also useful in hallucination, piles, abdominal pains, burning sensations, fevers, tridosha and urinary discharge	2. Thrice a day in empty stomach
3. Leaf paste is applied to relieve headache and leaf juice is used as wash for ulcers.	3. Twice a day in empty stomach
4. Flowers are sweet, cooling bitter, acrid and stringent. They are useful in leprosy and blood disease. It also promotes growths of hair and use to treatment of anaemia	4. Thrice a day in empty stomach
5. Decoction of the root and bark is useful in snake bites	5. Used immediately on affected portion

Effects : Carboline series of bases derivative antibacterial and antiplatelet activities as well as their cytotoxicity and effect on central nervous system.

Medicinal Tree No : 2
Scientific Name : Terminalia arjun (Roxb.) Wt.&Arn
Family : Combretaceae
Local Name : Arjun, Dhavala.
Chemical Constituents :

A. Stem bark: Arjunolic acid, β-sitosterol, Ellagic acid, (+) Leucodelphinidin, Tannins (Catechine, Gallocatechine, Epicatechine, epigallocatechine), Arjungenin, Arjunglucoside I and II.
B. Fruit: Arjunone, Cerasidin, β-sitosterol, Friedelin, Methyl oleanolate, Gallic acid, Ellagic acid, Arjunic acid, Hentriacontane, Myristyloleate, Arachidic stearate.

Plant parts used: Stem, Bark, Fruit, Leaves.

Curative Nature	Dose
1.Stem bark is used in Astringent,Cooling,Aphrodisiac,cardiotonic,demulcent, Styptic, Antidysenteric,Urinary astringent,Expectorant,Alexiteric,Lithontriptictonic,Fractures,Ulcers,Urethrorrhoea,Spermatorrhoea,Leucorrhoea,Diabetes,Anemia,Cardiac disorder,Cough,Tumor, Excessive perspiration, Fatigue, Asthma,Bronchitis,intrinsic, Hemorrhage,Otalgia,Diarrhea associated with blood, Cirrhosis ofliver,hypertension nflammation and skin disorder.	1. Thrice a day on empty stomach. Mice(10,20,30,40 & 50 mg./kg. body wt.)
2. Aqueous extract prevents carbon tetrachloride induced hepatic and renal disorders	2. Thrice a day on empty stomach. Mice(10,20,30,40 & 50 mg./kg. body wt.)
3. Beneficial effects of Terminali arjun in coronary artery disease.	3.Thrice a day on empty stomach. Mice(10,20,30,40 & 50 mg./kg. body wt.)

Effects

1. Toxicity of the extracts at the likely therapeutic dose in human; Significant decrease in plasma LDL cholesterol level; It shows inhibition of oxidative stress.
2. Effects of the bark extract on apoptosis of human hepatoma cell line.
3. Cardio protective role of bark extract is possibly mediated through alterations in thyroid hormones.

Medicinal Tree No : 3
Scientific Name : Schleichera oleosa (Lour). oken
Family : Sapindaceae.
Local Name : Kusum
Chemical Constituents :

A. Phenolic compound, poly phenol
B. Secondary metabolites- glycosides, alkaloids, steroids, flavonoids.
C. Bark: Oleic acid, arachidic acid, stearic acid, palmitic acid, palmistoleic acid, betulinic acid.

Plant Parts Used: Stem, bark, fruit, seed.

Curative Nature	Dose
1.The paste of stem bark is used to cure chest pain	1.Thrice a day in empty Stomach
2. Fruits are consumed for vitamin.	2.After fooding
3. Seed oil is used to treat hair growth.	3.Twice a day in dry hair.

Effects

1. Tannin from root bark possesses antibacterial activities.
2. Phenolic and polyphenols present in the plants are known to be toxic to the micro- organism.
3. Apical stem bark highly inhibited the growth of Bacillus subtilis.

Medicinal Tree No : 4
Scientific Name : Tectona grandis L.f
Family : Verbenaceae
Local Name : Segun, Sakan.
Chemical Constituents

A. Stem bark : Tannins
B. Wood: Resin, a little essential oil, fatty oil, fatty acid (stearic acid, palmitic acid, oleic acid, linoleic acid),quinine like substances (napthaquinone, anthraquinone, quinones).
C. Leaf: no. of quinones .
D. Root: Lapachol, tectol, dehydrotectol, tectoquinone, lapachone and β-sitostrol.

Plant parts used : Root, flower, stem wood.

Curative Nature	Dose
1. Wood is acrid, cooling, laxative, sedative to gravid uterus and useful in treatment of piles, leucoderma and dysentery, headache, biliousness. Also used in treatment of burning sensation and pain of liver related troubles.	1. Thrice a day in empty stomach.
2. Flowers are also acrid, bitter and dry and useful in bronchitis, biliousness urinary discharge.	2. Thrice a day in empty stomach.
3. Roots are useful of urinary system related troubles.	3. Thrice a day in empty stomach.
4. The oil from flower is hair promoter and useful for scabies.	4. Twice a day

Effects

1. Ethyl acetate extract shows anti anthmatic activity.
2. The acute toxicity for all extracts of Tectona grandis bark where performed using swiss albino mice as per OECD guideline.
3. It also affects mast cell degranulation.

Medicinal Tree No : 5
Scientific Name : Swietenia mahagon Jacq.
Family : Meliaceae
Local Name : Mahogony
Chemical Constituents

A. Extract shows the presence of alkaloids, tannins, saponins and carotenoids phenolic contents.

Plant Parts Used: Seed, Stem bark. Root

Curative Nature	Dose
1. Seeds have been used as folk medicine for the treatment of hypertensions and malaria, treatment of cancer, amoebiasis, cough, chest pains and intestinal parasitism.	1. Thrice a day in empty stomach.
2. Flowers are used to control blood pressure.	2. Thrice a day in empty stomach.

Effects

1. It shows toxic effects like liver damage and mutagenesis.
2. It also shows inhibition of amylase in presence of different concentration of seed extracts.
3. Seed extract also shows anti diabetic activity.
4. It also shows antioxidant activities in dose dependent.

Medicinal Tree No : 6
Scientific Name : *Aegle mermelos Corr.*
Family : Rutacae
Local Name : Bael
Chemical Constituents :

A. Stem bark: Skimmianine, fagarine, marmin

Curative Nature	Dose
1. It is used to treatment of asthma, anaemia, fractures, healing of wounds, swollen joints, high blood pressure, jaundice 2. It also used as diarrhoea healthy mind and brain typhoid troubles during pregnancy. 3. It is used as herbal medicine for the management of diabetes of mellitus in ayurvedic. 4. Unripe dried fruit used to cure diarrhoea and dysentery. 5. Root and bark used to treatment of fever. 6. leaves used in the treatment of ophthalmic, leaf poultice is applied to inflammation with blackpeper for edema and constipation and jaundice.	1. Thrice a day in empty stomach (50 mg./kg. body wt.) 2. Thrice a day in empty stomach (50 mg./kg. body wt.) 3. Thrice a day in empty stomach (50 mg./kg. body wt.) 4. Thrice a day in empty stomach (50 mg./kg. body wt.) 5. Thrice a day in empty stomach (50 mg./kg. body wt.) 6. Thrice a day in empty stomach (50 mg./kg. body wt.)

B. Fruit: Marmelosin, luvangetin, aurapten, psoralen, marmelide, tannin.
C. Leaf : Skimmianine, aegeline, lupul, cincol, citral, citronella, cuminaldehyde, eugenol, marmesinine.New alkaloids : N-2 ethyl cinnamoid, N-2 hydroxy 2 ethyl cinnamoid

Plant Parts Used: Leaf, bark, fruit.
Effects:

1. It induced hepatic toxicity,
2. an increased in the concentration of the extracts decreased the motility of sperms
3. extracts decreased serum thyroids hormones level,
4. it also induced gastric ulcers

Medicinal Tree No : 7
Scientific Name : Mangifera indica Linn.
Family : Anacardiaceae
Local Name : Aam.
Chemical Constituents :

1. Stem bark: Two new saponins(mangifericine- A, mangifericine –B), mangostim, 29- hydroxyl mangiferonic acid and mangiferin , trotocatechic acid, catechin.
2. Root bark: Cycloartane type triterpenes, phenolic compound (alkyl gallates,chromones)
3. Flower : alkyl gallates such as gallic acid, ethyl gallate, methyl gallate, n-propyl gallate, n- pentylgallate, n-octylgallate, 4- phenyl gallate, die hydro gallic acid, essential oil humulene, elemene, ocimene, linalool, nerol, β- carotene and xanthophylls
4. Leaf: essential oil humulene, elemene, ocimene, linalool, nerol, β- carotene and xanthophylls

Plant Parts Used : Root, Bark, leaf, Fruits, Seeds, Flowers and Kernels.

Curative Nature	Dose
1. Root relieve jaundice and skin disorders	1..Thrice a day
2. Leaves and roots are given in the treatment of leprosy and leucorrhoea.	2. Thrice a day in empty stomach.
3. Seeds are used in asthma as an astringent	3.Thrice a day in empty stomach

4. The bark is astringent, used in diphtheria and rheumatism, scabies and other cutaneous problem.	4. Thrice a day in empty stomach.
5. Fruits are used in treatment of hemorrhage and piles. Fruit juice used to heat stroke.	5. After feeding.
6. Various parts of plants are used as a denitrifrice, antiseptic, diaphoretic, stomachic, vermifuge, tonic, laxative and diuretic and to treat diarrhoea, dysentery, anaemia, bronchitis, cough, hypertension, insomnia ,toothache, snakebites, daturapoisioning,blood dysentery, excessive urination.	6. Thrice a day in empty stomach

Effects : Not found.
Medicinal Tree No : 8
Scientific Name : Terminalia chebula Linn.
Family : Combretaceae
Local Name : Haritaki
Chemical Constituents

1. 30-32% Tannins (pyrogallol types, rich in gallic acid, ellagic acid and a glycosidic similar to sennoside) and 13.9-16.9% non-Tannins.
2. Chebulin and Chebulinic acid have also been reported.

Plant Parts Used : Root, Bark, Fruits.

Curative Nature	Dose
1.a) Fruits are used for fighting many digestive disorder (flatulence, ulcers, distension and parasitic infections	1. Thrice a day in empty stomach.
b) fruits pulp is used for curing and cleansing ulcers and wounds, leprosy, fever, necrosis, diarrhoea and anorexia.	
c) Decoction of the fruit is used to fight against hepatitis, obesity, oral ulcers, stomatitis and sore throat and also used in gargling.	
d) Fruit mixed with sunthi powder and hot water is used for treating asthma and curing hiccups.	
2. It is used for curing nervous irritability and nervous weakness, various vaginal discharges, used during pregnancy.	2.Thrice a day in empty stomach
3. Powdered haritaki with ghee and honey used for curing anaemia	3. Thrice a day in empty stomach.
4. It is used by conjunctivitis patients for relieving the eye lids.	4. Thrice a day.

Effects

1. It lowers the blood sugars level
2. The fruit cause some adverse reaction in people with diabetes and hypoglycemia.
3. Some people also develop allergic reactions to it.

Medicinal Tree No: 9
Scientific Name: Acacia auricoliformis A.Cunn.
Family: Mimosaceae
Local Name : Akashmoni
Chemical Constituents
Gum : Itcontains 5.3% ash, 0.92% N, 1.68% Methoxyl, Ca 27.7% Uronic acid, The Sugar from the gum after hydrolysis contain 10.1% 4- O Methylglucuronic acid, 17.6% Glucronic acid, 59% Galactose, 8% Arabinose, 5% Rhamnose.
Bark : It contains Ca 13% Water.
Plant Parts Used : Root and Bark.

Curative Nature	Dose
1. A decoction of the root is used to treat aches and pains and sore eyes.	1. Thrice a day in empty stomach.
2. An infusion of the Bark treated rheumatism.	2.Thrice a day in empty stomach

Effects

1. It had an adverse effect on the development of Bactroceracucurbitallarva,A concentration dependent decreased egg hatching was observed hwen melon fly eggs were treated with different concentration of Acetone and water extract. Between the two extract Acetone highly reduced the egg hatching.
2. The plant has rich source of Tannins and Terpenoids along with polyphenols shows anti mutagenic, cytotoxic and anti-oxidant activities.

Medicinal Tree No: 10
Scientific Name*: Albizia lebbeck (L.)Willd.*
Family: Mimosaceae
Local Name: Sirish
Chemical Constituents
Glycosides, Saponins, Flavonoids and Tannins.
Plant parts used: Stem Bark.

Curative Nature	Dose
1.Paste form used to treat pain and inflammation.	1. Thrice a day in empty stomach.
2.Paste improved the texture of the skin.	2. Thrice a day.
3. Paste is applied over the insect bites.	3. Thrice a day.
4.Wounds and injury can also be healed by this application.	4. Thrice a day.
5.It is applied on paining teeth and also cures gum disorders.	5. Thrice a day.
6.Eye disorders can be treated with this plant.	6. Thrice a day in empty stomach.
7.It is used to treat Urinary retention and as blood purifier.	7. Thrice a day in empty stomach.

Effects

1. Paste is applied over the insects' bites to counter the poisoning caused by it.
2. It triggers gastro intestinal disorder.
3. It triggers unwanted hair growth.

Medicinal Tree No: 11
Scientific Name: Butea monosperma (Lamk.)Taub
Family : Moringaceae
Local Name : Palas.
Chemical Constituents :

1. **Gum :** Gallic acid, Tannic acid.
2. **Seed :** Kinotree oil (yellow fixed oil).
3. **Fresh Seed :** Proteolytic enzyme and Lipolytic enzyme.
4. **Flower :** Glucosides, Butrin, Butin, Netcroside, no. of Fatty acid isolated from the oil (Gallic acid, Sulfanillic acid, Ascorbic acid), Ferric chloride.

Plant Parts Used: Leaf, Seed.

Curative Nature	Dose
1.Fresh juice of leaves is also useful in the disease rectal enema; leaves are also useful in diabetes, Glycosuria, in the treatment of leucorrhea ; Decoction of leaves are also used as a vaginal douche for this purpose and obtain by boiling than in water should be used as mouth wash in the treatment of this disorder; hot poultice of the leaves can be applied to resolve boils pimples , timorous piles, ulcer and swelling; leaves are useful in treating the difficulty of retention of Urine.	1. Thrice a day in empty stomach.
2. Seeds, Ground and mixed with lemon juice used to treat skin disorder (Characterized by itching); seeds are beneficial in the treatment of certain skin	2. Thrice a day.

disease; seed powder with honey to form paste as an anthelmintic to kill intestinal worm, especially useful in the treatment of Round worms and Tape worms.	
3. Flowers of this plant are diuretic.	3. Thrice a day in empty stomach.

Effects

1. Flower could inhibit inflammatory reactions in human mast cells.
2. Membranes were blocked with blocking buffer containing nonfat dry milk powder.
3. Cytotoxicity is found in phenolic compound.
4. It shows anti-fertility activity and anti-oxidant activity.

Medicinal Tree No : 12
Scientific Name : Phoenix sylvestris Roxb.
Family : Arecaceae.
Local Name : Khejur.
Chemical Constituents:
Protein (1.2%), Fatty acid (0.4%), Carbohydrate (33.8%). Enzyme (3.7%), minerals (7%), Ca (0.022%), Phosphorus (0.38%), fruit extracts (containing vitamin B, vitamin C)
Plant Parts Used: Root, Fruit and Juice

Curative Nature	Dose
1.Root is used in treatment of Urinary disorder.	Thrice a day in empty stomach, Mice (100,200,400mg/kg body weight).
2.Roots are also used in treatment of Ulcers and sores and digestive disorder.	
3.Juice is very effective in relieving from toothache.	
4.Powder is very effective in strengthening the nervous system , it relieves from respiratory disorders. It helps in improving general health condition, also relieves from fever	
5.It strengthens the circulatory system and is a good aphrodisiac agent.	

Effects

1. Pollen extract was found to be effective in seasonal respiratory allergic subjects susceptible to Phoenix sylvestris pollen with a narrow range of sensitization, also shows significant decreases in skin reactivity.
2. Systematic evaluation of its toxic effect is lacking but the acute and chronic toxic effects of ethanol extract of the plant in rodents.
3. It is safe for human consumption when taken in normal doses.

Medicinal Tree No: 13
Scientific Name: Dalbergia sisoo.
Family: Leguminosae.
Local Name: Sishan, Sisoo.
Chemical Constituents:
Methanol, Chloroform, Hexane,
Plant Parts Used: Bark, Leaf, Fruit.

Curative Nature	Dose
1.It is used in treatment Cancer, central nervous system injury arthritis and heart.	1. Thrice a day in empty stomach.
2.It is used to control disease (Malaria, Filariasis, Japanese Encephalitis, Dengue and Dengue hemorrhagic fever.	2. Thrice a day in empty stomach.
3.It is used in Gonorrhea.	3. Thrice a day in empty stomach.

Effects

1. It shows anti-oxidant and anti-microbial activity.
2. It exhibit repellent activity against mosquito.
3. It is used as insecticide, larvacidal, growth inhibitor, chemosterilant against mosquitos.

Medicinal Tree No : 14
Scientific Name : Ficus bengalensis Linn.
Family : Moraceae.
Local Name : Bad, Bargid, Vat.
Chemical Constituents :
Leucopelargonin and its derivatives, bengalenosidesi.e glycosides or flavonoids, kitones, flavonols,pentacylictriterpenes, triterpenoidscoumarin, sterols, tiglic acid esters, α- D- glucose and meso inositol, aqueous or alcoholic extract.
Plant Parts Used : Latex, Root.

Curative Nature	Dose
1. Latex of the plant is good in curing diarrhea, dysentery, piles, teeth decay, rheumatism, leucorrhoea and other skin related problems, nose disease, gonorrhea..	1. Thrice a day in empty stomach.
2. It is used in treatment of biliousness, Ulcers, erysipelas vomiting.	2. Thrice a day in empty stomach.
3. According to Unani system of medicine, its latex is aphrodisiac, tonic vulnerary, maturant, lessens inflammations of lever.	3. Thrice a day in empty stomach.
4. The aerial root is styptic, useful in syphilis.	4. Thrice a day in empty stomach.
5. Milky juice is used for pains, rheumatism, lumbago and bruises.	5. Thrice a day in empty stomach
6. It is used in treatment of spermatorrhea.	6. Two drops of fresh latex in a lump of sugar are taken once daily on empty stomach early in the morning.
7. Seeds are cooling and tonic in nature, its leaf buds are astringent leaves infusion is given in diarrhea and dysentery poultice of hot leaves is applied on abscesses.	7. Thrice a day in empty stomach.

Effects

1. It reduced the germination percentage and seedling growth.
2. This inhibitory effect may be due to the presence of more methanolic soluble allelochemicals.
3. The inhibitory effects on root length were more in bark methanolic extracts than the leaf methanolic extract.

Medicinal Tree No : 15
Scientific Name : Dyospyros cordifolia Roxb.
Family : Ebenaceae.
Local Name : Kaloankar.
Chemical Constituents:

A. Leaves: Betulin, diospyrin, epiuvaol and a new triterpene along with lupeol, sitosterol, β- sitosterol, stigmasterol.
B. Bark and wood: 7 methyl juglone, mamegakinone, bitramentacenone, isodiospyrin, diospyrin, 8'- hydroxyl diospyrin, 3'- chloro- 2'- hydroxyl diospyrin, chromenone ester, and chromanone acid, allobetulin and oxyallobetulin, tetra hydro diospyrin.
C. Fruit pulp: fatty esters of α- amyrin, ursolic, oleanolic acid; also contains β- sitosterol, lupeol and betulinic acid
D. Seed: Betulinic acid, 1.5% oil, saponifibal fraction of the oil contains palmitic, stearic, oleic and linoleic acid and unsaponified fraction contains lupeol, β- sitosterol and stigmasterol.

Plant parts used : Bark, leaf, root.

Curative Nature	Dose
1. Various parts is used in fever dysuria, gravel, neuralgia, pleurisy, pneumonia, menorrhagia and flooding, puperal fever, diarrhea and poisonous spider bite	1. Thrice a day in empty stomach.

Effects

1. Fruits are poisonous, applied to boils appear on hands with much pain.
2. Crushed leaves are used as fish poisons.
3. Alcoholic extracts inhibits Ehrilich ascites carcinoma in mice.

Medicinal Tree No : 16
Scientific Name : Michelia champaca Linn.
Family : Magnoliaceae.
Local Name : Champak, Champa.
Chemical Constituents :
A. Leaf : parts of the oil obtained from leaves, sequisterpenes(β- elemene, β- caryophyllene, α- humulene, α- selinene and γ- cadinene), one monoterpene(α- terpenolene), four oxygenated sesquiterpenes[(E)- nerolidol, α- cadinol, β- bisabolol,(2E)- farnesol], 2 Aliphatic alcohol(pentadecanol, hexadecanol).
Plant Parts Used : Flower, leaf.

Curative Nature	Dose
1.Decoction of flowers are given in dyspepsia, nausea and fevers, also for preventing scalding in renal disease.	1. Thrice a day in empty stomach.
2.Flowers macerated oil are applied externally in cephalagia, opthalmia, nasal infections, sinus, rheumatism, gout and vertigo, yellow colored flower also used for high fever by boiling the flower.it also used as anti-inflammatory and anti-pyretic.	2. Thrice a day in empty stomach.
3.Leaves juice is given with honey in colic, also applied in andolent swellings. Also used in treatment of vaginal foul smell and infections.	3. Thrice a day in empty stomach.

Effects

1. Champa extract used medicinally in India, was not found to be toxic even in high dose in vitro mice.
2. The burning of incense releases chemicals called polycyclic aromatic hydrocarbon which have been associated with lung cancer.

Medicinal Tree No : 17
Scientific Name : Eucalyptus tereticornis Smith..
Family : Myrtaceae
Local Name : Eucalypatash, Patash
Chemical Constituents:

1. **Leaf and branch tips :** Essential oil from leaves and branch tips contains a-pinene, b-pinene, a-phellandrene, aromadendrene, 1,8-circole, globulol, limonene, piperitone, terpinen-4-ol and epiglobulol.

Plant Parts Used: Leaf, branch

Curative Nature	Dose
1.Essential oil acts as an analgesic, antibacterial, antiseptic, cough medicine, decongestant, anti-inflammatory, antispasmodic, blood flow stimulant, diuretic, fever reducer and expectorant.	1. Thrice a day.
2.Essential oil also has veterinary medicine application.	2. Thrice a day.

Effects

1. Eucalyptus oil is used internally is toxic. Don't use it when there is a digestive problem, high blood pressure, epilepsy or during a pregnancy or when breast feeding and do not give it to infants or children.
2. Full strength oil should not be used on skin and excessive use may cause headaches.

Medicinal Tree No : 18
Scientific Name : Ficus religiosa Linn.
Family : Moraceae.
Local Name : Peepal tree, Asvatthas
Chemical Constituents :

1. **Bark :**Saponins, tannins, flavonoids, steroids, terpenoids and cardiac glycosides.

Plant Parts Used : Stem bark, Root bark, Aerial roots, Vegetative buds, Leaf, Fruit and Latex.

Curative Nature	Dose
1. Bark astringent, Cooling,aphrodisiac,antibacterial against Staphylococcus aureus and E.coli,gonorrhoea, diarrhea dysentery,haemorrhoids and gastrohelcosis,anti-flammatory, burns.	1. Thrice a day in empty stomach.
2.Bark decoction is used in treatment of cooling, gonorrhea, skin disease, scabies, hiccup, vomiting.	2. Thrice a day.
3.Leaves and tender shoots curagative, wounds, skin disease.	3. Thrice a day.
4.Leaf juice is used to treat asthma, cough, sexual disorder, diarrhea, hematuria, toothache, migraine, eye troubles, gastric problems, and scabies.	4.Thrice a day in empty stomach
5.Leaf decoction analgesic for toothache.	5. Thrice a day
6.Dried fruit is used in treatment of tuberculosis, fever, paralysis, hemorrhoids	6.Thrice a day in empty stomach
7.Fruits are used to treat asthma, laxative, digestive.	7. After fooding.
8.Seeds are used in refrigerant laxative.	8.Thrice a day in empty stomach
9.Latex are used in treatment of neuralgia, inflammations, hemorrhages.	9. Thrice a day
10.The bark is an important ingredient in much Ayurvedic formulation.	10.Thrice a day in empty stomach

Effects

1. The effect of methanol extract on scopolamine-induced anterograde and retrograde amnesia in mice.
2. Inhibition of the anti-amnesic effect of free by cyproheptadine substantiates the involvement of serotonergic pathways for its activity.
3. It shows anti-oxidant activities and relieve stress in the body.

Medicinal Tree No : 19
Scientific Name : Diospyros melanoxylon Roxb.
Family : Ebenaceae
Local Name : Makarkendh
Chemical Constituents :

1. Gallic acid,Methylgallate, Ellagic acid, Kaempferol, Quercetin, Myricetin, Myricetin 3-o-β-glucuronide and Myricetin-3-o-α-rhamnoside.

Plant Parts Used: Leaf, Bark, Fruit, Seed

Curative Nature	Dose
1.Decoction of bark is used in ulcers and dysentery.	1. Thrice a day in empty stomach
2.Seed oil is applied against scorpion sting.	2. Thrice a day
3.Fruit extract is used to cure gum's wound	3. Twice a day over the wound.

Effects

1. It shows antioxidant, antiproliferative, antihyperglycemic and cytotoxic activity.

2. The pentacyclic triterpines (flavones) found in leaves possess antimicrobial properties.
3. Isolated compounds used against nine human cancers.

Medicinal Tree No : 20
Scientific Name : Ficus hispida Linn.
Family : Moracrae
Local Name : Dumur.
Chemical Constituents :

1. **Leaf :** phenanthroindolizidine alkaloid o-methyl tylophorinidene, 1-hydroxy linalool benzyl alcohol. Ficustriol were isolated from CHCl3 extract of the leaves and twigs moreover another chemical constituents are also found in this tree is following as - alkaloids (norisoprenoid, fucistriol, phenanthroin, dolizidine), carbohydrates(palmitic oil), protein and amino acid(9,12 octadecadienoic acid, ethyl ester, linalool), sterol, phenol, flavonoids, gums and mucilage, glycosides, saponins and terpenes.

Plant Parts Used: Fruit, Bark, Leaf.

Curative Nature	Dose
1.A mixture of honet and this fruit's juice is a good antihemorrhagic but the bark and leaves are used as antidiarrhoeal ,antidiabetic and cardio protective, neuro protective, antineoplasic activity and antiinfalmmatory effects.	1. Thrice a day in empty stomach. (200 mg./kg. body wt.)
2.Different parts of the plant have been used in the treatment of ulcers, psoriasis, anemia, piles, jaundice, vitiligo, hemorrhage, diabetes, convulsion, hepatitis, dysentery, biliousness and as lectagogue and puragative content of the plant.	2. Thrice a day in empty stomach. (200 mg/kg. body wt.)

Effects

1. Leaf extract shows potent cytotoxic activity when tested against a small panel of human cancer cell.
2. Dyshomeostasis diabetes provokes oxidative stress that causes damage to multiple organs.
3. It leads to various complications including diabetic encephalopathy.
4. Multi component botanical extract could alleviate these diverse alterations which lead to diabetic brain damage.
5. Non steroidal anti-inflammatory drugs were full of side effects especially ulceration cause gastric ulceration.

Medicinal Tree No: 21
Scientific Name: Bauhinia acuminate Linn.
Family: Leguminosae
Local Name:Kurol, kural
Chemical Constituents:

1. Glycosides, saponins, flavonoids, triterpenoids, phenolic compounds, oxepins (bauhinia statins 1), fatty acids and phytosterol, ethanolic extract of root provide bauhinia statins 1, 2, 3 and pacharin.

Plant parts used : Root, Bark, Leaf, Flower

Curative Nature	Dose
1.The bark and leaves in a decoction helps relieve biliousness, is given for allying asthmatic attack, also used in treatment of bladder venereal disease, leprosy and urinary discharge (gonorrhea).	1. Thrice a day in empty stomach.
2.The paste of the leaves applied on the throat for throat troubles also applied externally to treat skin disease.	2. Thrice a day.
3.The root is boiled in oil and applied to burns.	3. Thrice a day.
4.The roots are used in the treatment of cough and cold.	4. Thrice a day in empty stomach.
5.It is used in the treatment of gastro intestinal disease	5. Thrice a day in empty stomach.

Effects

1. Ethanolic extract shows growth inhibition against a mini panel of human cancer cell lines.

Medicinal Tree No : 22
Scientific Name : Azadirachta indica A.Juss.
Family : Meliaceae
Local Name : Neem, Nim
Chemical Constituents :

1. **Terpenoids:-** more than 100 active compounds have been isolated from the neem tree belonging to the group subdivided into protolimennoids, limonoids, pentatriterpenoids, hexatriterpenoids, the limonoids group is consist nine magor groups – Azadirachtin, Salannin, Nimbin, Nimbolinin, Gedunin, Azadirone, Amoorastatin, Vepinin, Vilasinin.

Plant Parts Used: Fruit, Bark, Leaf

Curative Nature	Dose
1.Decoctin of bark is used by women after menstruation period as contraceptive.	1. Thrice a day in empty stomach.
2.Leaf extract is taken to purify blood and also for the protection of liver ; leaves are consumed as preventive medicine to pox	2. Thrice a day in empty stomach.
3.Neem oil and neem bark are UNSAFE to use during pregnancy. They can cause a miscarriage; oil extract from the fruit and seed is applied also on skin disease	3. Thrice a day.

Effects

1. Neem is unsafe for children serious side effects in infants and small children can happen within hours after taking neem oil. These serious side effects include vomiting diarrhea, drowsiness, blood disorders, and seizures, loss of consciousness, coma, brain disorder and death.
2. When need is taken in large doses or for long period of time, it might be unsafe, it might harm the kidneys and liver.

Medicinal Tree No : 23
Scientific Name : Holarrhenaanti dysenterica Linn.
Family : Apocynaceae
Local Name : Kurchi, Kura, Kora, Kureya.
Chemical Constiuents :

1. Carboline (26 derivatives), Kurchinin (15 derivatives), Pubescinine, Holamide, Norholoadiene.

Plant Parts Used : Bark, Seeds, Stem, Root, Flower

Curative Nature	Dose
1.Seeds are cooling, appetizing & astringent to the bowls ; also used in the treatment of fever & cold.	1. Thrice a day in empty stomach.
2.Flowers improve appetite.	2. Thrice a day.
3.The root and dried bark of the plant used as antidysentric drug	3. Thrice a day in empty stomach.
4.Kurchi is used as anti-helminthic for diarrhea and skin disease.	4. Thrice a day.
5.Decoction of bark and seeds mixing with honey is taken to cure dysentery	5. Thrice a day in empty stomach.
6.Bark and seeds are soaked in water and such extract is taken to cure diarrhea	6. 3-4 spoonfuls once daily for 3-4 Days
7.Several Indian tribes have used the plant in ailments like anemia, epilepsy, stomach pain & cholera.	7. Thrice a day in empty stomach.

Effects

1. Carboline series of bases derivatives anti-bacterial and anti-platelet activities as well as their toxicity and effect on central nervous system.

Medicinal Tree No : 24
Scientific Name : Shorea robusta Gaertn. f.
Family : Dipterocarpaceae.
Local Name : Sal
Chemical Constiuents :

1. Petroleum ether, Methanol, Benzene and aqueous non-triterpene, Dannarenolic acid, Asiatic acid, Dipterocarpol, Triterpenic acid, Tannic acid, and Phenolic compound. Tannin resin, Volatile matter are the active ingredients of the drug.

Plant Parts Used: Seed, Bark, Resin

Curative Nature	Dose
1.Bark is crushed and boiled water and the filtrate administered to treat diarrhea, skin allergies and diarrhea.	1.One cup of filtrate twice a day for 3-4 days on empty stomach
2.About 200mg time dust of resin along with water to cure dysentery.	2. Thrice a day on empty stomach.
3.Seed oil is used as ointment to relieve rheumatic pain	3. Thrice a day in empty stomach.
4.It possesses anti-bacterial, analgesic and wound healing effect.	4. Thrice a day.

Effects

1. Phytochemical activity against pathogenic microorganism.

Medicinal Tree No : 25
Scientific Name : Terminalia bellirica (Gaertn.) Roxb.
Family : Combretaceae
Local Name : Bahera
Chemical Constiuents :

1. Main chemical constitutes are tannins mainly include β – sitosterol, gallic acid, ellagic acid, ethyl gallate, galloyl glucose and chebulagenic acid, fixed oil.

Plant Parts Used : Seed, Fruit

Curative Nature	Dose
1. Few fruits are soaked in water for overnight and such extract is taken in empty stomach to treat liver disorders; fruit is also important in various disorders-coughs, sore throat, abnormal digestion, worms eye disorders, antipyretic, astringent, digestive, laxative, narcotic, tonic, diarrhea, dropsy, dyspepsia, headache, fever, leprosy, piles, skin infection.	1. Thrice a day on empty stomach.
2. Seed pulp is crushed in water and made into paste; such paste is applied for hair growth.	2. Twice a day on dry hair.
3. Ayurvedic TRIPHALA is made with the combination of T.chebula and Emblica officinales.	3. Thrice a day on empty stomach
4. It is useful in cough bronchitis and pharyngitis; also used in skin disease, leucoderma and greyness of hair; also used in ophthalmopathy, stangury, splenomegaly, cephalagic and general debility; also used in flatulence and vomiting	4. Thrice a day on empty stomach.

Effects

1. It shows scavenging activity against mitochondrial lipid peroxidation.
2. It causes significant decrease in cholesterol level.
3. It shows significant inhibition of microsomal lipid peroxidation and reduction in triglyceride levels in liver.
4. It shows reduction in total acidity and peptic activity and increase mucin content.

Medicinal Tree No : 26
Scientific Name : Tamarindus indica L.
Family : Caesalpiniaceae
Local Name : Tamarind, Tentul
Chemical Constiuents :

1. Fruit: Organic acid (tartaric acid, acetic acid, citric acid, malic acid, succinic acid) , Amino acids (alanine, leucine, phenylalanine, proline, serine), invert sugar, pectin, some pyrazines, trans 2-hexenal and some thiazoles, butylmaleate.
2. Another compound: 32 fatty acids, two other compounds, 9 beta, 19-cyclo-4-β-4, 4, 14, X-trimethyl-5α-cholestan 3 beta ol, 24 R-ethyl-cholest-5-en.
3. Metal: Arsenic, calcium, copper, iron, cadmium, sodium, manganese, magnesium, potassium, phosphorus, lead and zinc.

Plant Parts Used : Seed, Fruit, Flower, Leaf

Curative Nature	Dose
1.Flower and leaf juice is used to prevent worm infection, piles and small pox.	1. Thrice a day on empty stomach.
2.Ripe fruits are digestive.	2. After fooding.
3.The seed is boiled in water and the extract is taken to cure diabetes.	3. Thrice a day on empty stomach.

Effects

1. Butyl maleate exhibit pronounced cytotoxic activity.

Medicinal Tree No: 27
Scientific Name : Madhuca indica Gmel.
Family : Sapotaceae.
Local Name : Mahua, Maul, Mahwle
Chemical Constiuents :

1. Leaf: Minerals, potas, phosphoric acid.
2. Bark: Protobasic glycosides (madhucosides A and madhucosides B), sapogenin, terpenoids (madhusic acid), steroids, saponin,flavonoids, madhusajone.
3. Flower: 2-acetyl 1 pyrroline resin (soluble and insoluble), Ascorbic acid, Thiamine, Riboflavin, Viacine, Folic acid, Biotine, Inositol.
4. Anti-cancerous compound : (Vinblastin and Vincristine), cardio protective drags (Digoxine, Digitoxin).

Plant Parts Used : Seed, Flower, Young plants, Leaves, Stems, Bark, Root, Fruit.

Curative Nature	Dose
1.Flower is sweet refrigerant used as Aphodisic, Tonic, Dipsica, Bronchitis, Astringent, Anti ulcers, Acute and Chonic, Tonsillitis, Pharyngitis; Flower juice is used as Tonic to remove gas and bile problem.	1.Thrice a day on empty stomach.
2.Bark is used in the treatment of Rheumatism, Ulcers, Inflammation, Bleeding, Spongygums, Tonsillitis, Diabetic, Stomachache, Anti snake poisoning, Astringent, Emollient.	2.Thrice a day
3.Seed oil is used as muscle relaxant and prescribed to massage gently to cure Rheumatic pain	3. 4 to 5 times daily.

Effects

1. Seed oil and flowers are mostly used in the production of the alcoholic beverage and sweet candy which make the man addicted.
2. It is used as anti-diabetic, anti-ulcer, hepato protective, antipyretic, antifertility, analgesic, antioxidant, anti-earthworm.
3. Protobasic glycosides from bark show inhibitory effects on both super oxide release from polymorph nuclear cells and hypochlorous acid generation from neutrophils.

List of Photographs of Flowers & Fruits of a Few Tree Species

Results & Discussion

As a result of survey, many interesting and usefull information about the tree plants. Total 27 number of plant species grouped into 15 families were recorded which are used medically by the rural and tribal people of Chandanpur. It was observed that the most of the people are using both the traditional and modern system of medicine for their ailments. People who extensively and solely use these plants as medicine, found to be effective without side effects. The present study revealed that the folk medicine is a very important aspect of medical anthropology and is rightly attracting attention. Though the modern medicine system has made more spectacular strides during the last century, yet many people still follow native or indigenous system of medicine. The indigenous or folk medicine still remain alive as precious to the medicinal needs of the third world and herbal medicine continue to the medicinal needs of the third world countries, as it is considered to be almost free from side effects and cost effective.

Now, there is an increasing awareness about its usefulness. It is hoped that documentation of such information will play an important role in framing the health policies for the people in general and for those living in tribal dominated regions in particular. Moreover, there has been a renewed interest in herbal medicines as it is considered to be time tested and safer than synthetic drugs. It is therefore hoped that greater interest shown in the system can be used in curing the illness and promoting and preserving the health of people in rural and semi urban areas. There are also a few chemical constituents of these medicinal plants is documented in it that increases the knowledge of people.

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