



# To Study the Ethnobotany and Angiospermic Diversity of Kangra District (H.P.)

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**Abstract:** *Since long, medicinal plants have been extensively used for treating various diseases both in humans as well as other animals. Kangra is a quiet large district of Himachal Pradesh, where the ethnobotanical studies on medicinal plants is quiet meager, therefore, the proposed research will explore the knowledge about traditional medicinal plants of the district and their uses for treating several diseases.*

*Further, some of the important and rare medicinal plant species will be evaluated for their phytochemical, antioxidant and antimicrobial activities thus, confirming their uses for making certain herbal formulations for the society.*

*The study on ethnobotany of traditional medicinal plants is of both national as well as international importance as it will help to explore the medicinal plant wealth of unexplored Kangra district. The herbal formulations can be prepared after knowing the uses of these species which will be useful for the society to get some independency from allopathic medicines having large number of side effects.*

*The proposed study is relevant to the needs of the immediate environment in terms to reduce dependency on the allopathic medicine even on small diseases. This study also enhances use of medicinal plants to various diseases for preliminary application. The proposed work meet the industry needs as some of the plants which are medicinally important will be extracted and tested in the laboratory for the preparation of herbal formulations. Those medicinal herbs can then be collected and supplied to certain pharmaceutical companies for the preparation of other herbal drugs.*

**Keywords:** *Ethnobotany, Medicinal Plants, traditional, Phytobiodiversity.*

## Introduction:

Phytobiodiversity is started from two words "Phyto" and 'biodiversity'. Phyto implies plant and biodiversity implies assorted qualities among and inside plant and creature species in a situation. Ethnobotany is characterized as the aggregate man-plant connections. Ethnobotany is the investigation of how individuals of a specific culture and district make utilization of indigenous (local) plants. Since their most punctual causes, people have relied on upon plants for their essential needs and presence. Plants give nourishment, prescription, shield, colors, strands, oils, gums, gums, cleansers, waxes, latex, tannins, and even add to the air we relax. Numerous local people groups additionally utilized plants in stylized or profound ceremonies. Analyzing human life on earth requires understanding the part of plants in authentic and current day societies (USDA, United States Department of Agriculture, Forest Service ).It uncovers the valuable data on the unexplored and unexploited normal assets and gives us the new utilization of these regular assets. Ethnobotany is an investigation of how plants are utilized by the indigenous individuals of a specific culture or area. From "ethno"- investigation of individuals and "organic science"- investigation of plants, the expression "Ethnobotany" was authored by J. W. Harshberger (1896) to demonstrate plants utilized by the aboriginals.



The utilization of plants as medication goes back to the early man. There are records of the utilization of therapeutic plants by antiquated incredible civic establishments, for example, those of China, India, the Middle East, North Africa, and South America. This culture proceeds with today as people solution in various parts of the world and prompted the advancement of conventional frameworks of prescription. Deliberate and logical examinations of conventional therapeutic plants have additionally given numerous profitable medications in western solution. Most extreme individuals of rustic regions rely on upon timberland for their occupation and utilize different plants for their medicinal services. Around 27% populaces rely on upon woodland for their vocations in India (Anonymous, 2006).

Ethnobotany advances appropriate use and furthermore to save these plant assets for additionally utilize. According to various reports India is one of the wealthiest natural legacies with more than 50 million tribal individuals under 300 tribal groups, constituting around 8% of the aggregate populace of the nation (Anonymous 1994; Maheshwari 1987). Around 15% of the aggregate geological region of the nation is possessed by the tribal's (Gupta 1987). The tribal ethnobotanical data is critical not for the tribal individuals themselves, but rather additionally advantageous for the entire world. Man has utilized restorative plants as a noteworthy wellspring of remedial specialists for a huge number of years. In India, out of 15,000 types of blossoming plants around 17% are thought to be of therapeutic value(Jain,1968).Most of the plants are gathered from nature unpredictably for business misuse, bringing about consumption and to some degree, are getting to be plainly uncommon and endangered. Therefore, considering these elements, a stock of restorative plant species which advanced and received over a long stretch, expect extraordinary importance (Dalal et al., 1998; Kumar et al., 1997; Pushpangadan, 1998).

Utilization of plants as a wellspring of pharmaceutical is an imperative segment of the human services framework in India. More than 80 percent populace of creating nations can't bear the cost of the most fundamental therapeutic medications and immunizations. Around 40 for each penny populace of the western nations are utilizing the home grown solution for their human services (Pandey et al., 2013). India has rich abundance of imperative therapeutic verdure because of variable climatic conditions. Therapeutic plants assumes real part in pharmaceutical industry. The utilization of these home grown medications is practical as well as protected and free from genuine reactions. The therapeutic plants are utilized all through the world in two diverse arrangement of meds i.e. conventional arrangement of prescription and current arrangement of pharmaceutical.

Lamentably, these old civic establishments, conventional aptitudes and convictions will be lost because of modernization, industrialization and furthermore by disposing of the customary way of life by more youthful era. The general population of the tribal territories are the archive of aggregated understanding and information about conventional employments of therapeutic plants. Yet, because of present day human progress into tribal zones, learning about the utilization of customary home grown riches is vanishing quickly. It is very much announced by all India ethnobotanical study by Ministry of Environment and Forests, Government of India (1994 ),that around 7500 plant species are utilized as a part of conventional restorative framework by 4635 ethnic groups. World people group is confronting



test to inventories and records all ethnobotanical informations before the customary societies are lost until the end of time.

The condition of Himachal Pradesh has been widely investigated floristically by different laborers, for example, Atkinson 1882; Hooker 1872-1897; Collett 1902, with accentuation on scientific classification. Concentrates on assorted qualities of restorative and sweet-smelling plants in various areas of the state have likewise been notable, for example, Kangra valley (Ahluwalia 1952; Uniyal and Chauhan 1971), Kullu (Rastogi 1960; Uniyal and Chauhan 1973; Dobriyal *et al.* 1997), Chamba (Gupta 1961; Shabnam 1964). According to prior reports, the assessed number of higher plant species (angiosperms and gymnosperms) on this planet is 250,000 (Ayensu and DeFilipps 1978) with a lower level at 2, 15,000 (Cronquist 1981; 1988) and an upper level as high as 5, 00, 000 (Tippo and Stem 1977; Schultes 1972). Of these, exclusive around 6% have been screened for biologic movement, and around 15% have been assessed phytochemically (Verpoorte 2000). The 25% of every single therapeutic medicine depend on substances gotten from plants or plant-inferred manufactured analogs (Gurib-Fakim 2006).

Himachal Pradesh a bumpy state has rich plant assorted qualities because of fluctuating level of agro climatic zonation. In one of the prior report it is obviously said, that around 3500 known plant species recorded in the state and around 500 are accounted for on the therapeutic esteem (Chauhan 2003). Keeping this in see, numerous scientists have investigated time to time the indigenous learning of various parts of the zone (Sharma and Mishra 2009; Gautam and Bhadauria 2008, 2009) and numerous more are as yet attempting. The present examination is in this way, a continuation of continuous works to investigate the customary learning and social practices in these investigation regions with a definitive point of assessing them for assorted qualities and usage example and furthermore to shield from vanishing of this fortune. As we realize that ethnobotany is altogether and on a very basic level another field of research. It is exceedingly specified in various research reports that if in this field plants examined methodically and experimentally, it will yield aftereffect of awesome estimation of the archeologists, anthropologist, plant geographer, ethnobotanist, etymology, botanists and phytochemists (Kumar and Choyal 2012). The plants of Himachal Pradesh have been profoundly contemplated by various analysts and researchers, for example, wild plants of Himachal Pradesh, some financially imperative restorative plant of the Kullu woods division (Uniyal and Chauhan 1982); ethnomedicine and supplement sustenance by Gaddis of Himachal Pradesh (BrijLal *et al.* 1996; Chauhan 1999) depicted the restorative and the sweet-smelling plants of Himachal Pradesh; the ethno-herbal investigation of the valuable plants of the Kullu region in Himachal Pradesh (Singh 1999); ethnobotanical investigations of Gaddi-a tribal group of the Kangra locale (Sharma *et al.* 2000).

There is have to unite and moderate the restoratively critical species in their characteristic home. Himachal Pradesh is known to supply a huge extent of the therapeutic plant prerequisites of India (80% Ayurvedic drugs, 46% Unani drugs and 33% allopathic medications) (Mazid *et al.*, 2012). The World Health Organization (WHO) has evaluated that no less than 80 percent of the total populace depends on conventional frameworks of prescription to meet their essential human services needs. What's more restorative plants additionally shape an imperative piece of the world's economy since numerous



present day solutions are gotten from plants. The indigenous frameworks of prescription rehearsed in India are principally in light of the utilization of plants. Consistently, the restorative plant-related exchange is developing quickly, and keeping in mind that India's offer in worldwide market is not exceptionally great (just 0.5%–1%), interest for these items is expanding at a disturbing rate.

The country and tribal individuals of India still depend to a great extent on the neighborhood home grown assets for curing diverse sorts of maladies. Different investigations has been done on floristic assorted qualities of Himachal Pradesh (Atkinson, 1882; Hooker, 1872-1897; Coll et, 1902) and on differences of restorative and fragrant plants in various territories of Himachal Pradesh (Ahluwalia, 1952; Sood et al., 2009; Uniyal and Chauhan, 1971), yet numerous biodiversity rich ranges are as yet unexplored. Significant pharmaceutical ventures rely on upon the plant items for the readiness of Ayurvedic medications.

The present examination will concentrate on the floristic and ethnobotanical studies of different squares viz. Baijnath, Dharamshala, Kangra, McLeodGanj, Palampur and Bhawarna, Sidhbari, TiraSujanpur of District Kangra. The point of this exploration work is to give exact, honest and itemized data of announced restorative plants to future specialists worldwide and to diminish the reliance on allopathic solution notwithstanding for little sicknesses and to grow new medications/meds totally got or created from customary therapeutic plants. Further, some critical and undermined therapeutic plant species will be assessed for their phytochemical, antimicrobial and cell reinforcement properties

### **Destinations/Scope of the investigation:**

- To distinguish and gather the diverse plant species from the chose consider range and arrangement of the herbarium (printed copy and computerized) through standard strategies.
- Analyse different subjective and quantitative characters of plant species in every single chose square of the present examination zone with reference to different biodiversity lists.
- Ethnobotanical data on therapeutic plant species through questionnaire and interviews.

### **Material and Methods:**

The technique for study and method of approach for ethnobotanical specification of Kangra region, Himachal Pradesh, India was received from the established works of Schultes (1960, 1962). The primary accentuation was given to concentrated field work in chose tribal pockets. The present investigation will be founded on arrangement of escalated field trips directed over a time of 2 years in seven pieces of District Kangra specifically: Dharamshala, Sidhbari, McLeodGanj, Baijnath, Palampur, Bhawarna, and TiraSujanpur. Each field trek will be of 10-12 days length covering 3-5 pockets for every



day. In each woods area 5-7 days were spent for each visit. The primary field excursion of the examination in the range was totally dedicated to acclimate with the neighborhood boss, clerics, Vaidhyas, natural specialists, headman, elderly individuals and taught understudies. The data was likewise accumulated on traditions, convictions, taboos, religious rights, sustenance propensities, horticultural practices and so on and were cross-checked, fundamentally examined and recorded. Consequent field trips were implied for social occasion data on ethnobotanical and veterinary practices by the native and others. Six sorts of witnesses were picked by chosen inspecting and irregular examining techniques. They are:-

- i. The Vaidhyas and other solution men.
- ii. Village headman, minister and other unmistakable people, their spouses and other ladies.
- iii. The mediators.
- iv. Each square men and ladies working in the field, ideally over fifty years old.
- v. Men and ladies of over 50 years old of each square.
- vi. Kangra tribes, the individuals who are gathering plants, roots and tubers and so forth in the backwoods.

Town boss, ministers and home grown specialists will be met and had discourses with them for gathering data as well as for affirming the employments of same plant recorded from various witnesses at better places. Alongside ethnobotanical information and the vernacular names of different plants officially gathered. Amid the field work, individual perceptions will be recorded in the field book and recorded the information on phenology, propensity, natural surroundings, conservational perspectives, the general population and their life, reports of the translators, guides, solution men and other learned individuals were likewise recorded. Each endeavor was made to find the restorative plants and voucher examples were gathered in triplicate in both blooming and fruiting stages and furthermore click a photograph of the same for computerized herbarium. They were then harmed in an immersed arrangement of mercuric chloride and amended soul. From that point, they were squeezed and herbarium examples were set up as indicated by the regular strategies.

Classification of every species has been refreshed according to the tenets given in the International Code of Botanical Nomenclature. In the count plant types of ethnobotanical intrigue, they were masterminded in order. Every species incorporate unique reference of right name taken after by pertinent equivalent words assuming any, in this manner encouraging reference to different Indian vegetations and productions.





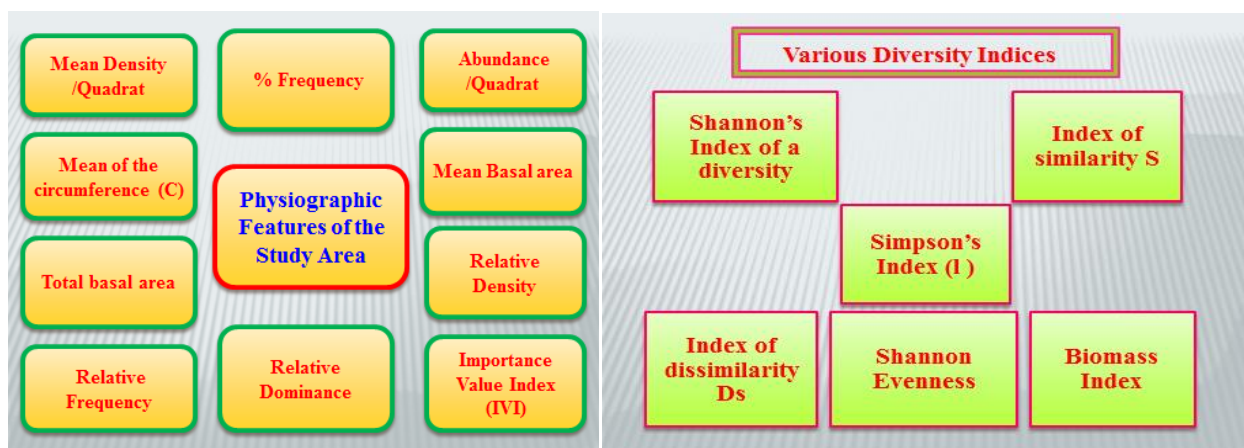
## Physiographic Features of the Study Area/Selection of the examination range

### Quadrat strategy

Testing unit was taken in a zone of unequivocal size and was a square. Other than posting the species, the numerical check of every species display per quadrat was likewise decided so as to recognize the overwhelming species in a given zone. Three stages were included:

- i Determination of the base size of quadrat by Species-Area-Curve strategy.
- ii Determination of least number of quadrats to be set down, and
- iii Record of species-posting, numbering of every species.

The vegetation information were broke down for per penny recurrence (F), thickness (D) and wealth (A). The Importance Value Index (IVI) was figured for all the tree species by including the relative estimations of recurrence, thickness and strength (basal territory) following Curtis and McIntosh (1951), Curtis (1959), Brown and Curtis (1952). The relative estimation of recurrence, thickness and strength were resolved as recommended by Phillips (1959). The accompanying formulae were utilized for the examination. The accompanying formulae were utilized for the analysis. The following methods were utilized to discover Physiographic components of the investigation region, different differences records and phytochemistry of restorative plants by various strategies.



## RESULTS AND DISCUSSION:

Study completed in Kangra area tosses light on 130 species therapeutic plants belonging to 105 genera and 53 families. Out of which 25-30 restorative plants were generally and much ordinarily utilized by nearby tribal individuals for curing close adjoin 30-40 sicknesses differs from straightforward migraine to high fever like illnesses and so forth 13 plants species were utilized as wellspring of color and tannin appeared in the table. The present investigation additionally uncovered the data of plants utilized as a wellspring of color and tannin.. These plants are organized in order arrange, with their family, nearby name, part/parts utilized and people employments. The investigation incorporates 13 plants having a



place with 12 families for yielding tannin and color. Out of the 13 plant species, leaves of 5 plants species, products of the soil of 3 plant species, entire plant material of 2 plant species, blossom, seed and stem with one plant animal varieties are utilized as a wellspring of color and tannin.

Many plant species found in the kangra regions were utilized by the neighborhood tribal individuals to cure many skin ailments, hack, fever, looseness of the bowels, sensitivities, wounds, chilly, eye issues, gastric issues etc. Many issue and infections can be cured by a solitary therapeutic plants. Greatest number of plants utilized was for curing cut and wounds (15 species) trailed by fever (13), cold/hack (12) and gastric issue (11) which are the most widely recognized sicknesses found in the vilages. Few species i.e., *Centella asiatica* and *Rhododendron arboreum* are abused at business level by making juice with the assistance of NGOs (Non Governmental Organisations).

Meetings with the neighborhood individuals uncovered distinguishing proof of plants by local people. They utilize diverse names for same plant or the other way around. Additionally it was seen that individuals utilize substitute of one therapeutic plant set up of other if that specific plant is not accessible. The shade of blossoms assumes critical part in the nearby classification of plant species. Neighborhood individuals gather restorative plants from the adjacent zones of the towns. Nearby shepherds gather the greater part of the restorative plants from high passes and fields while bolstering their goats and sheep and furthermore they obtain more information cby gathering these plants species by asing neighborhood individuals. Aside from higher plants, bring down plant species, for example, lichens gathered from mild woods are likewise utilized monetarily (flavors and Dyes). Amid the review and meetings, it was watched that in a few ranges unreasonable eating by wild oxen, dairy animals, donkeys, sheep, goats; and unmanaged tourism is the real reason for decrease in thickness and common living spaces of therapeutic plants

## CONCLUSION:

The well known utilization of neighborhood plant riches among the rustic individuals in Kangra area of Himachal Pradesh mirrors their awesome enthusiasm for the conventional drug and other customary and business purposes. Documentation and recording of customary information related with utilization of nearby plant species ought to be the vital stride for the preservation of plant species and conventional learning related with them for sometime later.

## ACKNOWLEDGEMENT:

The creators are appreciative neighborhood individuals Kangra area of Himachal Pradesh, Choudhary H.J. and Wadhwa Flora of Himachal Pradesh and Flora of B.S.I . for their assistance amid this work.

## Lists

In the list, the taxon is masterminded sequentially. The name of species is trailed by, family name, neighborhood name, ailment and restorative employments.



## Rundown of therapeutic plants and valuable part

S. No	Botanical name / Family	Part used	Preparation/Administration	Ailment
1.	<i>Adhatoda vasica</i> Nees (Acanthaceae)	Leaves	Leaves are ground with the flowers of <i>Hibiscus rosa-sinensis</i> and taken orally for the treatment of asthma.	Asthma
			100ml leaf decoction along with honey is given internally morning and evening to get relief from cough.	Cough
2.	<i>Polyalthia longifolia</i> (Sonn.) Thwaites. (Annonaceae)	Stem	Juice extracted from the fresh stem bark is taken orally to treat indigestion.	Indigestion
3.	<i>Catharanthus roseus</i> G. (Apocynaceae)	Whole plant	Whole plant is powdered and mixed with goat or cow's milk and taken orally to treat diabetes.	Diabetes
4.	<i>Nerium oleander</i> Sol. ( Apocynaceae)	Stem	Juice prepared from the stem bark is boiled with gingely oil and two drops are poured into ear to treat ear pain.	Ear pain
5.	<i>Rauvolfia Serpentina</i> Linn. Benth. Ex Kurz (Apocynaceae)	Apical buds	Apical bud is ground to paste and applied on aching tooth.	Tooth problems
		Latex	Latex is applied directly on wounds.	Wounds
		Whole plant	Paste of the whole plant is mixed with castor oil and applied topically to treat skin diseases	Skin diseases
6.	<i>Eclipta prostrata</i> L. (Asteraceae)	Leaves	Leaf powder is mixed with coconut oil and applied on the hair regularly for healthy and black hair.	Black hair
		Whole plant	Whole plant and 10black pepper are ground together and made into small pills about 1g size and administered thrice in a day for 5 days.	Fever





7.	<i>Heliotropium indicum</i> L. (Boraginaceae)	Whole plant	Paste of whole plant is applied topically to treat wounds and skin infections.	Skin infections
8.	<i>Cassia absus</i> L. (Caesalpinaceae)	Seeds	Seeds are ground into paste and applied topically to treat skin diseases and headache.	Headache
9.	<i>Cassia auriculata</i> L. (Caesalpinaceae)	Flowers	Flowers are crushed and mixed with goat's milk and taken orally to prevent white discharge in women.	White discharge
		Seed	5 to 7gm seed powder mixed with honey is given orally.	Diabetes
10.	<i>Cassia occidentalis</i> L. (Caesalpinaceae)	Leaves	Leaf paste is applied topically to treat scabies and to heal bone fractures.	Bone fractures
			10 to 15ml leaf juice is given orally to cure boils.	Boils
11.	<i>Tamarindus indica</i> L. (Caesalpinaceae)	Fruits	Dried fruits are taken orally to treat eye infections.	Eye infections
		Leaves	The leaves are heated and tied over the affected area.	Swelling
12.	<i>Terminalia arjuna</i> Roxb.Ex. Dc Wight & Arn.( Combretaceae)	Fruits	Fruit paste is applied topically on wounds.	Wounds.
		Bark powder	Bark powder is boiled with water and inhaled to cure headache and to kill worms in teeth.	Kill worms in teeth
		Roots	Roots are collected in the early morning and tied to the waist to cure intermittent fever.	Fever
13.	<i>Cyperus rotundus</i> L. (Cyperaceae)	Tuber	Paste of dried tuber is applied on breast of women to secrete more milk and applied topically on bitten site of scorpion.	Scorpion bitten



14.	<i>Euphorbia hirta</i> L. (Euphorbiaceae)	Milky latex	The milky latex is applied topically to treat wounds and lip cracks.	Lip cracks
		Latex	Latex is applied externally on heal cracks and burns until cure.	Heal cracks and Burn
15.	<i>Phyllanthus emblica</i> L. (Euphorbiaceae)	Fruit	Fruit powder is mixed with cow's or goat's milk and taken orally to treat cold and cough.	Cold and Cough
16.	<i>Ricinus communis</i> L. (Euphorbiaceae)	Leaves	The leaf juice is taken orally or washed leaves are tied on the breast to increase secretion of milk in women.	Increase of milk
17.	<i>Ocimum sanctum</i> L. ( Lamiaceae)	Leaves	Leaves are crushed with onion bulbs and the juice is taken orally to treat cough, cold and headache.	Cold, cough and headache
			2 to 3 drops of leaf juice is dropped in ears.	Ear diseases
18.	<i>Cinnamomum verum</i> Presl. (Lauraceae)	Stem	Decoction of stem bark is taken internally to treat cough, dysentery and to keep the body cool.	Body cool
19.	<i>Aloe vera</i> L. (Liliaceae)	Stem	Sap mixed with oil is heated and the mixture is applied on hair for hair growth and good sleep.	Hair growth and good sleep
20.	<i>Hibiscus rosa-sinensis</i> L. (Malvaceae)	Leaves	Paste of fresh leaves is applied on the hair for healthy and black hair.	Healthy and black hair



21.	<i>Azadirachta indica</i> A. Juss. (Meliaceae)	Leaves	Leaf paste is applied topically on the body to treat small pox, rheumatism and skin diseases. The young twigs are used as toothbrush to develop strong teeth.	Small pox
			Take 100g dry leaf powder of <i>Azadirachta indica</i> and <i>Vitex negundo</i> each, mix in 500 to 800ml water, and feed twice in a day for 4 days or Extract juice from 200g leaves of <i>Azadirachta indica</i> mix with 700 ml of water or buttermilk drench twice in a day for 4 days.	Diarrhoea
22.	<i>Tinospora cordifolia</i> Miers. (Menispermaceae)	Leaves	Leaf paste is applied topically to treat wounds.	Wounds
			100ml leaf decoction is given internally.	Diabetes
		Fruit	5gm of dried fruit powder mixed with honey is given orally	Jaundice
23.	<i>Mimosa pudica</i> L. (Mimosaceae)	Leaves	Pinch of leaf paste is applied topically to treat cuts and wounds.	Wounds and Snake bite
			Leaf paste is applied over snake bite.	
24.	<i>Ficus benghalensis</i> L. (Moraceae)	Latex	Latex is applied topically on heel cracks. Young stem is used as tooth brush.	Heel cracks
		Leaves	Leaves of are fried and powdered, mixed with cow ghee and applied on the head once in a day for 15days.	Hair growth
		Root	Make a decoction with tender prop roots and 5 to 6	Piles



			spoonfuls of it is given twice a day for 4 months.	
25.	<i>Ficus religiosa</i> L (Moraceae)	Leaves	Dried leaf powder is mixed with water and taken orally to get relief from body pain.	Body pain
			Decoction of stem bark is applied on wounds to stop bleeding from wounds.	
26.	<i>Syzygium cumini</i> (L.) Skeels (Myrtaceae)	Stem	Paste of stem bark is applied topically to treat swellings. The ripe fresh fruits are taken orally to reduce body heat.	Body heat
		Friut	The ripe fresh fruits are taken orally to reduce body heat.	Body cooling
27.	<i>Boerhaavia diffusa</i> L. (Nyctaginaceae)	Root	Root paste is applied topically to treat Hydrocele.	Hydrocele
28.	<i>Cynodon dactylon</i> L. Pers. (Poaceae)	Whole plant	50ml whole plant decoction is taken orally to keep the body cool.	Body cooling
			The whole plant is crushed to make juice; 10ml of this juice is given along with honey once in a day for 5-6 days.	Diarrhoea
29.	<i>Morinda tinctoria</i> Roxb. (Rubiaceae)	Leaves	Leaf juice is given orally to children before food for easy digestion.	Easy digestion



30.	<i>Aegle marmelos</i> Corr.ex.Roxb (Rutaceae)	Fruit	10g fruit pulp is given with water to children who are suffering with Diarrhoea.	Diarrhoea
		Leaves	Leaf paste is applied over the wounds once in a day until cured.	Wounds
31.	<i>Citrus aurantifolia</i> (Christm.) Swingle. L. (Rutaceae)	Leaves	Decoction of leaves is inhaled to get relief from fever, headache and cold.	Headache and Cold
32.	<i>Murraya koenigii</i> (L.) Sprengel (Rutaceae)	Leaves	Juice of tender leaves is taken orally to arrest vomiting	Vomiting
			Leaves are chewed to cure diarrhoea.	Diarrhoea
			The leaves are applied externally to cure eruption.	Eruption
33.	<i>Cardiospermum halicacabum</i> L. (Sapindaceae)	Root	Root is boiled with oil and applied on head before bath to treat throat infection and headache.	Throat infection
34.	<i>Datura metel</i> L. (Solanaceae)	Leaves	Leaf juice is applied over the affected areas of ring worm.	Ring worm
			Leaves are fried in oil and applied on the inflamed area.	Inflammation
		Whole plant	Whole plant parts are taken as food to treat cough.	Cough
35.	<i>Solanum torvum</i> Sw. (Solanaceae)	Leaves	Leaf juice is taken orally to reduce body heat.	Body heat
		Root	The root stock is chewed and used as tooth brush for healthy teeth.	Tooth problems





36.	<i>Solanum nigrum</i> L. (Solanaceae)	Fruit	Unripe fruits are prepared as curry or roasted in gingely oil and taken orally along with food to	Strengthen the body
			strengthen the body. The leaf juice is taken orally to treat cough and itching.	
		Whole plant	Whole plant parts are taken as food to treat cough.	Cough and cold
		Leaves	Take half cup leaf juice, add sugar and jeera mixed with water and given orally.	Epilepsy
37.	<i>Lantana camara</i> L. (Verbenaceae)	Flower	A handful of flower is ground with coconut oil and applied topically on the head to get relief from headache.	Headache
		Leaves	Leaves are ground to paste adding a pinch of salt and turmeric, the paste is applied on wounds.	Wound

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