

A review on some traditional medicinal plants

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Abstract

There are different medicinal plants which are being used from the Vedic times. Since last many years, there has been use of plants for treating common diseases and also certain diseases which could have a long term effect on the human beings. A few medicinal plants are being utilized in the form of pleasant condiments for providing a flavor or a dye. Some of the plants are also used for conserving food. Each and every portion of plant is having their own medicinal properties. There is existence of various forms of secondary metabolites which are available in medicinal plants that play a very important role in various types of diseases and are used to manufacture medicines. These medicines help in facing certain diseases with ease. Medicinal plants play a very important role and they help in recovering from a particular disease for long term. There are many such plants that possess certain ingredients like anti-hemolytic property, anti-oxidant, anti-insecticidal, antibiotic, anti-inflammatory, anti-parasitic, etc. The medicinal plants are considered to play a vital role in the entire world. The tribal people in our country are also aware about the uses of such medicinal plants. This article considered the medicinal uses of 21 traditional plant species that belong to different families.

Keywords: Antimicrobial compounds, traditional medicine, anti-oxidant activity, medicinal plants

Introduction

Therapeutic potential that exist in the plant products could be traced back to more than 5000 years past, there are evidences about uses of medicinal plants for treating various diseases. To revitalize body system in Chinese, Roman, Indian, Greek and Egyptian civilizations [1]. In our country, plants are considered to have therapeutic potential which are being widely used by different sections of people both in the form of folk medicines having different indigenous system of medicines like Unani, Siddha and Ayurveda and processed products of the pharmaceutical industry [2]. India is having more than 4.5 million plant species. Out of these around 2.5 – 5 Lacs plant species are investigated phytochemically for their pharmacological or biological activities [3]. Bioactive plant extract or their constituents are used to treat various diseases and they could further be used as a new formulation to treat various diseases. There are some novel drugs which have been developed with time and they help in recovering from the health issues being faced by the public. New formulations are always a need of the science industry. Medicines are required as there are certain diseases which were not faced before by the public and hence new medicines need to be developed at the earliest to deal with them. During the pandemic, medicinal uses of plants were also discussed and research continued in the pharmaceutical industry [4]. There are different herbal medicines like Ashwagandha and Brahmi help in boosting the energy level of the individuals, help in increasing nutrients, restoring body cells and also enhance immunity of human beings [5]. Aromatic and medicinal plants play a very important role in enhancement of livelihood among rural people, mainly women in a sustainable manner environmentally. There are natural products which are diversified in nature [6]. In the current scenario, based on a report by World Health organization (WHO), more than 80% of people in the world are dependent upon traditional

medicines for healthcare requirements. There is lesser communication about healthcare, more people are facing poverty and most of them are not aware about the modern healthcare facilities. Many people are not aware about health facilities which are available to them and even such facilities are not available for many people. Many people in the rural areas are not aware about medicines that are available and even the basic healthcare facilities are being provided by the government to them. Healthcare facilities are provided by the government and due to lesser awareness, many people in the rural areas practice the traditional medicines that are available for facing various common day ailments [7]. Various medicinal plants are available and they help in recovering from health issues. They are known to the individuals in the rural and urban areas and are considered to be beneficial for the entire community. Medicinal value of the plants lie in chemical active substance which produces physiological action on human body [8]. Plants play a very crucial role as they contain bioactive chemicals and also are considered to be alternative source of agents which helps in controlling mosquitoes [9]. Secondary phytochemicals or metabolites from various plants which have pharmacological activities like hypoglycaemic, anti-carcinogenic, anti-oxidative, antibiotic and anti-allergic. Such secondary metabolites protect cells that could cause damage by molecules which are unstable and referred to as free radicals [10]. The interest of people is growing towards the use of natural antimicrobial compound which are mainly extracted from various plants and are used for preserving food. Hence, there is a need to keep on searching for plants to be used for any medicinal value [11].

Knowledge and awareness on herbal remedy which is held by the elder individuals whether females and males between 41 to 70 years. Hence, decline in usage of medicinal plant by new generation might lead gradually to fading away [12].

Medicinal values

- ***Abrusprecatorius* Linn.-** *Abrusprecatorius* plant grew towards development under such a circumstance which is encouraging. The roots of such plants are very deep and it becomes very difficult to remove them. There are certain other issues related to this plant, such plants have aggressive growth, they have hard-shelled seed and they are having an ability towards sucker, they render an infestation which is extremely difficult for eradication and they make it quite difficult to prevent any kind of re-infestation. Herbicides like glyphosate become quite effective but they require skilled application, else they could harm more than the beneficial properties possessed by such a plant. ^[13]
- ***Aeglemarmelosn (Linn.) Correa-*** Bael tree contain furocoumarin which includes xanthotoxol, marmesin, methyl ester of the alloimperatorin, flavonoids and rutin. There are certain essential oils among the *O*-isopentenylhalfordinol, alkaloids, *O*-methylhafordinol, á-fargarine(allocryptopine) ^[14]. Its fruit is said to be blessing for mankind from the environment since it has many medicinal advantages. This tree has different parts like leaves, root, bark, fruits and stems at different stages of maturity. These parts have a medicinal value and they are used in the form of a medicine since a long time now. The said tree is blessed and has many therapeutic properties. The properties of this tree has helped the pharmaceutical industry to a great extent. Some realistic applications have still not been evaluated and are under process. Besides the above mentioned activities, it has many other important properties. Leaves of this plant is very much useful for treating leucorroea and jaundice. It could also help in treatment of defenses and conjunctivitis. Fruits of this plant provides nutrition and energy. It is currently being used as an astringent and carminative. It is also considered as a good remedy for snake's bite ^[15].
- ***Allium sativum* Linn.-** Garlic which is crushed or fresh yields compounds which contain sulfurlike ajoene, flavonoids, alliin, *S*-allylcysteine, vinylthiins, diallylpolsulfides and saponins, enzymes as well as Maillard reaction products. Some of them do not contain sulfur.
- ***Aloe barbadensis* Mill.-** It is applied over facial tissues since it is considered to be a moisturizer. It also acts as an anti-irritant and helps in reduction of chafing of nose. The companies which make cosmetics add this plant to various products. Some companies extract the main quality from this plant and then add them to various other products which are applied on the skin like sunscreens,makeup, shaving cream, moisturizers,shampoos, tissues, soaps andincense. ^[16]
- ***Buteamonosperma* Linn.-** This particular tree is used for medicine, resin, timber, medicine and fodder. This wood is generally found to be soft and has a dirty white color. It is said to be durable under the water and it used for water scoops and well-curbs. Ladles/ spoons have made this tree being used to pour ghee during any Hindu ritual. When ghee needs to be poured into fire, this material is used by people for completing their holy rituals. Good charcoal could be obtained from this tree.
- ***Calotropisprocera* R. Br.-** Milky sap contain complex mix of different chemicals, out of them some are steroidal and they could lead to harmful effect on heart which is referred to as "cardiac aglycones". This particular chemical as discussed belongs to similar chemical family which is found in foxgloves (referred to as *Digitalis purpurea*). Steroidal components include hydroxyl group in C3 β position, secondly attached to C14 carbon, C/D-cisrings junction and α,β -unsaturated- γ -lactone which is in the C17 position.
- ***Carica papaya* Linn.-** Ripe Papaya is generally eaten in the raw form without its seeds or skin. When papaya is green it could be cooked and eaten as salads, stews and curries. Green papaya in the Southeast Asia, is cooked or eaten in the raw form ^[17]. Papaya pulp, seeds and skin enclose multiplicity of various phytochemicals which includes carotenoids and polyphenols ^[18] and benzyl glucosinatesand isothiocyanateswith pulp and skins level which increases during the time it ripe ^[19]. The seeds of Papaya containscyanogenic substancesprunasin.
- ***Cuscutareflexa* Roxb.-** It is referred to as compound which is alpha-glucosidase inhibitory. A new tetrahydrofuran derivative, coumarinand flavanone-reflexin are cut off from the stems of *Cuscutareflexa*. Certain Methanol extracts from stem indicated demonstration ofantibacterial and anti-steroidogenic activities. Based on Ayurved, *Cuscutareflexa*plant has been found to be very effective to treat different diseases related to heart and eyes ^[20]. Stems in the decoction is useful for treating flatulence, constipation, bilious affection and liver complaints.
- ***Hibiscus rosa-sinensis* Linn.-**This might have certain potential in skin care, as an example, it helps in extracting some ingredients from flowers of this plant. It also indicates the functions as anti-solar agent since it absorbs ultraviolet radiation. ^[21]
- ***Menthaspicta* Linn.-** This plant is used due to the aromatic oil it contains and it is referred to oil of spearmint. R-(–)-carvoneis an abundant compound in the spearmint oil, that creates a unique smell. This oil contains a significant amount of 1,8-cineol, limonene and dihydrocarvone ^[22]. Unlike oil extracted from peppermint, the oil which is extracted from spearmint would contain a minimum amount of menthone and menthol. It helps in adding a flavor to confectionery and tooth paste. Occasionally it is added in soaps and shampoos. It is used as spearmint essential oil and fumigant. The adult moths could be adversely effected as it acts as an insecticide against them. ^[23]
- ***Nerium oleander* Linn.-** This is measured historically as poisonous plant, the main reason behind it is that such compounds might exhibit some kind of toxicity, mainly among the animals, when they consume it in large quantities. Among such compounds are oleandrigeninand oleandrin, which is referred to as cardiac glycosides. It has a narrow therapeutic index and could become toxic in case it is ingested.

- **Acacia mormelos Linn.-** Lemon is considered to be a high source of vitamin C and it provides 64% of Daily Value when served as a quantity of 100 g. Other such essential nutrients could have an insignificant content. Lemon could contain many such phytochemicals which includes tannins, polyphenols and terpenes [24]. The other citrus fruits have citric acid in them and similarly it could be present in a significant quantity in this fruit too (about 47 g/l in juice). [25]
- **Mimosa pudica Linn.-** This plant contains a toxic named as alkaloid mimosine, that is found to have apoptotic and antiproliferative effect. The seeds of this plant produces mucilage and it is made of made up of D-xylose and D-glucuronic acid. [26]
- **Syzygiumcumini (Linn.) Skeels.-** It acts as a Chinese and Unani medicine for any kind of ailments related to digestion. Wine and Vinegar are prepared from the fruit provided by this plant. It is considered to as a higher source of Vitamin A and C [27].
- **Evolvulusalsinoides Linn.-** This particular herb used in the form of a traditional medicine in East Asia, mainly for the purported nootropic and psychotropic properties [28]. Though such a claim is not verified medically. Such chemical compounds are said to be isolated from *E. alsinoides* which includes 2-methyl-1,2,3, 4-butanetetrol, scopolin, scopoletin and umbelliferone [29].
- **Dalbergiasissoo Roxb. Ex. DC.-** Ethanolic extracts of *Dalbergiasissoo* fruits exhibits molluscicide effect against the eggs of freshwater snail *Biomphalaria pfeifferi* [30].
- **Curcuma longa Linn-** In Siddha and Ayurvedic practices, turmeric is being used in an important treatment for dealing with many internal disorders like common colds, liver ailments, indigestion and throat infection. It is also used topically for cleansing any kind of wound or for treating skin sores. [31]
- **Tagetuserecta Linn.-** The petals of this dried flower, when grounded to a powder can be used in the poultry feed for ensuring good coloration of broiler skin and egg yolks, mainly when they lack in well-pigmented yellow maize as a feed [32]. It is currently being used in the present scenario as an extract that has many advantages like lower storage and transport cost, better utilization and better stability. It is at times used for enhancing coloring in the crustaceans [33].
- **Withaniasomnifera Linn. Dunal-** This plant is having brown, long and tuberous roots. It is being used in the form of traditional medicine since last many years [34-35]. In Yemen, it is referred to as *ubab* [36]. Dried leaves of this plant that fall are grounded and later form a paste that is further used in wounds and burns [37]. Leaves of this plant are used to reduce swelling and joint pain [38].

- **Bacopamonnieri (L.)-** This plant is used in the form of a customary Ayurvedic treatment for epilepsy and asthma [39]. This plant has an important medicinal use in Ayurveda for tumors, ulcers, enlarged spleen, leprosy, ascites, anemia and inflammations [40]. Plant helps in treating complicated health issues. Some uses of plant includes reduction in stress and anxiety, treats indigestion, boosts person's memory and neutralize allergic reactions [41].
- **Ficusracemosa Wau. Cat.- Ficusracemosa Linn. (FR)** (Family Moraceae) is one such plant that is mentioned in ancient scriptures of the Ayurveda. There are different parts of *F. racemosa* (root, bark and fruits) which are being used in folk medicine to treat numerous diseases which include diabetes mellitus. The experimental studies demonstrated hypoglycemic effects, hepatoprotective and anti-inflammatory effect of *F. racemosa* [42].



Fig 1: Photographs of the traditionally used some Medicinal plants

Table 1: Traditional medicinal plants used in the treatment of human and animals ailments

S. No.	Botanical Name	Used Part	Habit	Family	Common Name	Plant Properties
1.	<i>Abrus precatorius</i> Linn.	Leaves	Shrub	Fabaceae	Ghunchu	Juice of this leaf is mixed with the coconut oil and then applied over any form of swelling in the body which is painful
2.	<i>Aegle marmelos</i> (Linn.) Correa.	Fruit	Tree	Rutaceae	Bel	This fruit when eaten twice a day for 3 to 4 days in its ripe form can help in treating constipation.
3.	<i>Allium sativum</i> Linn.	Bulb	Herb	Amaryllidaceae	Lahshun	When it is consumed as 3-4 cloves in its raw form twice a day, it can help in getting relief from any kind of pain in the stomach or any gastric issue
4.	<i>Aloe barbadensis</i> Mill.	Leaf pulp	Herb	Liliaceae	Gwarpatha	Around 2 teaspoons of its juice three times in a day for 3 to 4 days can help in curing fever
5.	<i>Butea monosperma</i> Linn.	Root	Tree	Fabaceae	Palas	The roots of this plant help in recovering from tuberculosis
6.	<i>Calotropis procera</i> R. Br.	Latex of whole plant	Shrub	Asclepiadaceae	Madar	Latex has been useful for treating any disease related to skin and ringworm
7.	<i>Carica papaya</i> Linn.	Latex of fruit	Tree	Cariaceae	Papita	This fruit is used for treating eczema and ringworm
8.	<i>Cuscuta reflexa</i> Roxb.	Whole plant	Parasitic Herb	Convolvulaceae	Amarbel	Juice of this particular plant is when mixed with juice of <i>Saccharum officinarum</i> and then given 3-4 teaspoon two times in a day helps in treating jaundice
9.	<i>Hibiscus rosa-sinensis</i> Linn.	Root	Shrub	Malvaceae	Gudhal	Juice of this root when given 3 teaspoons 3 times in a day and repeated 3-4 days can help in recovering from cold and cough
10.	<i>Mentha piperita</i> Linn.	Leaf	Herb	Lamiaceae	Pudina	2-3 teaspoon of juice of this leaf when given three times in a day for 3-4 days helps in treating bloody dysentery
11.	<i>Nerium oleander</i> Linn.	Latex of plant	Tree	Apocynaceae	Kaner	The latex of this plant is applied on muscle pain of the limbs
12.	<i>Acacia mormelos</i> Linn.	Flower	Tree	mimosaceae	Babool	Flower powders when mixed with water when given in the oral to animals two times in a day for curing jaundice
13.	<i>Mimosa pudica</i> Linn.	Roots and leaves	Herb	Mimosaceae	Lajwanti	Leaves and roots are filtered and crushed, one teaspoon of this filtrate can be taken with water two times a day and this would help in curing loose motion
14.	<i>Syzygium cumini</i> (Linn.) Skeels.	Bark	Tree	Myrtaceae	Jamun	The bark of this tree is crushed with bark of <i>Acacia catechu</i> in equal quantities and then filtered. This filtrate is then taken in 5 ml. of quantity with an equal amount of water and this is helpful in indigestion and gripping
15.	<i>Evolvulus sinoides</i> Linn.	Leaves	Herb	Convolvulaceae	Shankhahuli	20-25 leaves of this herb is crushed and then it is mixed in 200 ml. of water. This is then taken two times a day for two days and it helps in gripping
16.	<i>Dalbergia sissoo</i> Roxb. Ex. DC.	Leaves	Tree	Fabaceae	Shisham	The paste of this leaf is mixed with water and then given to the animals two times in a day, this will help in treating leg sore and blisters.
17.	<i>Curcuma longa</i> Linn.	Rhizome	Herb	Zingiberaceae	Haldi	Rhizome powder is taken with pure ghee and rock salt for curing swelling in nipple of the animals.
18.	<i>Tagetes erecta</i> Linn.	Flower	Herb	Asteraceae	Genda	Powder of this herb is mixed with water and then given to animals for curing hydrophobia
19.	<i>Withania somnifera</i> Linn. Dunal	Root	Herb	Solanaceae	Ashwagandha	It is given to the animals for curing retard placenta
20.	<i>Bacopa monnieri</i> Linn.	Leaves	Herb	Plantaginaceae	Brahmi	It helps in boosting memory
21.	<i>Ficus racemosa</i> Wau. Cat.	Root	Tree	Moraceae	Gular	Sap of roots can be given to the people facing diabetes

Conclusions

From this study, it could be concluded that the plants are having a versatile style in their life. Each part of a plant serves as boon for all living ones in the entire universe. In present scenario, there are various minor review projects, which indicate 21 medicinal plants for dealing with treatment of various diseases of people along with the

animal diseases like piles, skin diseases, asthma, constipation, diabetes, snake bite, stomach pain, jaundice, menstrual disorders, dysentery, fever, etc. Various plant species include cultivated and wild ones. Majority of medicinal plants are herbs than climbers and shrubs trees respectively. Parts of plants that are used for the medicinal purposes like root, leaves, rhizome, fruits, flower, bark etc.

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