

Health importance and side effects of some medicinal plants in our daily life

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Abstract

Traditional medicine, especially treatment with plants and herbs, is the basic system of medicine for more than two-thirds of the world's population, especially in developing countries. For thousands of years, medicinal plants have been used to treat health disorders adding flavor, preserving food and preventing the spread of disease. The compounds of the secondary metabolism of medicinal plants have diverse and important biological effects as they allow the body to fight microbes and infections and contribute to the treatment and prevention of diseases, especially diabetes, high blood pressure and cancers, and also contribute to the regulation of salts and fats in the blood and in the activation and stimulation of natural immunity in addition to many other positive health properties. Many plants used in herbal medicine are toxic because they contain many toxic compounds. This is due to the use of poisonous plants to treat some incurable diseases such as cancer and to take vegetarian recipes for people sensitive to plant compounds or following a treatment. In this research, we will discuss some plants used in our daily lives.

Keywords: Medicinal plant, Secondary metabolites, benefits, side effects.

الخلاصة

الطب التقليدي ، وخاصة العلاج بالنباتات والأعشاب ، هو النظام الأساسي للطب لأكثر من ثلثي سكان العالم ، وخاصة في البلدان النامية. منذ آلاف السنين ، تم استخدام النباتات الطبية لعلاج الاضطرابات الصحية من خلال إضافة النكهة والحفاظ على الطعام ومنع انتشار الأمراض. لمركبات التمثيل الغذائي الثانوي للنباتات الطبية تأثيرات بيولوجية متنوعة ومهمة لأنها تسمح للجسم بمكافحة الميكروبات والالتهابات وتساهم في علاج الأمراض والوقاية منها ، وخاصة مرض السكري وارتفاع ضغط الدم والسرطانات ، كما تساهم في تنظيم نسبة الأملاح والدهون في الدم وفي تنشيط المناعة الطبيعية بالإضافة إلى العديد من الخصائص الصحية الإيجابية الأخرى. العديد من النباتات المستخدمة في طب الأعشاب سامة لاحتوائها على العديد من المركبات السامة ويرجع ذلك إلى استخدام النباتات السامة في علاج بعض الأمراض المستعصية مثل السرطان وأخذ وصفات نباتية للأشخاص الحساسين لمركبات النبات أو بعد العلاج. في هذا البحث سنناقش بعض النباتات المستخدمة في حياتنا اليومية.

Introduction

The use of medicinal plants for treatment has spread in modern society, due to their abundance in the environment, accessibility, and lower cost compared to chemical medical treatments, as plant names and some of their therapeutic potential are found in sacred religious texts including the Bible and the Vedas. (Hindu religion's holy book).[1]

The term "medicinal plants" refers to plants that, in part or in whole, have curative properties for various diseases or lessen their symptoms, or that have a physiological effect on the body of a human or an animal, and that influence the performance of organs in the body, whether the effect is tonic or depressant. parasitic organisms that attack the human or animal body both externally and inwardly, either by preventing, eradicating, or expelling the host [2] Typically, the entire plant or concentrated sections of it, like the roots of licorice, rhizomes of ginger, and tubers of potatoes, are employed (African potato) arak stems, chamomile flowers, flax seeds, star anise fruits, eucalyptus leaves, and bark (cinnamon) [3]

People who use plants for treatment should get their medical information from reputable sources because many people mistakenly believe that natural plant products are always safe and have no side effects. In reality, some plants, like ephedra and comfrey, can cause severe pain and other plants can interfere with prescription medications, leading to side effects. Products made by fungi, bees, minerals, and shells could all be used in herbal medicine. [4] [5]

Many factors, such as the environment, climate, agricultural pests, soil quality, how and when it is harvested, methods of storage and treatment, as well as how the plant is used, determine the effectiveness of medicinal plants. The effectiveness of medicinal plants is due to a number of effective compounds that combine to form a useful and effective product [6] , and these substances it is a a secondary metabolite with medicinal potential for a variety of human ailments, coupled with several plant pigments , many traditional medications are derived from plants, including aspirin from willow bark, dicoxin from foxglove, quinine from Kenyan bark, morphine and codeine from poppies, and inulin from dahlia roots [7] [8] .The plant manufactures various types of active compounds such as alkaloids, phenols, glycosides, turbines and volatile oils [9] .

We will review the benefits and side effects of some medicinal plants

Aloe vera.

Aloe vera It belongs to Asphodelaceae family is an evergreen perennial, succulent plant species of the genus Aloe that is widely distributed and considered an invasive species in many regions of

the world. It originates from the Arabian Peninsula, and grows in tropical, subtropical, and dry climates around the world. Aloe vera has been used in traditional medicine as a skin treatment grown for commercial products, mainly as a topical treatment that has been used for centuries [10].

Benefits: Anti-inflammatory, used for skin care to soften skin, rejuvenate damaged cells, and remove dead cells, anti-aging, treats extreme skin dryness, heals wounds, recovers from burn injury, promotes cell growth, and boosts immunity while maintaining the normal level of liver enzymes.

Side effects: Hepatotoxicity, intestinal cramps, which leads to ulcers or disorders of the intestines, or may exacerbate irritable bowel syndrome, allergic reactions, colic, kidney damage and may cause diarrhea because it contains a laxative, aloe vera juice can lower the level of sugar in the blood [11] [12]

Dandelion

Dandelion (*Taraxacum officinale*) is a herbaceous perennial flowering plant of the genus Dandelion in the family Asteraceae (syn. Compositae) dandelion grows in temperate regions of the world in areas with moist soils. It is often considered a weed, especially in lawns and roadsides, but the leaves, flowers, and roots are sometimes used in herbal medicine and as food. Dandelion is famous for its heads Its yellow flowers that turn into a rounded spherical composition of numerous silver-coated fruits that scatter in the wind. [13]

Benefits Helps in enhancing digestive functions and facilitating digestion One of the highest botanicals as a source of Vitamin A, an antioxidant required to maintain healthy skin and mucous membranes Helps lower blood sugar A source of vital minerals and vitamins, including folic acid and riboflavin And pyridoxine, niacin and vitamins E and C are all necessary for good health. It treats respiratory diseases, the plant is rich in vitamin K, which helps increase bone mass and has a role in Alzheimer's disease by reducing nerve cell damage, brain damage, and has a role in protecting the liver from toxins and reduce the fat accumulated on it.

Side effects: It is not suitable for those who have blockage of the bile ducts and can not be taken in any way by people who suffer from gallbladder, dandelion can also cause allergic contact dermatitis that is accompanied by itching, rash, sore eyes or runny nose in some sensitive individuals [14]

Turmeric

Turmeric (*Curcuma longa*) is a flowering plant of the Ginger family, used in cooking, is a herbaceous perennial, rhizomatous plant, native to the Indian subcontinent and Southeast Asia and grows temperatures between 20 and 30°C and plenty of annual rainfall to thrive. The plants are collected each year for their roots, some for reproduction in the following season and others for consumption. The active substance in the plant is curcumin which is a bright yellow chemical produced by the turmeric plant, approved as a food additive by the World Health Organization, the European Parliament and the US Food and Drug Administration. [15]

The use of turmeric regularly can help with colitis, Crohn's disease, diarrhea, and other illnesses. Turmeric has antibacterial, anticancer, antifungal, and antioxidant properties. It also has an anti-inflammatory effect on the mucous membranes that cover the lungs, stomach, and intestines. Beyond Giardia or Salmonella, turmeric's potent detoxifying properties can help the skin in some cases of eczema, psoriasis, and acne.

Side effects: The risk of bleeding or strengthening the effects of warfarin therapy, may lower blood sugar significantly, eating turmeric in large quantities helps to combine with oxalate to form kidney stones and cause diarrhea, headache, rash and yellow stool [16] [17] [18] .

Celery

Celery (*Apium graveolens*) is a bog plant in the family Apiaceae that has been cultivated as a vegetable since ancient times. Celery has a long, fibrous stem that folds into leaves. Depending on the location and cultivar, its stems or leaves are eaten and used in cooking. Celery seed powder is used as a spice [19]

Celery leaves are a rich source of flavonoids, which are antioxidants, protect against cancer and boost immunity. It is also rich in several vital vitamins, including folic acid, riboflavin, niacin and vitamins A and C, which are necessary for optimal metabolism as well as vitamin K that helps increase bone mass and has a founder in Alzheimer's disease by reducing nerve cell damage in the brain. . A very good source of minerals and essential oils that are used in neurological disorders, osteoporosis, gout and arthritis.

Side effects Eating large amounts of leaves may cause stomach pain, bloating, indigestion, and sometimes constipation [20]

Fennel

Fennel (*Foeniculum vulgare*), a vigorous perennial herb ,is a species of flowering plant in the Carrot family. It has yellow flowers and feathery leaves that are glossy green, and grow to heights of up to 2.5 m, with hollow stems. The flowers are produced in a terminal compound form. It is native to the shores of the Mediterranean Sea but has become widespread in many parts of the world, especially in dry soils near the sea coast and on river banks [21] .

Herb has a very aromatic smell and is considered as a flavoring agent and used in cooking, carminative, diuretic, and may be used as a treatment for high blood pressure [22] Allergies, rashes, asthma, conjunctivitis, and because fennel contains special chemical compounds such as anethole, whose effect is similar to that of estrogen.

Side effects: eating fennel may lead to complications for pregnant women and fetuses and may cause stomach upset and seizures.[23] [24]

Rosemary

Rosemary (*Salvia rosmarinus*) Spenn. (Lamiaceae) [25] It has many names, the most famous of which are Rose Marie and Dairy Pebbles Al-Horan and others, is an evergreen herbaceous plant of the Lamiaceae family, reaching a height The plant is from one to two meters, and it has a smell

similar to that of camphor. Its stem is branched, and its leaves are sitting opposite its upper surface. Pale green to the touch, and its lower surface is covered with fine white hairs. The flowers are multi-colored, including dark blue. And white and violet with a cluster cluster The original home of plant cultivation is the Mediterranean basin growing in Algeria, France and Spain and Portugal [26]

It is a very powerful antioxidant, anti-inflammatory, antiviral, and antibacterial. Studies have also shown that the carnosic acid in rosemary provides protection from harmful carcinogens and Alzheimer's disease.

Side Effects: The undiluted oil is not safe for oral consumption; Ingesting large amounts can cause vomiting, uterine bleeding, kidney irritation, increased sensitivity to the sun, skin redness and allergic reactions [20]

Eucalyptus

Eucalyptus (*Eucalyptus globulus*) belongs to the Asiatic family, and it is an evergreen perennial tree that grows up to It reaches a height of 70 metres It is characterized by a wide stem, smooth bark that falls annually in the form of ribbons, and many branches covered with leaves The newer ones are oval in shape and the adult leaves are lanceolate and drooping. The leaves contain glands that secrete aromatic oils It gives a refreshing scent resulting from the emission of eucalyptus oil, and its white flowers are yellowish in color, and its fruits are Mature black The original home of eucalyptus trees in Australia and Tasmania and is grown today in many parts of Africa South America, southern Europe and Asia [27]

Due to its ability to clear mucus and phlegm from the sinuses and bronchi, eucalyptus leaves and oil decoction is used to treat asthma, bronchitis, pulmonary congestion, tuberculosis, diphtheria, cough, colds, and fever. To stop the spread and reproduction of fungus, bacteria, and other organisms.

Side Effects: Eucalyptus oil can cause some side effects on the skin that lead to irritation, depression, drowsiness, loss of consciousness, vomiting and ataxia. Eucalyptus oil causes illness in children, so it is not recommended for children [28] [29] .

Dill

Dill (*Anethum graveolens*) is an annual herb in the celery family, Apiaceae. It is the only species in the genus Anethum. Dill is widely cultivated in Eurasia, where its leaves and seeds are used as an herb or spice to flavor food. [30]

Dill is used to treat gastrointestinal issues, such as appetite loss, flatulence, and liver issues Additionally, it is utilized to treat urinary tract diseases such kidney disease and painful or challenging urinating. Infections, hemorrhoids, colds, coughs, nerve discomfort, genital ulcers, and menstrual cramps are among the other conditions it is used to treat.

Side effects: Dill can sometimes cause skin irritation. Fresh dill juice can cause skin sensitivity to the sun [31]

Clove

Cloves (*Syzygium aromaticum*) are the aromatic flower buds of a tree in the Myrtaceae family, *Syzygium aromaticum*. Native to the Maluku Islands in Indonesia, they are commonly used as a spice, flavoring, or fragrance in consumer products, such as toothpaste, soap, or cosmetics. Cloves are available throughout the year in different countries due to different harvest seasons. [32]

Clove fights germs, viruses and bacteria, helps to break up phlegm in the respiratory system, promotes sweating with fever, colds and flu, and is used in diarrhea, gas, bloating, intestinal cramps and nausea, and it is one of the powerful antioxidants effective in pain relievers and toothache, so dentists use clove oil as an anesthetic.

Side effects: hemorrhagic pulmonary fluid retention, pneumonia and bronchitis, hemoptysis in the central nervous system, depression and allergic contact dermatitis [33] [34]

Parsley

Parsley (*Petroselinum crispum*) is a species of flowering plant in the family Apiaceae native to the central and eastern Mediterranean region but naturalized elsewhere in Europe, and is widely cultivated as an herb and vegetable.[35]

Parsley is used to treat urinary tract infection, kidney stones, digestive disorders, constipation, jaundice, intestinal gas (flatulence), indigestion, colic, diabetes, cough, asthma, fluid retention, osteoporosis, arthritis, anemia, raises blood pressure, protects against prostate diseases. and diseases of the spleen. Protects against rheumatoid arthritis, rich in antioxidants, fights cancer, and contains a high percentage of vitamin C and iron In some people, parsley can cause allergic skin reactions, as it contains very high levels of oxalic acid.

Sid effects : consuming too many foods containing oxalates can lead to gouty arthritis. Kidney stones and a deficiency of mineral salts [36]

Garlic

Garlic (*Allium sativum*) is a species of bulbous flowering plant in the genus *Allium*. Native to southern Asia, central Asia, and northeastern Iran, it has long been used as a spice throughout the world, with a history spanning thousands of years of human consumption and use. It was known to the ancient Egyptians and was used as a food flavoring and as a traditional medicine. 10

Garlic contains compounds that have the ability to protect the body and remove bacteria, viruses and fungi, as well as being rich in natural antioxidants that are able to remove free radicals and strengthen the immune system. It stimulates the digestive system to secrete digestive juices, helps the body to absorb minerals such as iron and magnesium in a higher way. It also helps the acid-base balance inside the body. It is a sweaty, expectorant, sweaty, stimulant, diuretic and a wound healer.

Side effects : Garlic may also cause nausea, gastrointestinal irritation, flatulence, poor breath, and stomach acidity. Garlic has certain chemicals that interact with anticoagulant medication, thereby increasing the risk of bleeding. If someone has type 2 diabetes, they must tell their doctor right away since garlic may make blood sugar-lowering drugs work better.

[37] [12] [38].

Cinnamon

Cinnamon (*Cinnamomum zeylanicum*) the eternal tree of tropical medicine, belongs to the Lauraceae family. Cinnamon is one of the most important spices used daily by people all over the world. Cinnamon primarily contains vital oils and other derivatives, such as cinnamaldehyde, cinnamic acid, and cinnamate. [39]

Boiled cinnamon bark benefits in nausea, vomiting, diarrhea, muscle pain, increases saliva secretion and gastric juices, lowers high blood pressure, and is also an appetizer. Cinnamon contains a substance that makes fat cells more responsive to insulin, which regulates the breakdown of sugar in the blood and its consumption in cells in the body and converting it into energy. This phenolic substance is an antioxidant and reduces the side effects of diabetes. It is a source of many minerals, vitamin A, and phenolic compounds such as carotenoids, and it also has many health benefits such as resistance to germs, treatment of diabetes, protection against heart disease, and prevention of colon disorders [40]

Side effects: Eating large amounts of cinnamon bark boiled may cause difficulty breathing and an increase in blood vessel dilation, drowsiness and depression. Excessive use of cinnamon bark may cause mouth ulcers, inflammation of taste buds and swollen gums [20] .

Mint

Mint is a genus of plants in the Lamiaceae family (the mint family). The exact distinction between the species is not clear. It is estimated that there are 13 to 24 species. Hybridization occurs naturally as the ranges of some species overlap. Many hybrid varieties are known. The genus has a near-universal distribution across Europe, Africa - (South Africa), Asia, Australasia - Oceania, North America, and South America. [41]

Mint is used to treat cold, cough and sinus infections. and respiratory infections. It is also used for digestive problems including heartburn, nausea and vomiting, morning sickness and irritable bowel syndrome, spasms of the gastrointestinal tract and bile ducts, upset stomach, diarrhea, bacterial overgrowth of the small intestine and gas. Peppermint oil is applied to the skin for headaches, muscle aches and nerve pain, toothache and stomatitis, joint disease, itching, allergic rashes, bacterial and viral infections. Relaxing the colon during barium enemas. Peppermint can cause some side effects including heartburn, allergic reactions, including flushing, headache, and mouth sores. Large amounts of peppermint oil can harm the kidneys, peppermint tea lowers the level of sugar in the blood, relaxes the gastric sphincter, causing gastroesophageal acid reflux.

Side effects : the effect of mint may be dangerous with cases of stomach ulcers because it contains menthol that leads to exacerbation of the disease [31]

Thyme

Thyme (*Tymus voligarus*) is an evergreen herbaceous plant of the Lamiaceae family, reaching a height of about 30-50 meters Cm grows in sunny areas in calcareous soils. Its creeping woody stems are sometimes cylindrical, gray in color, covered with little Of fluff, its branches are upright, and the leaves are small, sitting opposite each other. The upper surface is green and the lower center is covered with white. with a dense layer of hairs, the original home of thyme growth in the countries of the Mediterranean basin, and it is cultivated in many Regions around the world,

especially in temperate climates, such as the Levant, Turkey, North African countries and southern European countries [42]

It is used as a treatment for bronchitis, asthma, laryngitis, whooping cough, chronic gastritis and diarrhea, and it also has anti-fungal and anti-yeast activity [43] and is used as an anti-parasitic and anti-viral agent and affects different types of mycotoxin-producing fungi [44]

Side effects May cause gastrointestinal upset. For people who use thymol oil for skin care, it may cause skin irritation.[45]

Cardamom

Cardamom (*Elettaria Cardamomum*) belong to Ginger family is a woody herbaceous plant 30 cm to 3 meters high. With underground roots, and aerial false stems (tills) made of leaf sheaths. Cardamom, also historically known as the "Queen of Spices", is widely cultivated in tropical regions of India, Costa Rica, Indochina, Sri Lanka, Mexico, Indonesia and Tanzania enhance sweet and savory dishes in many regions around the world. [46]

Effective in treating infections of the teeth and gums Preventing and treating problems of throat congestion and oral ulcers Treating respiratory diseases such as colds, coughs, bronchitis, throat, lungs, tuberculosis, eyelid inflammation, as well as digestive disorders such as heartburn, intestinal cramps, irritable colon and loss of appetite. It is also used to break up kidney stones. and gallstones, the presence of cardamom in meals will lead to an increase in antioxidant enzymes such as catalase and desmo- tisase in both the heart and liver. It is a flavoring agent added to sweets and baked goods.

Side effects: In some people, it causes allergic complications, which include difficulty breathing and swelling of the skin. It may cause a drop in blood pressure, cause drowsiness and relaxation, as some compounds in cardamom act as a central nervous system depressant [47] [48]

Ginger

Ginger (*Zingiber officinale*) is a perennial plant that belongs to the Zingiberaceae family It has yellow flowers and lanceolate leaves, 15-30 cm long. The stems are rhizomes, and their color is either yellowish-white or yellow. Squirrel and has a distinctive pungent smell. It is hot in taste and extracts the rhizomes of ginger except when its leaves wither. The original home of the plant is from Southeast Asia and it is one of the widespread plants in South Africa. East Asia, in China, and in tropical Asia, as it grows abundantly in India, the Philippines, and Pakistan, and its best types are Which is grown in Jamaica and India is the first country producing it in the world. [49]

The ginger plant has many benefits for the body, as it prevents heart disease, as it expands blood vessels, reduces the speed of blood clotting, reduces the incidence of stroke, and lowers the level of cholesterol in the blood [50] .In cases of sea worm, it is used as a digestive, as it helps to neutralize excessive stomach acids that cause stomach ulcers, useful in morning sickness, colic, stomach upsets, gases, diarrhea, nausea caused by cancer treatment, arthritis or muscle soreness and menstrual pain, respiratory infections Cough and bronchitis, ginger is also antibacterial to *Bacillus subtilis*, *Staphylococcus aureus*, *Escherichia col*, fungi such as *Aspergillus nige* and yeasts such as *Candida albicans*. [51]

Side effects: It was found that eating ginger in large quantities may lead to some effects, such as allergic reactions in the form of skin rash, heartburn, diarrhea, mouth irritation, bloating resulting from gas, may also affect lowering blood sugar levels, may lead to lower blood pressure. And because it contains chemicals found in aspirin known as salicylates, which work to prevent blood clots, which may pose a danger to those who suffer from bleeding and blood thinning problems .[52]

Nutmeg

Nutmeg (*Myristica fragrans*) belongs to the Myristicaceae family. It is a dark-leaved evergreen tree that is grown as a spice. It is derived from its seed (nutmeg) and seed coat (mace). The plant is native to the Maluku Islands in Indonesia; It is widely found in Grenada, India, Sri Lanka, Mauritius, South Africa and the USA. It is also a commercial source of essential oils and nutmeg butter. Nutmeg has been widely used in the trade- Topical medicine as anticoagulant, antineoplastic and anti-inflammatory. [53]

It is used as an aromatic substance for food and was used in the past to treat the plague. It is currently used to maintain public health and treat stomach disorders. It can help lower blood pressure, relieve stomach pain, stop diarrhea, and in a reduced dose, it helps to remove toxins from the body, enhances the health of the immune system and stimulates the brain. Nutmeg can also help with respiratory problems such as coughing caused by colds. It is often found as an ingredient in cough syrups. It is said to be able to help treat asthma. It is rich in carbohydrates, proteins, and dietary fiber. It is also rich in vitamins such as A, C, and E. It also contains mineral salts such as sodium, potassium, calcium, iron, copper, manganese, zinc and phosphorous [54]

Side effects: excessive intake of nutmeg causes nausea and vomiting, stomach cramps, increased heart rate, dry skin and mouth, irregular heartbeat, agitation and hallucinations [55] [56]

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