

Herbal Medicines: Possible Risks and Benefits

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ABSTRACT

Each type of medicine has many strengths and weaknesses. In order to protect and improve our health, it is important to become an informed medical consumer. Herbal drugs are used widely for preventive and therapeutic purposes. The manufacturers of these products are not required to submit proof of safety and efficacy before marketing, so the adverse effects associated with remedies are largely unknown. Also, herbal products are not regulated for purity and potency. Thus, some of adverse effects reported could be caused by impurities or batch to batch variability. The potency of herbal products may increase the possibility of adverse effects. This paper highlights potential benefits and possible risks associated with consumption of herbal product so that conventional treatments can be made more safe and effective.

Keywords: Herbal drugs, adverse effects, conventional therapy, risks of herbal remedies, medicinal plants.

INTRODUCTION

The consumption of herbal medicines is increasing steadily throughout the world as an alternative treatment for alleviating a number of health problems including heart diseases, diabetes, high blood pressure and even certain types of cancer. In India use of herbal drugs is much more because of their easy accessibility. Unlike drugs, herbal products are not regulated for purity and potency. There are neither studies on their effectiveness nor control over the quality and safety of these preparations. As per Food and Drug Administration mandates, only medicines have to be proven to be safe before being released into market. Herbal products do not

fall under the category of medicine as long as they are not marketed for the prevention of any disease. Herbal drugs are considered as 'food integrators and readily available in the market without prescription. The major driving force for the use of herbal drugs is the perception that 'they are safe because they are natural and have fewer side effects than prescription drugs'. However, various studies and researchers have high lightened their possible side effects, if taken irregularly, in excessive amounts or in combination with some medicines¹. A common problem with herb use is that people do not take into consideration how they may interact with any prescription drug

they are taking, or with each other. Interaction between drugs and herbs can result in unexpected concentration of drugs and also cause undesired effects. Sometimes the use of commonly used herbs with prescription medicines become big barrier for the diagnosis of certain diseases as people do not inform their physicians about their consumption. The aim of this paper is to highlight the uses and side effects of some selected below mentioned herbal drugs so that these may be used safely. A tabular presentation of uses and adverse effects of selected eleven herbal drugs is given in table 1.

ALOE VERA

There are about 400 species of aloe. Among them, particularly *Aloe vera* has been widely used in phytomedicines. The botanical name of Aloe Vera is *Aloe barbadensis miller*. It belongs to Asphodelaceae (Liliaceae) family, and is a shrubby or arborescent, perennial, xerophytic, succulent; pea-green colour plant.

Benefits

The Aloe Vera plant has been known and used for centuries for its health, beauty, medicinal and skin care properties. Phytomedicine describes aloe as an herb which has anti-inflammatory, anti-proliferative and anti-aging effects. The Greek scientists regarded Aloe Vera as the universal panacea. The Egyptians called Aloe “the plant of immortality”. Also, aloe has been purported to have positive effects on wound healing, recovery from burn injury, cell growth and immune modulation.

Risks

But, in recent years several cases of aloe-induced hepatotoxicity were reported. The clinical manifestation, laboratory findings and histological findings of three persons

admitted to the hospital for acute hepatitis taking aloe preparation for months, met diagnostic criteria of toxic hepatitis. Upon discontinuation of the oral aloe preparations, liver enzymes returned to normal level. So, Aloe should be considered as a causative agent in hepatotoxicity².

If Aloe Vera is not processed properly it turned out to be poisonous. Over dose of Aloe can cause intestinal cramps leading to ulcers or irritated bowels. The use of aloe may result in allergic reactions, cramps and kidney damage³. Also, overdose can lead to colicky abdominal spasms and pain, as well as the formation of thin, watery stools. Aloe should not be used during pregnancy except under medical supervision after benefits and risks have been evaluated according to WHO guidelines. People who are on steroids, pills for irregular heartbeat, diuretics, digoxin should not use Aloe. Also, people with intestinal disorders, pregnant and nursing mothers and children below 12 years should not use Aloe. On May 9, 2002, the U.S. Food and Drug Administration issued a final rule banning the use of aloe and cascara sagrada as laxative ingredients in over-the-counter drug products. Rectal bleeding or failure to have a bowel movement within 24 hours after use of a laxative may indicate a serious condition. Chronic use may cause dependence and need for increased dosages, disturbances of water and electrolyte balance (hypokalaemia), and an atonic colon with impaired function. One should be aware about the species of aloe used, as the juice of the leaves of certain species is poisonous, for example *Aloe venenosa* is poisonous.

TURMERIC

Curcuma longa is the most important species for the food industry and has a wide distribution in India. *Curcuma longa* is a small perennial herb native to India bearing many rhizomes on its root system.

Benefits

Turmeric is known to possess antibacterial, anticancer and antifungal activities. It is well recognized as the best anti-oxidant, hypoglycaemic, colorant, antiseptic and wound healer. It is the spice that gives Indian curries their characteristic bright yellow-orange colour. Turmeric is anti-inflammatory to the mucous membranes, which coat the throat, lungs, stomach and intestines. Regular use of turmeric can benefit from Colitis, Crohn's disease, diarrhoea, and post-giardia or post salmonella conditions. The itching and inflammation that accompanies haemorrhoids and anal fissures can be reduced by use of turmeric. The healing properties of turmeric have made it a most widely used ingredient in cosmetics and drugs. Turmeric can also benefit skin conditions including: eczema, psoriasis and acne as a potent detoxifier. Although, turmeric gives the energy of the Divine Mother and grants prosperity of health, and is effectual for purification as well as purifying the path of the subtle body, still some adverse effects are reported when it is consumed along with some prescription drugs.

Risks

Turmeric may increase the risk of bleeding or potentiate the effects of warfarin therapy⁴. Also, use of turmeric is contraindicated during pregnancy as it can cause uterine stimulation⁵. The active constituent of turmeric, curcumin is reported in some studies to produce a marked increase in serotonin and noradrenalin levels at 10 mg/kg dose in frontal cortex and hippocampus also increased the dopamine levels in frontal cortex and striatum parts of mice brain⁶. Curcumin was found to inhibit monoamine oxidase activity in the mouse brain. These findings suggest that the antidepressant effects of curcumin may involve the central monoaminergic neurotransmitter systems⁶. Reports suggest

that turmeric should be used with caution for gall bladder problems⁷.

FENNEL

Fennel (*Foeniculum vulgare*) is a plant species in the genus *Foeniculum*. It is a member of the family Apiaceae (formerly the Umbelliferae). It is a hardy, perennial, umbelliferous herb, with yellow flowers and feathery leaves.

Benefits

It is a highly aromatic and flavourful herb with culinary and medicinal uses. Fennel may be an effective diuretic and a potential drug for treatment of hypertension⁸⁻⁹. Fennel can be made into a syrup to treat babies with colic (formerly thought to be due to digestive upset), but long-term ingestion of fennel preparations in babies is a known cause of the larche. Ancient Romans regarded fennel as the herb of sight. Root extracts were often used in tonics to clear cloudy eyes. Extracts of fennel seed have been shown in animal studies to have a potential use in the treatment of glaucoma. On account of its carminative properties, fennel is used medicinally with purgatives to allay their side effects, and is also one of the main ingredients of the well-known compound liquorice powder. Fennel can act as a diuretic and a natriuretic⁹. The results of study conducted on genital organs of male and female rat had confirmed the oestrogenic activity of the fennel seed extract¹⁰. Fennel has been reported to increase milk secretion, promote menstruation¹¹.

Risks

Fennel is found to show some allergic reaction¹². Occupational rhinitis and asthma in an atopic individual is reported which mainly involved sensitivity to unique allergens present in fennel¹³.

EUCALYPTUS

Eucalyptus belongs to family Myrtaceae and it is used as Stimulant, antiseptic and aromatic. There are a large number of species of Eucalyptus trees yielding essential oils, the foliage of some being more odorous than that of others, and the oils from the various species differing widely in character. About twenty-five species are at the present being utilized for extracting oil. The British Pharmacopoeia describes Eucalyptus Oil as the oil distilled from the fresh leaves of *Eucalyptus globulus* and other species.

Benefits

Eucalyptus Oil is used as a stimulant and antiseptic gargle. It impairs sensibility of skin on local application, and known to increase cardiac action. An emulsion made by shaking equal parts of the oil and powdered gum- Arabic with water has been used as a urethral injection, and has also been given internally in drachms doses in pulmonary tuberculosis and other microbial diseases of the lungs and bronchitis. In croup and spasmodic throat troubles, the oil may be freely applied externally. The oil is an ingredient of 'catheter oil,' used for sterilizing and lubricating urethral catheters.

Risks

But Eucalyptus oil is reported to cause dermatological side-effects, which deserves further systematic investigation, as eucalyptus oil is used widely in dermatological preparations¹⁴. Eucalyptus can cause depression of conscious state, drowsiness, unconsciousness, vomiting or ataxia. Ingestion of eucalyptus oil caused significant morbidity in infants and young children. So it should not be recommended for children¹⁵. Accidental ingestion of eucalyptus oil by a three year old boy caused profound central nervous system depression within thirty

minutes, but he recovered rapidly after gastric lavage. The extreme toxicity of eucalyptus oil is emphasised in literature¹⁶. Survey of the literature showed that essential oils of eleven plants are powerful convulsants due to their content of highly reactive chemical constituents, and eucalyptus is one of them. Three cases strongly support the concept of plant-related toxic seizure¹⁷⁻¹⁸. Eucalyptus oil is well documented as being extremely toxic if ingested. The statement is supported by a case of systemic eucalyptus oil toxicity on topical application. A six year old girl presented with slurred speech, ataxia and muscle weakness and progressing to unconsciousness following the widespread application of a home remedy for urticaria containing eucalyptus oil¹⁴. Contact allergies to eucalyptus oil have also been reported¹⁹.

CLOVE

Clove is the dried flower bud of *Eugenia caryophyllus* belonging to family Myrtaceae. Clove oil is 60 to 90% eugenol.

Benefits

Cloves fights germs, viruses and bacteria, and it encourages the loosening of phlegm from the respiratory system. It also promotes sweating with fevers, colds, and flu, which is very healing. It is often used in herbal remedies for whooping cough. Clove oil is the active ingredient of several mouthwashes and a number of over-the-counter toothache pain-relief preparations. Clove is also reported to relax the smooth muscle lining of the digestive tract. A few drops of the oil in water will stop vomiting, and clove tea will relieve from diarrhoea, gas, bloating, intestinal spasms and nausea. Dentists use clove oil as an oral anaesthetic. They also use it to disinfect root canals. Clove oil has been used to stop pain of toothache when dropped into cavity. Clove essential oil is the powerful antioxidant.

Risks

Although clove has a large number of application still studies revealed the possible side effects of clove used alone or with prescription drugs. Clove may increase the risk of bleeding or potentiate the effects of warfarin therapy⁴. The smoking of clove cigarettes has been associated with twelve cases of serious illness in the United States, including hemorrhagic pulmonary edema, pneumonia, bronchitis, and hemoptysis²⁰. Clove cigarettes may be hazardous to your health²¹. A case is presented in which a seven month old child developed central nervous system depression, urinary abnormalities and a large anion-gap acidosis after the accidental oral administration of clove oil. Supportive care and gastric lavage were sufficient for total recovery of the patient. About one thousand patients were clinically investigated for occupational skin disease, and five were found with occupational allergic contact dermatitis from spices like clove. The patients were chefs, or kitchen, coffee room, and restaurant workers. All patients had hand or finger dermatitis²²⁻²³.

GARLIC

The common garlic is a member of the same group of plants similar to onion. The name is of Anglo-Saxon origin, being derived from gar (a spear) and lac (a plant), in reference to the shape of its leaves. Its botanical name is *Allium sativum* and belongs to family Liliaceae.

Benefits

Garlic has been used for its medicinal properties since ages. It is an extensively used herbal medicine. Garlic in its natural form contains an antibiotic called allicin. It also contains sulfides. Garlic is said to fight against certain types of cancers. Garlic is used as diaphoretic, diuretic, expectorant, and stimulant. Many marvellous effects and

healing powers have been ascribed to garlic. It possesses stimulant and stomachic properties in addition to its other virtues. Topical application of garlic is also prevalent, as garlic has antibacterial, antiviral and antifungal properties. Syrup of garlic is an invaluable medicine for asthma, hoarseness, coughs, difficulty of breathing, and most other disorders of the lungs, being of particular virtue in chronic bronchitis, on account of its powers of promoting expectoration.

Risks

In spite of having invaluable applications in the field of medicines, garlic is reported to have interactions with anticoagulant therapy. Garlic may increase the risk of bleeding or potentiate the effects of warfarin therapy⁴. Garlic reinforces warfarin action by heterogeneous mechanisms. It should thus not be used in patients on oral anticoagulant and/or antiplatelet therapy²⁴. Garlic had proved to change pharmacokinetic variables of paracetamol, decreased blood concentrations of warfarin and produced hypoglycaemia when taken with chlorpropamide²⁵. It is essential to inform physician if one suffers from type II diabetes as garlic may increase the effectiveness of drugs that reduce blood sugar levels. The most common side effects of garlic are it may produce bad breath, heartburn, flatulence, gastrointestinal irritation and nausea³.

GINSENG

The botanical source of ginseng is dried root of *Panax ginseng* belonging to family Araliaceae.

Benefits

Ginseng root is cleared of the rootlets and sliced for medicinal use. Its leaves, flowers, fibrous rootlets and seeds all can be used as herbs.

Ginseng is used to cure sexual dysfunction in men, also in hair tonics and cosmetic preparations.

Risks

The word ginseng is said to be the wonder of the world, but many adverse effects are also reported. Reports include reactions such as headache, insomnia, anxiety and breast soreness or tenderness. It is also possible that skin rashes may develop as well as asthma attacks, increased blood pressure, diarrhoea, euphoria, nervousness, skin eruptions, heart palpitations, or post-menopausal uterine bleeding. Stop using ginseng and consult your pharmacist or doctor if you suffer any side-effects³. Vitamin C can interfere with or increase the absorption of ginseng²⁶. Since ginseng is considered to be a stimulant, caution should be exercised if one ingests caffeine or products containing pseudoephedrine or other stimulants. Use ginseng only under the direction of an herbalist or a licensed healthcare professional if one is having any of the conditions like pregnancy, insomnia, hay fever, fibrocystic breasts, asthma, emphysema, high blood pressure, blood-clotting problems, heart disorders, hypoglycaemia or diabetes³. The review on ginseng uses advises for not using ginseng in pregnant women in the first trimester because of possible birth defects²⁷. Ginseng reinforces warfarin action by heterogeneous mechanisms. It should thus not be used in patients on oral anticoagulant and/or antiplatelet therapy²⁴. Ginseng has been associated with documented reports of potential interactions with warfarin⁴. It can lower blood concentrations of alcohol and warfarin, and can induce mania if used concomitantly with phenelzine⁴. Ginseng and amlodipine may cause an adverse interaction²⁸. Ginseng may exacerbate seizures although the evidence for this is similarly anecdotal and uncertain²⁹. Ginseng may affect blood glucose levels and should

not be used in patients with diabetes mellitus³⁰. Ginseng may cause headache, tremulousness and manic episodes in patients treated with phenelzine sulfate. Ginseng should also not be used with estrogens or corticosteroids because of possible additive effects. Ginseng may interfere with either digoxin pharmacodynamically or with digoxin monitoring³⁰. The analgesic effect of opioids may be inhibited by ginseng³¹. Reports described the case of a thirty-two years old woman who suffered a phototoxic reaction after taking a dietary supplement containing ginseng, goldenseal, bee pollen, and other ingredients. Although the individual ingredients in this dietary supplement have not been associated with cases of photosensitivity, it is possible that the combination of ingredients may have interacted to cause this toxic reaction³².

CARDAMOM

Cardamom (or cardamon) refers to several plants of the similar genera *Elettaria* and *Amomum* in the ginger family Zingiberaceae. They are recognised by their small seed pods, triangular in cross-section and spindle-shaped, with a thin, papery, outer shell and small black seeds. *Elettaria* pods are light green while *Amomum* pods are larger and dark brown.

Benefits

Both forms of cardamom are used as flavouring agents in both food and drinks, as cooking spices and as a medicine. *E. cardamomum* (the usual type of cardamom) is used as a spice, a masticatory, and in medicine; it is also smoked sometimes. Green cardamom is broadly used in South Asia to treat infections in teeth and gums, to prevent and treat throat troubles, congestion of the lungs and pulmonary tuberculosis, inflammation of eyelids and also digestive disorders. It is also used to break up kidney

stones and gall stones, and was reportedly used as an antidote for both snake and scorpion venom. Amomum is used as a spice and as an ingredient in traditional medicine in traditional Chinese medicine. Cardamom is a popular traditional flavouring agent for baked goods and confectionery.

Risks

Dermatitis from skin exposure to cardamom has been reported. Few papers reported cases of allergic contact dermatitis to cardamom elicited by terpenes present in the seeds³³⁻³⁴.

GINGER

The botanical name is *Zingiber officinale* and it belongs to family Zingiberaceae, the ginger family. Ginger is an herb; its rhizome (underground stem) is used as a spice and also as a medicine. It can be used fresh, dried and powdered, or as a juice or oil.

Benefits

Ginger is commonly used to treat various types of “stomach problems,” including motion sickness, morning sickness, colic, upset stomach, gas, diarrhoea, nausea caused by cancer treatment, nausea and vomiting after surgery, as well as loss of appetite. Other uses include pain relief from arthritis or muscle soreness, menstrual pain, upper respiratory tract infections, cough, and bronchitis. Ginger is also sometimes used for chest pain, low back pain, and stomach pain. In foods and beverages, ginger is used as a flavouring agent.

Risks

Heartburn or stomach distress can occur if taken in large quantities. Ginger reinforces warfarin action by heterogeneous mechanisms. It should thus not be used in patients on oral anticoagulant and/or

antiplatelet therapy. Ginger may increase the risk of bleeding or potentiate the effects of warfarin therapy⁴. This study investigated the effect of ginger, a common morning sickness remedy, on foetal development. Pregnant Sprague-Dawley rats were administered, from gestation day 6 to 15; 20 g/L or 50 g/L ginger tea via their drinking water and then sacrificed¹⁹. No maternal toxicity was observed, however embryonic loss in the treatment groups was double that of the controls ($P < 0.05$). No gross morphologic malformations were seen in the treated foetuses. Foetuses exposed to ginger tea were found to be significantly heavier than controls, an effect that was greater in female foetuses and was not correlated with increased placental size. Treated foetuses also had more advanced skeletal development as determined by measurement of sternal and metacarpal ossification centres. The results of this study suggested that in utero exposure to ginger tea results in increased early embryo loss with increased growth in surviving foetuses³⁵. Ginger may help to lessen nausea due to chemotherapy drugs and anaesthesia³.

NUTMUG

Nutmeg consists of the seeds of the *Myristica fragrans* and belongs to family Myristicaceae, a tropical, dioeciously evergreen tree.

Benefits

Commonly known as Jaiphal, is used to flavour many kinds of baked goods, confectionaries, puddings, meats, sausages, sauces, vegetables, and beverages such as eggnog. The spices in their ground form are mainly used in the food processing industry, principally in the seasoning of meat products; they are also used in soups, sauces, baked goods and spice mixes. Nutmeg, in general, tends to be sweeter and more delicate. These products are also used in the perfumes.

Risks

But taking too much nutmeg can cause hallucinations. Hallucinations after voluntary ingestion of nutmeg is an unrecognized drug abuse³⁶. High doses can cause bizarre behaviour and visual, auditory, and tactile hallucinations along with nausea, gagging, hot/cold sensations, and blurred vision followed by numbness, double, and triple vision, headache, and drowsiness. Nutmeg contains several compounds with structural similarities to substances with known central nervous system neuromodulatory activity³⁷. Seeds of nutmeg are used as spice, but they are also abused because of psychotropic effects described after ingestion of large doses³⁸. Nutmeg poisoning is rare but probably underreported and should be considered in recreational substance users with acute psychotic symptoms as well as central nervous system neuromodulatory signs that may mimic in part an anticholinergic hyperstimulation. It is of low cost but has high risk of accidental nutmeg intoxication. Myristic acid is used in the food industry as a flavour ingredient. It is found widely distributed in fats throughout the plant and animal kingdom, including common human foodstuffs, such as nutmeg. Myristic acid has been shown to have a low order of acute oral toxicity in rodents. It may be irritating in pure form to skin and eyes under exaggerated exposure conditions, but is not known or predicted to induce sensitization responses. The data and information that are available indicate that at the current level of intake, food flavouring use of myristic acid does not pose a health risk to humans³⁹.

LICORICE

Licorice is *Glycyrrhiza glabra* of family Leguminosae.

Benefits

Powdered licorice root (licorice root) or Mulhati is an effective expectorant, and has been used for this purpose since ancient times, especially in Ayurvedic medicine where it is also used in tooth powders. Modern cough syrups often include licorice extract as an ingredient. Licorice is a popular and well-known remedy for cough, for chest complaints generally, notably bronchitis, and is an ingredient in almost all popular cough medicines on account of its valuable soothing properties. The extract enters into the composition of cough lozenges and pastilles, with sedatives and expectorants. Fluid extract of licorice is employed for disguising the taste of nauseous medicines, having a remarkable power of converting the flavour of acrid or bitter drugs. Licorice is useful in treating pain due to stomach ulcers, as it soothes the irritation caused by acids. As an anti-hepatotoxic, licorice is effective in the treatment of chronic hepatitis and cirrhosis.

Risks

Licorice may increase the risk of bleeding or potentiate the effects of warfarin therapy⁴. Case of a sixty-one year old man who was admitted to hospital because of severe hypokalemia, rhabdomyolysis and high blood pressure. Severe hypokalemia may lead to rhabdomyolysis. A diagnosis of excess amount of apparent mineralocorticoid was attributable to licorice and grapefruit juice ingestion. Glycyrrhizic acid and glycyrrhetic acid, its hydrolytic product, in licorice extracts, and polyphenols, in grapefruit juice, can inhibit 11 beta-hydroxysteroid dehydrogenase type 2, the enzyme that converts cortisol to cortisone⁴⁰. Heavy licorice (glycyrrhizin) consumption has been associated with shorter gestation. Heavy glycyrrhizin exposure was associated with preterm delivery and may be a novel marker of this condition⁴¹. Licorice may interfere with either digoxin

pharmacodynamically or with digoxin monitoring³⁰. Licorice should not to be used by people with high blood pressure or kidney failure or who are taking digitalis, unless directed to do so by their physician³.

CONCLUSION

It is concluded that adverse effects of herbal medicines as well as their interactions with other prescription drugs should be known to the consumers and physicians. Herbal remedies under conventional therapy are known to show many benefits to humans, which is true but one should be fully familiar with their side effects at normal and large doses. This paper had highlighted uses and adverse effects of selected eleven above mentioned herbal drugs. One should also consider other herbal products for the possible risks while using in cure and treatments.

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Table 1. Summary of uses and side effects of herbal drugs

Sr. No.	Name	Uses	Side effects
1.	ALOE VERA	Anti-inflammatory, anti-proliferative, anti-aging, wound healing ,recovery from burn injury, cell growth and immune modulation	Hepatotoxicity, abdominal spasms, pain, allergic reactions, cramps and kidney damage
2.	TURMERIC	Antibacterial, anticancer, antifungal, anti-oxidant, hypoglycaemic, colorant, antiseptic and wound healer	Risk of bleeding or potentiate the effects of warfarin therapy
3.	FENNEL	Carminative, aromatic, diuretic, flavouring agent	Allergic reactions, occupational rhinitis, asthma,conjunctivitis and oestrogenic activity
4.	EUCALYPTUS	Stimulant, antiseptic and effective for pulmonary tuberculosis	Depression, drowsiness, unconsciousness, vomiting or ataxia and dermatological side-effects
5.	CLOVE	Used in diarrhoea, gas, bloating, intestinal spasms , nausea antioxidant and effective pain reliever in toothache	Hemorrhagic pulmonary oedema, pneumonia, bronchitis, hemoptysis central nervous system depression and occupational allergic contact dermatitis

6.	GARLIC	Diaphoretic, diuretic, expectorant, stimulant, wound healer, antibacterial, antiviral and antifungal	Decreases blood concentrations of warfarin and produces hypoglycaemia when taken with chlorpropamide, bad breath, heartburn, flatulence, ...
7.	GINSENG	Increases a sense of wellbeing and stamina, improves both mental and physical performance, reduces the levels of stress in both men and women, used to help with erectile dysfunction, hepatitis C, and symptoms relating to menopause, and can also be used for lowering blood glucose levels and controlling blood pressure.	Headache, insomnia, anxiety, breast soreness, skin rashes, asthma attacks, increased blood pressure, diarrhoea, euphoria, nervousness, skin eruptions, heart palpitations, or post-menopausal uterine bleeding, tremulousness, and manic episodes in patients treated with phenelzine sulphate
8.	CARDAMOM	Effective to treat infections of teeth and gums, to prevent and treat throat troubles, congestion of the lungs and pulmonary tuberculosis, inflammation of eyelids and also digestive disorders. It also is used to break up kidney stones and gall stones	Allergic contact dermatitis
9.	GINGER	Useful in motion sickness, morning sickness, colic, upset stomach, gas, diarrhoea, nausea caused by cancer treatment, arthritis or muscle soreness, menstrual pain, upper respiratory tract infections, cough, and bronchitis, chest pain, low back pain, and stomach pain.	Ginger reinforces warfarin action
10.	NUTMEG	Used to flavour many kinds of baked goods, puddings, meats, sausages, sauces, vegetables, and such beverages as eggnog.	Hallucinations and neuromodulation
11.	LICORIC	Chronic hepatitis, cirrhosis bronchitis, cough and as sedative, expectorant	May increase the risk of bleeding or potentiate the effects of warfarin therapy and causes arterial hypertension

ALOE VERA



Figure.1. Aloe Vera

TURMERIC



Figure.2. Turmeric

FENNEL



Figure.3. Fennel

EUCALYPTUS

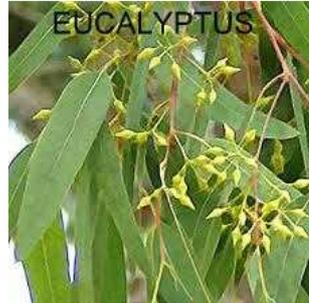


Figure.4. Eucalyptus

CLOVE



Figure.5. Clove

GARLIC



Figure.6. Garlic

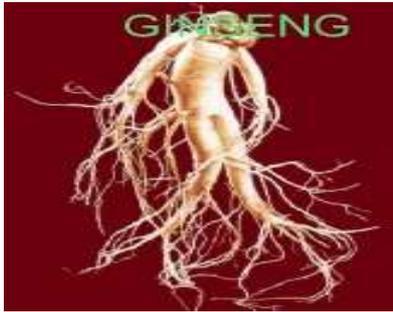


Figure.7. Ginseng



Figure.8. Cardamom



Figure.9. Ginger

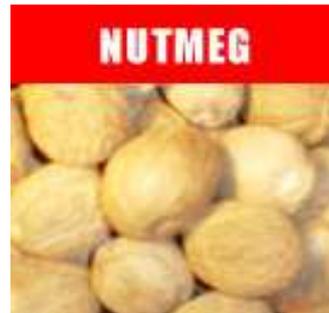


Figure.10. Nutmeg



Figure.11. Licorice