



HERBAL HEALTH REMEDIES

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Herbal Medicines

- Up to 33% of population has used some form of unconventional therapy in the prior year
- Reasons people choose these therapies is to treat back pain, headaches, anxiety, cancer and insomnia
- People choose alternative medicines because of fear of drug side effects, heard about them from a friend, dissatisfied with conventional drug therapy, or because they received more personal attention from alternative practitioners

Herbal Medicines

- Dietary supplement business is a more than \$13 billion industry with multivitamins and minerals accounting for 1/2 of the sales
- 80% of people in developing countries rely on traditional herbal medicines
- 4 out of 10 (33.8% in 1990 to 42.1% in 1997) Indians used alternative medicine therapies of all types spending \$21 billion out of pocket

Herbal Medicines

- 500,000 species of plants on this earth today and only about 5000 have been studied for their medicinal applications
- 25% of today's prescription drugs contain compounds isolated from plants
- 10% of Pharmacies carry herbal remedies

Herbal Medicines

- WHO estimates that herbal remedies are most frequent used therapies worldwide and 80% (4 billion) of world population uses them for primary health care
- Dietary supplements, including herbal products, are regulated under the Dietary Supplement Health and Education Act of 1994 as food product.
 - Does not require these products to be shown effective or safe prior to marketing

Herbal medicines

- Little to no FDA regulation:
 - alternative medicines are marketed without efficacy tests
 - companies do not have to prove their product is safe instead the FDA must prove it is unsafe
 - no set standards for manufacturing, no quality control
 - can not claim cures but can tell how supplements affects the body
 - label claims do not require supportive evidence
 - FDA approval is not needed for marketing claims

Herbal medicines

- Drugs are standardized, means the active ingredient is known and each dose is contains the same amount of the ingredient.
- Many herbal products the active ingredient is NOT known
- Plants are very complicated chemically
- Many times there is no known analysis for the constituents of herbs
- There is no legal definition of “standardization” for botanicals

Herbal medicines

- FDA MEDWATCH to report adverse reactions from alternative medications: 1-800-332-1088
- Herbal medicine - a plant extract that is used in relatively unrefined form to achieve a therapeutic effect
- Herbs have been used since the beginning of time and written reports date back to the Egyptians
- Chinese herbal medicine dates back to 2500 BC

Herbal medicines

- FDA noted 2621 adverse drug reactions and 184 deaths due to herbal products over a 5 year study period.
- This was based on voluntary physician reporting and is believed to be an underestimation.



DEFINITIONS OF TERMS

Herbal medicines

- **Infusion** - herbs are steeped in hot water, similar to tea
- **Decoction** - the plant is soaked then boiled in water, extracts more of the plants ingredients
- **Tincture** - an herb extract prepared by steeping the herb in a 25% mixture of alcohol and water
- **Syrup** - an herb extract prepared in honey or sugar

Herbal medicines

- **Compress** - a cloth pad soaked in a hot herbal extract and applied to the painful area
- **Poultice** - similar to a compress, except that the entire herb is applied to the area
- **Emmenagogue** - herb that induces or increases menstrual flow
- **Carminative** - an herb that reduces or prevents flatulence

Herbal medicines

■ Precautions:

- Quantities of the active drug in plants are highly variable
- Many herbs with little to no short term toxicity can produce adverse effects if consumed over long periods
- Poorly trained herbalists can misidentify herbs or will mis-prescribe it

Herbal medicines

- **Precautions**

- How the herb is prepared has the greatest influence upon the pharmacological and toxicological actions in the body
- Herbs can become contaminated if handled improperly
- Herbs can become contaminated if grown improperly

Herbal medicines

- **Herbal teas:**
 - Most common use of herbal medicine
 - Many herbs are heterogenous and may produce multiple effects



The following herbal products are divided into specific toxic plants by the system most severely affected

HERBAL MEDICINES

Central Nervous System

- Anticholinergic activity seen with herbs contaminated with *Atropa belladonna* (burdock root tea).
- Kava kava - used as an anxiolytic, muscle relaxant and as a sedative
- St. John's Wort - weak MAO inhibitor and serotonin agonist.
- *Lobelia* and *Nicotiana* cause nicotine toxicity with hypertension and CNS excitation.
- Strychnine has been found in imported herbal medicines - can cause abdominal distress and seizures

Cardiovascular system

- Ephedra and ephedrine containing products (Ma Huang) - cardiac stimulation, hypertension, chest pain.
- *Aconitum sp.* (monkshood or wolfbane) contain aconitine - AV block, bradycardia and CVS collapse.

Hepatic system

- *Mentha pulegium* (pennyroyal) an abortifacient, contains pulegone - causes hepatocellular necrosis
- Germander - can cause centrilobular necrosis
- *Chaparral* (creosote bush) - can cause hepatitis
- Jin Bi Huan - fatal hepatitis
- Kombucha tea - mixture of yeast and bacteria - can cause hepatotoxicity

Other systems

- Licorice root - can cause hypertension, water and sodium retention, and hypokalemia with associated weakness and muscle cramps.
- Ginkgo biloba - associated with increased incidence of intracranial bleeding
- Echinacea and chamomile tea - anaphylaxis
- royal jelly and yohimbine - allergic reactions
- Shiitake mushrooms - dermatitis



LEADING HERBAL PRODUCTS

LEADING HERBAL PRODUCTS

Leading Herbal Supplements

- **Aloe**

- Use: the drug - laxative and cathartic effects; the gel - externally used in the treatment of burns, to promote wound healing
- Adverse effects: GIT upsets, cramping, bloody diarrhea and weight loss



Leading Herbal Supplements

- **Astragalus**

- Use: immunostimulant, antibacterial, antiviral, anti-inflammatory, diuretic, liver-protecting. It improves stamina. Use in cancer patients undergoing radiation treatment or chemotherapy.
- Adverse effects: no side effects have been reported





Leading Herbal Supplements

- **Bilberry (Huckleberry, Blueberry)**
 - Use: Nearsightedness, to improve visual acuity, to treat diarrhea, to treat urinary tract disorders, arthritis, gout, hemorrhoids, poor circulation and heart problems
 - Adverse effects: None at recommended dosages



Leading Herbal Supplements

- **Black Cohosh**

- Use: as an alternative to hormone treatment for menopause, dysmenorrhea and premenstrual discomfort
- Adverse effects: no contraindications or drug interactions; may cause upset stomach in some women.



Leading Herbal Supplements

- **Chamomile:**
 - Use: anti-peptic, antispasmodic, anti-pyretic, antibacterial and antifungal
 - Adverse reactions: contraindicated in persons with known allergies to ragweed. Contact dermatitis has been reported



Leading Herbal Supplements

- **Cascara Sagrada (Fletcher's castoria)**
 - Use: To treat constipation, gallstones and liver problems
 - Adverse effects: GIT discomfort, abuse can lead to electrolyte disturbances, muscle weakness, disturbances in cardiac function, hematuria

Leading Herbal Supplements

- Cheyenne pepper (Capsicum, Capsaicin)
 - Use: As a carminative, as an anti-inflammatory agent; used topically to treat arthritis,
 - Adverse effects: GIT irritations, hepatic or renal damage; burning of the skin



Leading herbal supplements

- **Chinese Parsley, Coriander, Cilantro**
 - Use: in cooking, as a chelating agent (increases the excretion of Hg, Pb and Al from the body)
 - Adverse effects: none reported



Leading Herbal Supplements

- **Cranberry fruit**

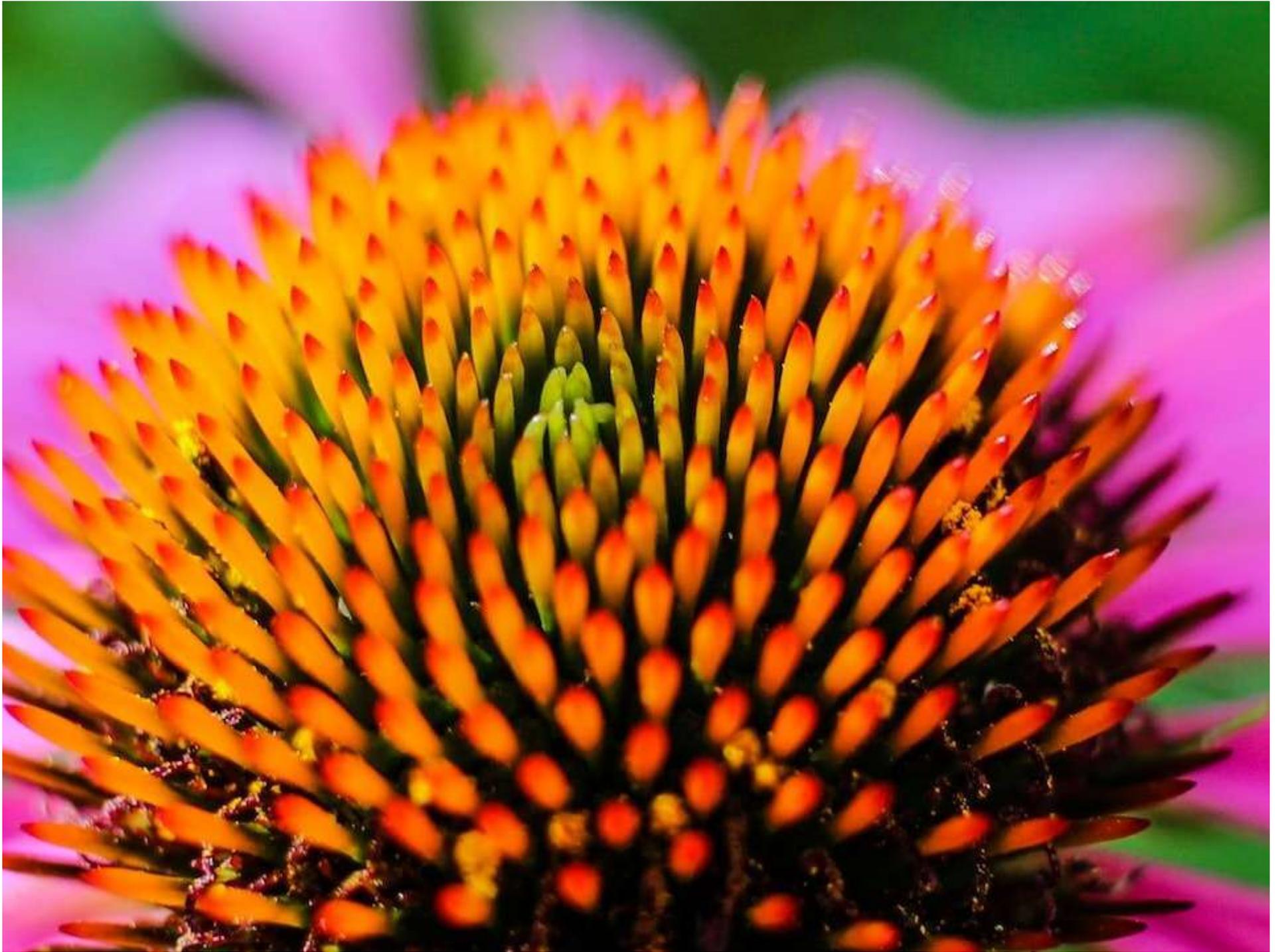
- Use: To prevent and treat urinary tract infections, as a diuretic, as an antiseptic and antipyretic
- Adverse effects: More than three liters a day can cause diarrhea

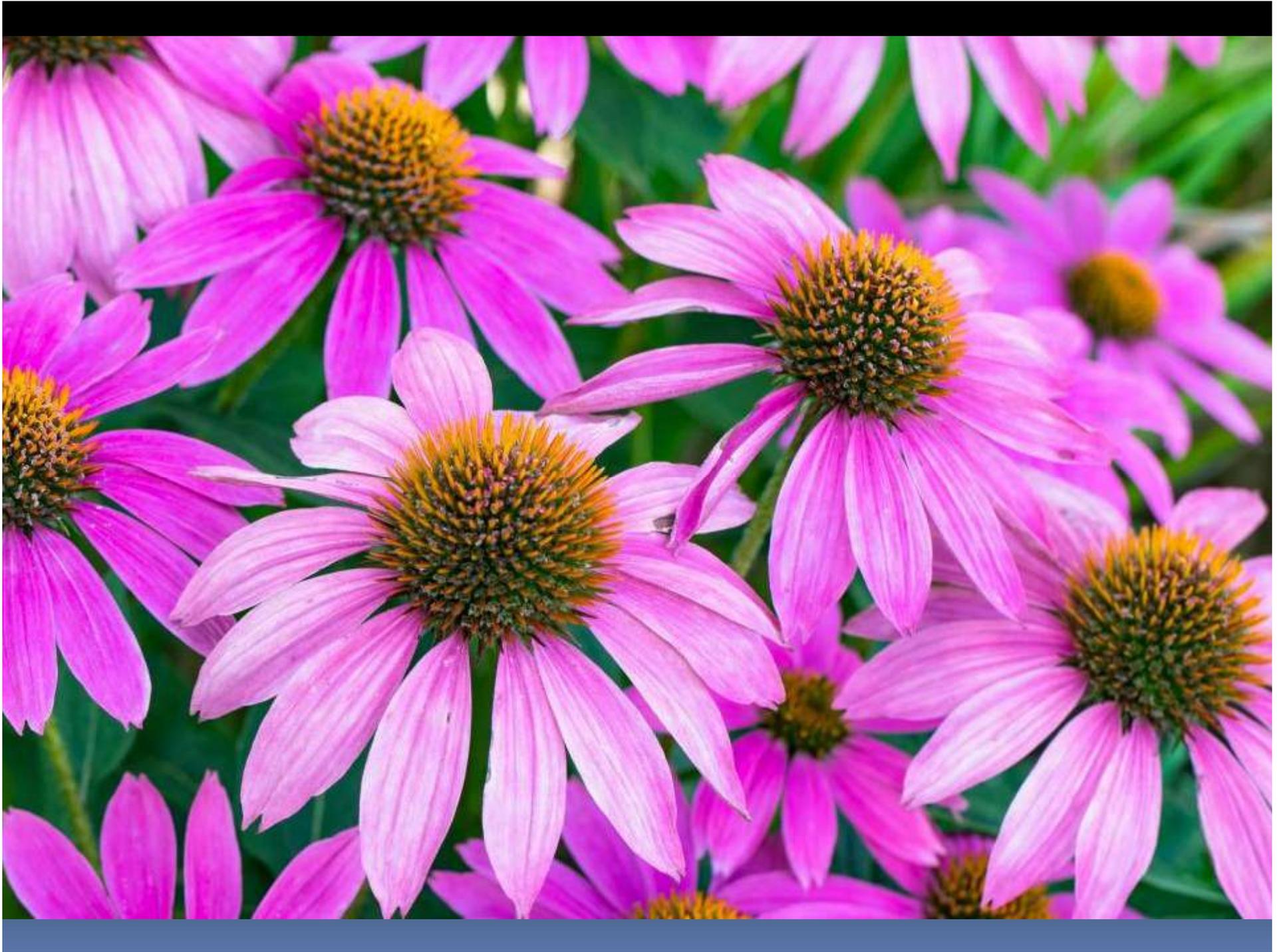


Leading Herbal Supplements

- **Echinacea**

- Use: as an immune stimulant, to fight infections, to promote healing; used topically to treat burns eczema and herpes infections
- Adverse effects: May interfere with immunosuppressive therapy





Leading Herbal Supplements

- **Evening Primrose**
 - Use: to treat menopause and PMS symptoms; may also be useful in treating eczema
 - Adverse effects: headache and GIT upset

Leading Herbal Supplements

- **Feverfew leaf**
 - Use: treatment of migraine headaches, fever, arthritis and menstrual problems
 - Adverse effects: Mouth ulceration, gastritis. Do not use during pregnancy



Leading Herbal Supplements

- **Garlic (*Allium sativum*)**
 - Use: to lower blood cholesterol levels, stimulate immune system
 - Adverse effects: GIT symptoms and changes in the bacterial flora, taste and smell of garlic may bother some people



Leading Herbal Supplements

- **Ginger**

- Use: to prevent and treat motion sickness, appetite stimulant and to treat arthritis, treat cold symptoms
- Adverse effects: do not use in patients with cholelithiasis, large doses can depress the CNS



Leading Herbal Supplements

- **Ginkgo Root** (*Ginkgo biloba*)
 - Use: Memory function enhancement, as well as help sexual dysfunction due to antidepressant use
 - Adverse effects: GIT upset, dizziness, vertigo, depression, bronchial asthma and headache

Leading Herbal Supplements

- **Asian Ginseng: (Panax ginseng)**
 - Chinese word meaning “the essence of man”
 - Use: promoted as a respiratory, digestive and CNS stimulant, a cure for fatigue, a treatment for ulcers; and a cholesterol lowering agent
 - increases mental and physical efficiency and helps body cope with stress
 - aids the endocrine system and used as an aphrodisiac
 - used to treat neurasthenias, weakness and aging

Leading Herbal Supplements

■ Ginseng

- active alkaloids are saponins which can cause the release of histamine, block calcium channels, raise sperm counts, stimulate erythropoiesis; increase ACTH, ADH and cortisol secretion, increase circulating levels of immunoglobulins and inhibit tumor cells, immunostimulatory agent
- Adverse effects: excessive use (more than 3 gms./day) causes diarrhea, anxiety, insomnia, depression, amenorrhea and hypertension



Leading Herbal Supplements

- **Goldenseal root**
 - Use: Nausea, reduces the severity of infections of the stomach, gallbladder and used to treat liver ailments
 - Adverse effects: Relatively non toxic when taken at recommended doses, high doses can cause nausea, diarrhea and possibly hypertension

Leading Herbal Supplements

- **Hawthorn:** (*Crataegus monogyna*)
 - Use: supports cardiac function, including heart rate and blood flow to the heart, may help reduce blood pressure
 - Adverse effects: GIT upset

Leading Herbal Supplements

- **Kava Kava root**

- Use: to treat anxiety, insomnia and to promote relaxation
- Adverse effects: GIT disturbances, headache, dizziness, mouth numbness, scaly skin disorders resembling psoriasis. It may cause a temporary yellow discoloration of the skin and a lack of coordination in skeletal muscle. It may also affect vision.



Leading Herbal Supplements

- **Milk Thistle (*Silybum marianum*)**
 - Use: the active constituent (silymarin) in the seeds, prevent and in some circumstances even cure liver disease, both acute and chronic. Protects cell membrane. Scavenges harmful oxygen radicals in the liver.
 - Adverse reactions: loose stools in some patients
 - Be sure you get products which contains the seeds



Leading Herbal Supplements

Nutmeg:

- Use: considered to be a mood elevator, aphrodisiac, and a narcotic with hallucinogenic effects
- the most psychoactive component is Myristicin, which is metabolized into the hallucinogen 3-methoxy-4,5-methylenedioxyamphetamine (MMDA) a substance closely related to methylenedioxyamphetamine (MDMA, "ectasy")
- used to treat malaria, asthma, dysmenorrhea, fever, flu, pneumonia, as an appetite stimulant, a carminative, aphrodisiac and a stimulant

Leading Herbal Supplements

- **Nutmeg:**
 - Ingestion of 5-30 grams produces GI upset, within 3 hours the hallucinogenic effects appear
 - Adverse effects: chronic abuse is limited because of the GI disturbances, may be an abortifacient
 - Treatment - reduce environmental stimuli and give supportive and symptomatic care



Leading Herbal Supplements

- **Saw palmetto (*Serenoa repens*)**
 - Use: to treat benign prostatic hyperplasia, enlarged prostate
 - Adverse effects: headache, cholestatic hepatitis, upset stomach





Leading Herbal Supplements

- **Tea Tree (*Melaleuca alternifolia*)**
 - Use: antiseptic and antimicrobial applied to the skin
 - Adverse effects: can cause skin irritations

Leading Herbal Supplements

- **Tumeric (*Curcuma longa*)**
 - Use: anti-inflammatory and antioxidant. Inhibits cells changes that can lead to cancer development. Protects the liver from toxic substances and promotes the free flow of bile. Aids digestion. May reduce pain and stiffness associated with arthritis.
 - Adverse reactions: diarrhea and abdominal cramping

Leading Herbal Supplements

- **Valerian root**
 - Use: to treat anxiety, insomnia and as a sedative
 - Adverse effects: Headache, excitability, uneasiness and cardiac disturbances

Leading Herbal Supplements

- **Herb / Drug Interactions:**
- ginkgo biloba / aspirin, NSAID's, warfarin, heparin
- ginseng / MAO inhibitors, avoid with antidepressants
- horseradish / levothyroxine, avoid with kelp, may suppress thyroid

Leading Herbal Supplements

- Herb / Drug Interactions:
- ephedra / caffeine or other stimulants
- feverfew / anticoagulants / do not take if pregnant
- garlic / warfarin, aspirin / may inhibit clotting
- Kava kava / benzodiazepines

Herbal Medicines

- **Nutritional supplements:**
 - the usage of specific nutrients is very widespread

Edible flowers

- tuberous begonias
- chrysanthemums
- clover
- daisies
- yellow day lilies
- gladioli
- geraniums
- violets
- jasmine
- lavender
- honeysuckle
- lilacs
- marigolds
- tulips
- roses
- orange blossoms

Herbal Medicines

- Nutritional supplements
 - **L-tryptophan** - an essential amino acid, precursor for serotonin; supposedly good to treat insomnia, depression, and PMS. A widespread outbreak of eosinophilia and myalgia occurred in 1989 and affected 5-10,000 people. All the toxicities were traced to a single manufacturer . The manufacture of tryptophan containing products was banned by the FDA

Herbal medicines

- **“Folk” medicine** - folk remedies are unrefined products taken by local inhabitants as a treatment for a disease process. Derived from local plants, animals, or minerals.

Leading Herbal Supplements

- Special Caution with the following:
- **Pennyroyal** - liver damage and may cause abortion
- **Senna** - electrolyte loss
- **Willow bark** - Reye's syndrome
- **Wormwood** - neurological symptoms

Leading Herbal Supplements

- **Herb - Drug Interactions:**
- Licorice / blood pressure medication
- Ginseng / Digitalis
- St. John's Wort / antidepressants

Herbal medicines

- **Herbal teas**

- “chaparral tea” made from the ground leaves of the creosote bush, used as an antioxidant, blood purifier and an inhibitor of aging has caused hepatitis leading to liver transplant



Herbal medicines

- **Herbal teas**

- coumadin like agents are contained in **tonka bean** (Tonka bean - used to treat dyspepsia, stomach ache, and as an anticoagulant)

Herbal medicines

- **Sassafras** contains safrole, a known hepatic carcinogen (the root bark is used to treat rheumatism, amenorrhea, swelling, tooth ache, as a diaphoretic, diuretic, stimulant, analgesic. Use the essential oil externally only, has caused abortions, poisonings and death)

Herbal medicines

- Herbal teas
 - Mandrake, thorn apple, burdock root and jimson root contain anticholinergic drugs like atropine and scopolamine.
 - mandrake root very toxic - contains atropine scopolamine and hyoscyamine. Used to treat ovarian cancer, as a sedative, hallucinogen, purgative, emetic and analgesic. DO NOT give to PG women. Can also cause hair loss)

Herbal medicines

- Herbal teas
 - **Thorn apple** - *Datura stramonium*, contains hyoscyamine and atropine. Is an antispasmodic and an anodyne. Used to treat asthma, boils, piles, and cancer.



Herbal medicines

- Herbal teas
 - **Burdock root** - immune stimulator and blood purifier. Used in the treatment of psoriasis and eczema, gout, sores, cancer, skin diseases and arthritis. Is a diuretic and diaphoretic



Herbal medicines

- Herbal teas
 - **Mormon tea** contains ephedra (used for 100's of years to treat asthma, diarrhea, and as a stimulant and to control hay fever. It is an adrenal stimulant and prolonged use can lead to adrenal exhaustion. Contains the plant alkaloid ephedrine)



Herbal medicines

- Herbal teas
 - **Snakeroot tea** contains reserpine; snakeroot is AKA Bistort, used as an astringent, to stop diarrhea and as a gargle for mouth sores. Contains tannic acid, oxalic acid and vitamin C. Used to treat bug bites, diarrhea, lip cancer, gingivitis and snakebite.



Herbal medicines

- Herbal teas
 - **yohimbine bark** contains yohimbine, an alpha 2 antagonist (blocking agent), used as an aphrodisiac and to treat angina pectoris and for impotence
 - **kavakava and nutmeg** contain psychoactive agents, (kavakava used to treat gonorrhoea, anxiety, insomnia and enuresis)

Herbal medicines

- Herbal teas
 - squill, oleander and lilly of the valley contain cardiotoxic agents. (Squill used to treat bronchitis, cancer, dropsy and heart disease. The white squill bulb is used medicinally and the red squill bulb is used as a rat poison)

Herbal medicines

- Herbal teas
 - **chamomile tea**, a popular sedative closely resembles rag weed (used to treat GI upset, colic, indigestion, earaches, dysmenorrhea and tooth aches. It is a spasmolytic and a sedative)



Herbal medicines

■ Kombucha mushroom:

- considered the “fountain of youth”, used as a treatment for cancer, hypertension, fatigue, arthritis, wrinkles, constipation and gray hair
- not a true mushroom but a yeast-bacteria aggregate surrounded by a membrane
- can cause hepatotoxicity and severe metabolic acidosis
- toxic principles have not yet been identified
- Treatment - gastric decontamination, symptomatic

Herbal Medicines

■ Volatile oils:

- a group of complex mixtures of hydrocarbons derived from plant sources that share the common characteristics of readily evaporating at room temperature.
- AKA ethereal or essential oils
- used as spice extracts, perfumes and flavorings
- as food additives their use is regulated by the FDA but their use as herbal remedies is not regulated

Herbal Medicines

- **Volatile oils**

- **Chenopodium oil** - AKA American worm-seed oil. Pale yellow, bitter tasting liquid distilled from the Jerusalem oak plant; Used to treat intestinal parasites; strong local irritant causing inflammation of mucous membranes

Herbal Medicines

- **Volatile oils**
 - **Peppermint oil** - used as a carminative and to control spasms and hypermotility of the colon, also used to treat migraines and nausea ; toxicity is minimal.



Herbal Medicines

■ Volatile oils

- **Pennyroyal oil** - made from the leaves of *Mentha pulegium*; used since the days of the Roman empire as a stimulant for menses and as an abortifacient; oral ingestion causes emesis, abdominal pain, delirium and seizures and hepatotoxicity; the toxic component is called pulegone.
- **Lemongrass oil** - used in pet repellents and extensively as a fragrance; can cause a contact dermatitis

Herbal Medicines

■ Volatile oils

- **Eucalyptus oil** - has a camphoraceous aroma, used to treat conditions of the respiratory tract; it is one of the most toxic of the volatile oils, contains up to 70% eucalyptol and 30% hydrocyanic acid; safe oral adult dose is 0.1 ml; can cause death in higher doses
- **Sassafras oil** - found in sassafras tea, a known carcinogen

Herbal Medicines

- **Volatile oils**

- **Clove oil** - contains eugenol; used as a flavoring agent and a fragrance; applied topically to the gums for the treatment of odontalgia, is an effective disinfectant and a rapid acting anodyne; is initially irritating to mucous membranes.

Herbal Medicines

- **Volatile oils**

- **Cinnamon oil** - commonly found in food stores, used as a carminative, a germicide, and for the treatment of colic; can cause contact dermatitis and rapid heart beat, facial flushing, lightheadedness and shortness of breath if ingested

Leading Herbal Supplements

- **Calamus** - severe liver toxicity
- **Chaparral** - liver and kidney toxicity
- **Comfrey tea** - may disrupt liver function
- **Ephedra (ma huang)** - potentially fatal
- **Germander** - liver toxicity
- **Kombucha tea** - may be toxic, linked to deaths



THE END
THE END

