



Presents

Herbalism 101 for Health Professionals

With

Phyllis D. Light, RH



HERBALISM

The Common Ground Health Clinic

Mission Statement:

The Common Ground Health Clinic is a non-profit organization that provides free quality health care for the greater New Orleans community, and develops and provides programs to address community health care needs through collaborative partnerships.

Instructor profile

Phyllis D. Light is an herbalist and healer with almost 25 years of clinical experience. She is traditionally trained in Appalachian Folk Medicine. Phyllis is an herbal consultant to allied health professionals throughout the region and supports an integrative approach to well-being and a preventive health model based on healthy lifestyle choices. Phyllis is currently a national nursing CEU provider and a Registered Healthcare Educator. She is also an American Herbalist Guild professional member. Phyllis currently supervises the Herbalism program at the Common Ground Health Clinic.

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Herbalism for Healthcare Practitioners

By
Phyllis D. Light, RHE, RH

Traditional medicines (TM)- the sum total of the knowledge, skills, and practices based on the theories, beliefs and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, assessment, improvement or treatment of physical and mental illness. May or may not be supported by research. It is based on the needs of the individual. Generally considered to be traditional healers, herbalists, spiritual healers and bonesetters (www.who.int/medicines).

Herbal medicine - use of crude plant material such as leaves, flowers, fruit, seed, stems, wood, bark, roots, rhizomes or other plant parts, which may be entire, fragmented or powdered.

refers to the long historical use of these medicines to support the healing function of the body.

Their use is well established and widely acknowledged to be safe and effective, and may be accepted by national authorities. (WHO)

Conventional medicine - medical doctor, doctor or osteopathy, allied health care professionals

Whole or Alternative Medical Systems – built upon complex systems of theory and practice. Often, these systems have evolved apart from and earlier than the conventional medical approach used in the United States. Examples: Southern Folk Medicine, Traditional Western Herbalism, Traditional Chinese Medicine, Native

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American Medicine, Ayurveda

NIH

Complementary and Alternative Medicines (CAM) - those health care practices not currently considered an integral part of conventional medicine. It includes but is not limited to herbs, homeopathy, chiropractic, hypnosis, and acupuncture. These practices may lack biomedical explanation, but as they become better researched some, ... become widely accepted, where as others, ... quietly fade away, yet are important historical footnotes (www.nlm.nih.gov/cgi/mech).

Complementary medicines - a therapy used in addition to conventional treatments.

(NIH) adaptation of traditional medicine to the dominant medical system. The requirements for protection provided under international standards for patent law and by most national conventional patent laws are inadequate to protect traditional knowledge and biodiversity.

(WHO)

Integrative Medicine - represents an effort to provide a therapeutic model that insists on conventional or alternative medical practices that have received thorough and serious evaluation.

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Biologically based practices - use substances found in nature, such as herbs, special diets, or vitamins (in doses outside those used in conventional

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medicine). Herbs, vitamins, amino acids, glandulars.

Mind – Body Medicine - uses a variety of techniques designed to enhance the mind's ability to affect bodily function and symptoms. Examples: meditation, prayer, mental healing, art therapy, dance therapy, music therapy, hypnosis

Manipulative and body-based practices - based on manipulation or movement of one or more body parts. chiropractics, massage, osteopathics.

Energy medicine - involves the use of energy fields, such as magnetic fields or biofields (energy fields that some believe surround and penetrate the human body). Examples: Reiki, Therapeutic Touch, Healing Touch, Quantum Touch

General Reasons People Use CAM Therapies

Source: McGill Molson Medical Informatics 2000 and *Diabetes Spec.* 2001 14:196-7).

Perceived failure of conventional medicine; inability to provide cures.

Fear of side-effects or drastic interventions; safety concerns.

Feeling of participating in one's own healing; empowerment; personal autonomy.

Protocols for chronic disorders.

Mind, body and spirit centered; holistic philosophy.

Lack of ability to communicate with physician; wants to be heard.

Dogmatic view often exhibited by physicians; physicians attitude.

Feeling desperate and willing to try almost anything to get better.

Curiosity; openness to experimentation.

Believe they receive better support.

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Find CAM to be more consistent with their philosophical or spiritual beliefs.

Specific Reasons People Use CAM Therapies

Source: NIH survey 2002, published 5/24/04

Chronic or recurring pain, especially back pain, colds, joint pain or stiffness, anxiety or depression.

54% believed that combining CAM therapies with conventional medicine helped.

25% were referred by a medical professional to CAM therapy.

28% believed that conventional medicine could not help with specific problem.

13% believed conventional medicine is too expensive.

50% thought would be interesting to try.

Current use - 25% of all prescription medicines are made from plants; 60% of all over-the-counter medications contain some natural components; 74% of the herbs used today are still used as they have traditionally been used; 75-80% of world's population uses herbs as primary medicine; 1/2 of all Americans have tried or use supplements. "Up to 80% of people in South Africa use traditional or complementary/alternative medicine (TM/CAM) as part of primary health care (WHO).

Common Principles of Traditional Therapies

Published by McGill Molson Medical Informatics 2000 from Research Council on Complementary Medicine – Great Britain

1. Health is a positive state, the right of each individual and a continually evolving process. We all have a basic right to good health.

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2. The body has inherent self-regulatory mechanisms which can be supported by traditional therapies. The human body is an integrated unit (mind, body, spirit) and has an inherent capacity to maintain its own health or homeostasis. The structure and function of body systems, the emotional impact of life's experiences, and the effects of chronic stress all affect the body's healthy functioning. Problems in one area or body system can ultimately affect the whole body. Traditional therapies can support these systems and the mechanisms which help maintain homeostasis. And, we each find our own individual way of maintaining homeostasis.

3. The body is never static, even in health, which results in a homeodynamic organism continually adapting to new states of being. The human body is continually in motion but is never complete. We are constantly creating new cells and disposing of old ones, repairing damaged tissues, cleansing toxins, releasing hormones, digesting food, thinking, blinking, and dreaming. Fluids constantly circulate around the body, neurons continually fire, and our senses are always on alert. Even in sleep, we are not still. We are an energy system in perpetual motion.

4. Good digestion is the basis of good health. From Hippocrates to modern-day healers, strong digestive capacity is seen as vital to good health. The ability to assimilate life-giving nutrients forms the foundation of our good health. "All diseases begin in the gut," was one of the first axioms I learned in my training. At first glance, this statement may sound foolish. But contemplated, the truth becomes apparent. Much of immune system lies in the gut. Each time we eat, our immune systems have to deal with foreign invaders including phytochemicals, bacteria, food additives, dyes and unhealthy oils. Probiotics, the good bacteria, and a strong mucosa lining

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5. *The body needs many tools for healing.* Rest, nutritious food, healing herbs, gentle movement, sweating, clean air, relaxation, laughter, prayer.....We have many tools in our tool shed, tools which are easily accessible, easy to use and perfect for our bodies. But healing is not guaranteed, nor are there any promises given.

6. *Building a healthy internal terrain should be the primary goal or focus of food and herbal therapies.*

7. *Look for patterns of dysfunction, especially within organ systems.*

8. *We are not separate from the Earth.* The Earth is our perfect environment, what we do to it is ultimately reflected back in our health.

9. *There is a vital or life force which permeates all living cells.* Whether it is referred to as the innate intelligence of the cell, as energy or as God, it is the force which is present during life and missing in death. The concept of the vital force has its roots in the teachings of Hippocrates (400 BC) and of Galen (190 BC) who defined it as innate to the human constitution. Paracelsus (1493-1591) viewed it as an active, directing intelligence which maintained and repaired the organism in a dynamic fashion. George Stahl,(1660-1743), a German physicist and chemist, believed that matter was spirit in motion and divided into two categories: organic and inorganic. He believed that all parts of the body were passive and could only be activated or moved by the release of energy from the soul. And, the soul used the chemical processes of the body for this release. Death, he reasoned, is the departure of the vital force or the exiting of the soul (*Life Itself: Exploring the Realm of the Living Cell*, Rensberger, B., p. 6, 1998). Regardless of whether it is called the vital force,

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chi, prana, or ki, almost every culture in the world defines and describes this concept.

10. Traditional therapies emphasis preventive techniques. It is easier to forestall an illness than to treat it. Preventive health takes an upstream approach with attention to reducing risk factors for chronic illness through lifestyle influences. By emphasizing good nutrition with attention to eating chemopreventive foods, maintaining a healthy weight, getting adequate rest and exercise and reducing the impact of stress, traditional approaches to health hope to head off the illness before it strikes, reduce its impact if it strikes, or at least reduce the time in old age when a person is in decline. In this regards, preventive health is more than just medical screenings and examinations, though it may also include those, it is the support and nurturing of the self.

11. Traditional therapies should be non-toxic and non-invasive, except in acute or emergency situations. Traditional, earth-oriented remedies and therapies support the body through nutritive action, the building of a healthy internal terrain and helping to achieve emotional balance. Some remedies give ease and reduce pain and inflammation while others relax the body and help relieve anxiety.

12. Symptoms are viewed as the body's messengers and should not be suppressed. Vital energy is a complex mechanism that functions as both a defense system and an internal intelligence which protects the body from invasion, supervises the actions of the internal organs and the reactions of the mind. Within this definition, the vital force becomes a complex interaction between mind and emotions, nervous system, immune system and mitochondria. Symptoms in the body are then viewed as the response of the body's vital force or defense

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mechanism. Stahl, for instance, saw fevers, hemorrhages, palpitations as natural reactions of an intelligent and harmonious body confronted with some stress. One must therefore respect these symptoms: they are *self-healing* efforts of the body.

13. *The cause of illness should be found and treated, not just the symptoms.* Folk healers and herbalists are good detectives seeking to find the cause of the illness. By seeking to find the source, by peeling back the layers of illness, folk healers try to work back to the beginning.

14. *Lifestyle has a major impact on health.* Poor eating habits and poor quality food, lack of exercise, smoking, excessive consumption of alcohol, poverty and poor hygiene all affect our quality of health.

15. *Trauma, emotional distress and stress are major causes of disease.* The discipline of psychoneuroimmunology (PNI) and studies too numerous to mention clearly make the connection between mind, emotions and physical. We are what we think.

16. *Most chronic illnesses involve complex patterns and multi-organ systems and cannot be adequately assess by standard medical tests.* May be as long as 5 years before problem shows up in blood work.

17. *An individual with a chronic disorder may not exhibit the same symptoms as another individual with the same disorder.* Not everyone has every symptoms of a disorder.

18. *Multiple modalities may be needed to achieve better health.* Nutritional protocols, herbal remedies, exercise, counseling, and lifestyle changes may all be

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needed to effect improved health.

19. Each person is unique and individual, therefore, protocols should be individualized.

20. Traditional therapies should be non-toxic and non-invasive, except in acute or emergency situations. Traditional, earth-oriented remedies and therapies support the body through nutritive action, the building of a healthy internal terrain and helping to achieve emotional balance. Some remedies give ease and reduce pain and inflammation while others relax the body and help relieve anxiety.

21. Individuals must take an active role in maintaining their own health. Individual responsibility for reducing risk factors for chronic disease is necessary for a healthy population.

22. Our culture influences our health.

Types of Herbalism in US today:

Western Folkloric, Native American, Ayurvedic, Traditional Chinese Medicine, Western scientific, clinical herbalism, Earth centered, ethno-botanical, traditional healers, phytotherapy

American Herbalist Guild

Types of Herbal Training

Apprenticeship programs both formal and informal.

Correspondence courses

Private, small herbal schools and courses

Traditional initiation and training, often combined with spiritual practices

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Self-taught

College and university courses

Workshops and promotional materials provided by manufacturers

Multi-level marketing materials

Electives within schools that teach wellness, holistic health or bodywork

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Western Folkloric Medicine

Combination of Native American plant use and spiritual practices, European (Galen) humoral medicine, African, spiritual practices and energetic framework.

Foods, herbs, spiritual tradition

Principles of Western Folkloric Medicine

Movement of fluids around body – blood, lymph, mucous, bile

Tissue states – contraction, expansion, excitation, atrophy, depression, relaxation

Fluid states – wet, damp, dry

Temperature states – hot, warm, cold

4 tastes – sweet, sour, salty, bitter

4 elements – earth, air, fire, water

Nutritive aspects of herbs and foods

Preventive education and techniques

Encourages client involvement

Primarily uses plants native to US with regional/local preferences

Whole parts of plants, not standardized extracts

Ethical harvesting of plants

Mind, body, spirit centered

Focus on individual

Encourages sharing of story, life events

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Uses single herbs (simples) or formulas with only a few herbs

Continually evolving

Methods of Herbal Delivery

Capsule, Pill, Tablet, Soft gel

Tincture – alcohol or glycerin base

Teas or infusions – save volatile oils

Brews or decoctions – longer cooking time

Ointments, Salves, Lotions – topical application

Liniments, Creams – topical application

Suppositories or Boluses – rectal or vaginal insertion

Syrups, Honeys – hide bitter taste, cough syrups

Oxymels – vinegar and sugar or honey

Conserves – candy preserves

Baths – essential oils

Poultice or Plaster – wound healing, move mucous

Douche – vaginal

Smoking, Burning, Inhaling – sinus, lung directed

Enemas – nutritive, hydrating

Herbal wines – mainly fruits

Monitoring and Oversight

Current Regulation of Dietary Supplements

Dietary supplements are regulated as food supplements by both the Food and Drug Administration (FDA) and the Federal Trade Commission (FTC). Most herbs available in this country have been monitored by the FDA since 1906 and are generally considered safe. Many of these herbs were re-evaluated in 1938 and

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again, in 1964. New herbal products have to meet FDA safety guidelines. Dietary supplements may make function and structure claims but cannot claim to treat or cure a disease. Herbs may make a claim if the condition is associated with the passage of life such as adolescence, pregnancy, menopause or old age.

Food and Drug Administration - has the power to:

- a) stop any company from selling a dietary supplement that is toxic or unsanitary;
- b) stop the sale of a dietary supplement that has false or unsubstantiated claims;
- c) take action against dietary supplements that pose “a significant risk”;
- d) stop a company making a claim that a product cures or treats a disease; and,
- e) stop a new dietary ingredient from being marketed if FDA does not receive enough safety data in advance.

Federal Trade Commission - has the power to:

- a) enforce laws regarding “unfair or deceptive acts or practices” to ensure consumers get accurate information;
- b) challenge and stop advertising that is not adequately substantiated; investigate complaints or questionable trade practices; negotiate a cease and desist order if necessary; seek injunctions to stop false advertisements; and
- c) seek civil penalties for violations of trade regulations or cease and desist orders.

Important Legislation

Food & Drug Act of 1906 - prohibited the shipment of adulterated or misbranded medicine across state lines. Response to patent medicine shows.

Sherley Amendment of 1912 - prohibited fraudulent claims on a label

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Federal Food, Drug & Cosmetic Act of 1938 - added requirement of testing for safety before marketing a new drug (exclusions were pharmaceuticals (botanicals) subject to the 1906 Act). Extended control to cosmetics and to therapeutic devices; required new drugs to be shown safe before marketing; eliminated the Sherley Amendment requirement to prove intent to defraud in drug misbranding cases; provided that safe tolerances be set for unavoidable poisonous substances; authorized standards of identity, quality, and fill-of-container for foods; authorizing factory inspections; & added the remedy of court injunctions to the previous penalties of seizures and prosecutions.

Food Additives Amendment of 1958 - required manufacturers of new food additives to establish safety. The Delaney proviso prohibited the approval of any food additive shown to induce cancer in humans or animals, & the FDA published in the Federal Register the first list of substances Generally Recognized as Safe (GRAS). www.fda.gov

Kefauver-Harris Amendment of 1962 - drugs must be proven effective as well as safe before marketing (drugs marketed before 1938 were exempt)

Kefauver-Harris implementation of 1972 - 17 panels were assembled to evaluate the active ingredients of OTC drugs (at this time herbs were classified as OTC)

Nutrition Labeling and Education Act of 1990 - panel reports issued. Category I - herbs generally recognized as safe and effective & not misbranded. Category II - not generally recognized as safe and effective or misbranded (prune juice). Category III - insufficient data. Springboard of Dietary Supplement & Health Education Act (DSHEA) of 1994. Required packaged foods to bear nutrition

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labeling & health claims for foods to be consistent with terms defined by the FDA. The law preempts state requirements about food standards, nutrition labeling, health claims, and for the first time, authorizes some health claims for foods. Raised consumer awareness & confidence about the role of nutrition in promoting health and reducing the risk of disease.

Dietary Supplement Health and Education Act of 1994 - defined dietary supplements & dietary ingredients, established a new framework for assuring safety, outlined guidelines for literature displayed where supplements are sold, provided for use of claims and nutritional support statements, required ingredient & nutrition labeling, and granted FDA the authority to establish good manufacturing practice regulations. Enforcement authority for the FDA under the Food, Drug, and Cosmetic Act and the FTC under the Federal Trade Commission Act remained unaltered and substantial. Created the Commission of Dietary Supplement Labels and Office of Dietary Supplements.

Current Health Claim Labeling

1. Three types of claims on labels: health claims, structure/function claims & nutrient claims.
2. A *health claim* must contain a substance and a disease or health related condition.
3. The FDA can issue a health claim based upon: supporting scientific evidence submitted in petitioning process as a health claim; an authoritative statement from a scientific body of the U.S. government; and, qualified health claims where there is not enough scientific evidence and consumer health and safety are not threatened.

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4. *Structure/function Claims* - describes how the supplement affects the normal function and structure of the human body. May describe general well-being. May describe a benefit. Must contain the phrases “not evaluated by the FDA” and “product not intended to diagnose, treat, cure or prevent any disease.”

5. *Nutrient Claims* - characterize level of nutrient in food or herb; percentage level of dietary

Herbal labels - warnings, dosage recommendations, substantiated structure & function claims; name of each ingredient & part of plant used. Cannot claim to treat or cure a disease, but may make a claim to treat symptoms associated with “common passages of life” such as pregnancy, adolescence, aging, and menopause. Latin name is not required if herb is listed in 2nd edition of *Herbs of Commerce*, for those herbs listed, common name suffices.

Language of the Herbal Label

Synergistic - combined effect of all the parts is stronger than the individual elements

Balanced - no consistent meaning

Natural - product derived from natural sources

Polypharmacy or Formulas - combination of herbs which should be designed to match the needs for the client

Standardization - the process of testing for certain chemical markers which have been identified as the active ingredient in the herb.

Safety of Herbs

Good Manufacturing Practices (GMPs) as dictated by FDA - a system of

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documentation, written or analytical, which ensures quality, identity, composition, strength and purity. GMP or cGMPs (current) are not static and can be modified, changed or adapted to meet the state of the art technology, regulatory guidance or changes in industry.

Proper identification - this includes identification in the field and on the label

Cleanliness - the processing takes place in a clean and hygienic facility

Purity - the label lists all the ingredients in the product

Safety – proper identification and labeling; proper hygiene

Effectiveness – based on clinical research

Potency – standardization vs. whole plant; how plant is grown, harvested and prepared

Quality control – Good Manufacturing Practices

General Considerations

1. Pregnant or nursing women should always consult their physician or healthcare professional before taking any medications or herbs.
2. Discontinue the product if symptoms of allergy develops.
3. Discontinue the product if any side-effects, such as nausea, are noticed.
Take with food to avoid digestive upset.
4. Discard the product if it is out of date.
5. Do not self-diagnose.
6. If a condition persists for more than a few days, consult a healthcare professional.
7. Water-soluble plant fibers inhibit the absorption of almost any substance by delaying gastric emptying and creating a mucilaginous environment.
8. Do not swallow prescription medications and herbs at the same time. Allow

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- at least 2 hours between them.
9. Beware faddish herbal advertisements, instant weight loss formulas, and guarantees of restored health.
 10. Find the correct scientific name for the herb. Most herbs have more than one common name which changes from region to region or country to country.
 11. Never stop taking a prescription medication suddenly or without the monitoring of a physician.
 12. Purchase the product from a reliable source.
 13. Do not take botanicals for prolonged periods without proper supervision.
 14. Do not take mega doses of vitamins, minerals or herbs without proper supervision. More is not always better.
 15. Consult a knowledgeable herbalist or physician before using botanicals for a medical condition.
 16. Never substitute an herb for a prescription medication. They don't work the same.
 17. Take media hype about a herb, supplement or prescription medicine with a grain of salt. Investigate. Don't chase headlines.
 18. Remember herbs cannot cure or treat, but support.
 19. Become an informed consumer.
 20. Be cautious about health information taken from the internet. Ask: Who operates the site and what is their purpose? What are their sources of info and references? Is the info current?

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6. The greatest source of drug interactions are other drugs. Ex: Statin drugs deplete CoQ10 which can lower energy levels, cause weight gain and lead to heart failure. Several anti-biotics deplete folic acid and Vitamin B12 which can increase homocysteine levels, contribute to anemia and cause cracks in the corners of the mouth.
7. The next most common interaction is food interactions. For example, onions, garlic and broccoli contain sulfur compounds which encourage the liver to produce detoxification enzymes. These enzymes can speed clearance of drugs from the body.
8. "What is acceptable public risk?" Dietary supplements are held to higher standards than prescription medications insofar as acceptable risk to the general public is concerned. For example, non-steroidal pain medications is estimated to kill about 40,000 people a year.
9. Always check medication side-effect information before jumping to conclusions about herb/drug or food/drug interactions. Don't automatically blame the herb.
10. Pharmaceutical companies have a vested financial interest in continued market placement of a drug. Medication appraisals would best be made by an independent group (*JAMA*. 2004 Dec 1;292(21):2622-31).
11. Of addition concern is the ability of the physician or practitioner to be able to discern side-effects or interactions (*JAMA*. 2003 Dec 3;290(21):2838-42).

The use of dietary supplements poses only minimal risks and interactions found are not serious (*Arch Intern Med*. 2004 Mar 22;164(6):630-6). Effective education of both conventional medical practitioners and traditional healers is the key to maximizing public safety. Dietary supplements have an excellent safety record. A qualified herbalist, trained in the use of botanicals, should be consulted about the use of herbs with other supplements or medications. In the United States, the American Herbalist Guild offers a professional membership to those herbalists who have passed a

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stringent review process.

Factors influencing risk of adverse effects:

1. User's age
2. Gender
3. Genetics
4. Nutrition status
5. Health status or disease state
6. Current medical or alternative health treatments user is undergoing

Herb/Drug Interactions and Reaction Concerns

1. Allergic - very low - most related to ragweed/family
2. Drug interactions - overall- very low - caution with cardiac medications
3. Effect on medications - some can increase/decrease absorption of food or medicine
4. Grapefruit juice - contains bergamottin which inactivates a digestive enzyme that metabolizes about 60% of all drugs. Blood levels of drugs can reach 5 times normal.
5. Blood thinners/thickeners - additive effect may increase or decrease the effect of a blood thinner and lead to either a bleeding episode or the formation of a clot;
6. Blood pressure medications - additive effect may increase or decrease the effect of a blood thinner and lead to either a bleeding episode or the formation of a clot;
7. Other concerns - may decrease the effect of an anti-biotic; and may increase the effect of anti-diabetes drugs and lower blood sugar to dangerous levels.

Types of Interactions

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Pharmacokinetic interactions - alterations in absorptions rates, distribution, metabolism, or elimination; increases or decreases amount of drug or herb available for use.

Pharmacodynamic interactions - alterations in way drug or herbs affects a tissue or organ system; enhances or antagonizes effect of drug or herb

Phase 1 detoxification CYP450 Enzyme Family

Converts through oxidation, reduction, hydrolysis

Food additives, drugs, environmental toxins, pollutants, caffeine, alcohol

Includes CYP3A4, CYP1A2, CYP2C19

Impacted by brassica vegetables, garlic, onions, pepper, nutmeg, cloves, capsicum, St. John's Wort, ginseng, fish oil, vitamin E, carotenoids, cabbage, mustard, grapefruit juice.

Phase 2 Detoxification Conjugation PathwayPhase 2

Detoxification Conjugation Pathway

Another substance is added to the toxic to render it harmless

Leaves through urine or bile

Liver requires sulfur containing amino acids – taurine, cysteine

Glycine, glutamine, choline and inositol are also required

Phase 2 Detoxification

Garlic, onion, leeks, shallots

Broccoli, cabbage, Brussel sprouts, leeks, shallots

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Green tea

Licorice, dandelion, yellow dock, burdock

Pau d'Arco, sarsaparilla, red clover, milk thistle, blessed thistle, barberry, Oregon grape root

Red grapes, apples, citrus

Dill, fennel, caraway

Olive oil, sesame oil, ghee, butter

Common Interactions

Anti-hypertensive meds - Niacin, Magnesium and Calcium may enhance the effect causing low blood pressure and lightheadedness. Medications should be taken consistently and adjusted as needed. Grapefruit juice may enhance effectiveness.

Blood pressure meds - yohimbe, ginseng, licorice may increase

Corticosteroids, Prednisone, Cortisone - caution with astragalus, echinacea, licorice root, alfalfa sprouts and zinc lozenges.

Cyclosporine - grapefruit juice may increase levels, St. John's Wort and Ipriflavone may decrease levels.

Digoxin, Lanoxin - aloe vera, laxatives, diuretics - may decrease potassium levels. Herbs that have digoxin-like substances include foxglove and eleutherococcus. Quinine may increase levels. Psyllium fiber may decrease absorption. Hawthorn berry may increase action or decrease necessity of taking.

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Diuretics - may increase action- uva ursi, licorice, dandelion, celery seeds, asparagus, buchu, juniper

May improve glucose tolerance- magnesium, vanadium, gymnema sylvestra, MSM, juniper berries, cedar berries

May lower seizure threshold - Vit B6, evening primrose oil (GLA)

Thyroid - horseradish, lemon balm, bugleweed, soy, raw cruciferous vegetables may decrease thyroid uptake. Kelp may increase thyroid output.

Increase activity of Blood-thinners - cayenne, feverfew, garlic, ginger, turmeric, bromelain, feverfew, dong quai, chamomile, bilberry, meadowsweet, motherwort, aspirin, St. John's Wort, ginkgo biloba, fish oil, Vit E, red clover, papain enzyme may increase.

Decrease activity of blood thinners - Dark green leafy vegetables, alfalfa, goldenseal, Oregon grape root, shepherd's purse, devil's claw, green tea, Vit K

Cardiac stability - yohimbe, caffeine, ginseng

Anesthesia - valerian, kava

Phytochemical – non-nutritive plant chemicals that have protective or disease preventive properties.

Antioxidant - Most phytochemicals have antioxidant activity and protect our cells against oxidative damage and reduce the risk of developing certain types of cancer.

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Phytochemicals with antioxidant activity: allyl sulfides (onions, leeks, garlic), carotenoids (fruits, carrots), flavonoids (fruits, vegetables), polyphenols (tea, grapes).

Hormonal action - Isoflavones, found in soy, imitate human estrogens and help to reduce menopausal symptoms and osteoporosis.

Stimulation of enzymes - Indoles, which are found in cabbages, stimulate enzymes that make the estrogen less effective and could reduce the risk for breast cancer. Other phytochemicals, which interfere with enzymes, are protease inhibitors (soy and beans), terpenes (citrus fruits and cherries).

Interference with DNA replication - Saponins found in beans interfere with the replication of cell DNA, thereby preventing the multiplication of cancer cells. Capsaicin, found in hot peppers, protects DNA from carcinogens.

Anti-bacterial effect - The phytochemical allicin from garlic has anti-bacterial properties.

Physical action - Some phytochemicals bind physically to cell walls thereby preventing the adhesion of pathogens to human cell walls. Proanthocyanidins are responsible for the anti-adhesion properties of cranberries. Consumption of cranberries will reduce the risk of urinary tract infections and will improve dental health.

Plant constituents:

Carbohydrates, lipids, amino acids and derivatives, phenolic compounds,

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terpenoids, steroids, and alkaloids. Phenolic compounds is the largest group where we derive the most phytochemicals.

Plant salicylates: not effective inhibitors of platelet aggregation. In aspirin, the acetyl group is responsible for anti-clotting properties.

Meadowsweet, willow, poplar, magnolia, dogwood, wintergreen

Coumarins

Chemical family, not a drug family

Dicoumarol, formed from coumarin by fungus, developed as first oral anticoagulant.

Plant: sweet clover. Drug: warfarin.

Properly dried, plants do not contain dicoumarol.

Herbal coumarins have little or no anti-coagulant properties

Plants Containing Coumarins

Fennel

Carrots

Parsley

Alfalfa

Red clover

Red pepper

Cinnamon

Horsechestnut

Prior to Surgery - (based on theory, not research)

In the best case scenario, herbs should be discontinued 10-14 days prior to

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surgery. This is not always possible due to emergency surgeries or incomplete evaluations by medical staff.

General Considerations:

1. Reports of herb/drug interactions are confusing and often accompanied with media hysteria.
2. Most herbs are safe at normal therapeutic levels.
3. Care and caution should be used with special populations such as pregnant or lactating women, the extremely ill, older and younger folks, and folks on multiple prescription medications.
4. Many reports of herb/drug interactions are sketchy and lack laboratory analysis.
5. Herbal remedies have broad therapeutic action. Synthetic drugs have narrow therapeutic index. "Efforts to identify all possible interactions will lead to limitless investigations and to inconsistent decisions. Pharmacokinetic drug interactions are not only mediated by botanicals but also by certain foods, beverages and life-style products (*Planta Med.* 2004 Sep:70(9):784-91).
6. The greatest source of drug interactions are other drugs. Ex: Statin drugs deplete CoQ10 which can lower energy levels, cause weight gain and lead to heart failure. Several anti-biotics deplete folic acid and Vitamin B12 which can increase homocysteine levels, contribute to anemia and cause cracks in the corners of the mouth.
7. The next most common interaction is food interactions. For example, onions, garlic and broccoli contain sulfur compounds which encourage the liver to produce detoxification enzymes. These enzymes can speed clearance of drugs from the body.

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8. "What is acceptable public risk?" Dietary supplements are held to higher standards than prescription medications insofar as acceptable risk to the general public is concerned. For example, non-steroidal pain medications is estimated to kill about 40,000 people a year.
9. Always check medication side-effect information before jumping to conclusions about herb/drug or food/drug interactions. Don't automatically blame the herb.
10. Pharmaceutical companies have a vested financial interest in continued market placement of a drug. Medication appraisals would best be made by an independent group (*JAMA*. 2004 Dec 1;292(21):2622-31).
11. Of addition concern is the ability of the physician or practitioner to be able to discern side-effects or interactions (*JAMA*. 2003 Dec 3;290(21):2838-42).

The use of dietary supplements poses only minimal risks and interactions found are not serious (*Arch Intern Med*. 2004 Mar 22;164(6):630-6). Effective education of both conventional medical practitioners and traditional healers is the key to maximizing public safety. Dietary supplements have an excellent safety record. A qualified herbalist, trained in the use of botanicals, should be consulted about the use of herbs with other supplements or medications. In the United States, the American Herbalist Guild offers a professional membership to those herbalists who have passed a stringent review process.

**HERBALISM 101 BROUGHT TO YOU
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