



# Definitions

**Diet supplement**--product (other than tobacco) that is intended to supplement the diet containing one or more of the dietary ingredients listed here: vitamin, mineral, an herb or other botanical, an amino acid

a dietary supplement used by humans to supplement the diet by increasing the total dietary intake, or a concentrate, metabolite, constituent, extract or combination of any ingredient described above

**DSHEA**--Dietary Supplement Health and Education Act, passed in October, 1994; allowed for labeling and selling of dietary supplements with little to no oversight by the FDA



# The role of pharmacist in CAM

- Diagnostic procedure is a delicate and complicated process; it takes 40-60 minutes because it deals with the body as a whole. Methods of diagnosis are:
  - 1. **Listening** to Quality of voice & breath; so clinics should be isolated completely from sounds.
  - 2. **Asking** certain questions about patient life style & his/her disease.
  - 3. **Observing** patient general emotions and assessing quality of skin (texture & color).
  - 4. **Palpation** of pulse and body (Vital Signs)



- **Dispensing: Chinese herbal formula** (only plants & minerals are used in the western developed countries) at CHM pharmacy comprises the following four main components:
  - 1. Main ingredient (may contain 2-3 plants); the active ingredient which usually constitutes most of quantity.
  - 2. Associate ingredient; to assist the main ingredient (increase efficacy).
  - 3. Adjuvant ingredient (amount less than associate ingredient); acting as enhancer of the main ingredient (either by synergistic effect or by decreasing toxicity of the main ingredient).
  - 4. Guide ingredient; focuses on the actions of the whole formula with specific **effects on Meridians**.



# Considering Aromatherapy





# Aromatherapy Defined

- Aromatherapy is the practice of using the natural oils extracted from flowers, bark, stems, leaves, roots or other parts of a plant to enhance psychological and physical well-being.





# Aromatherapy Defined

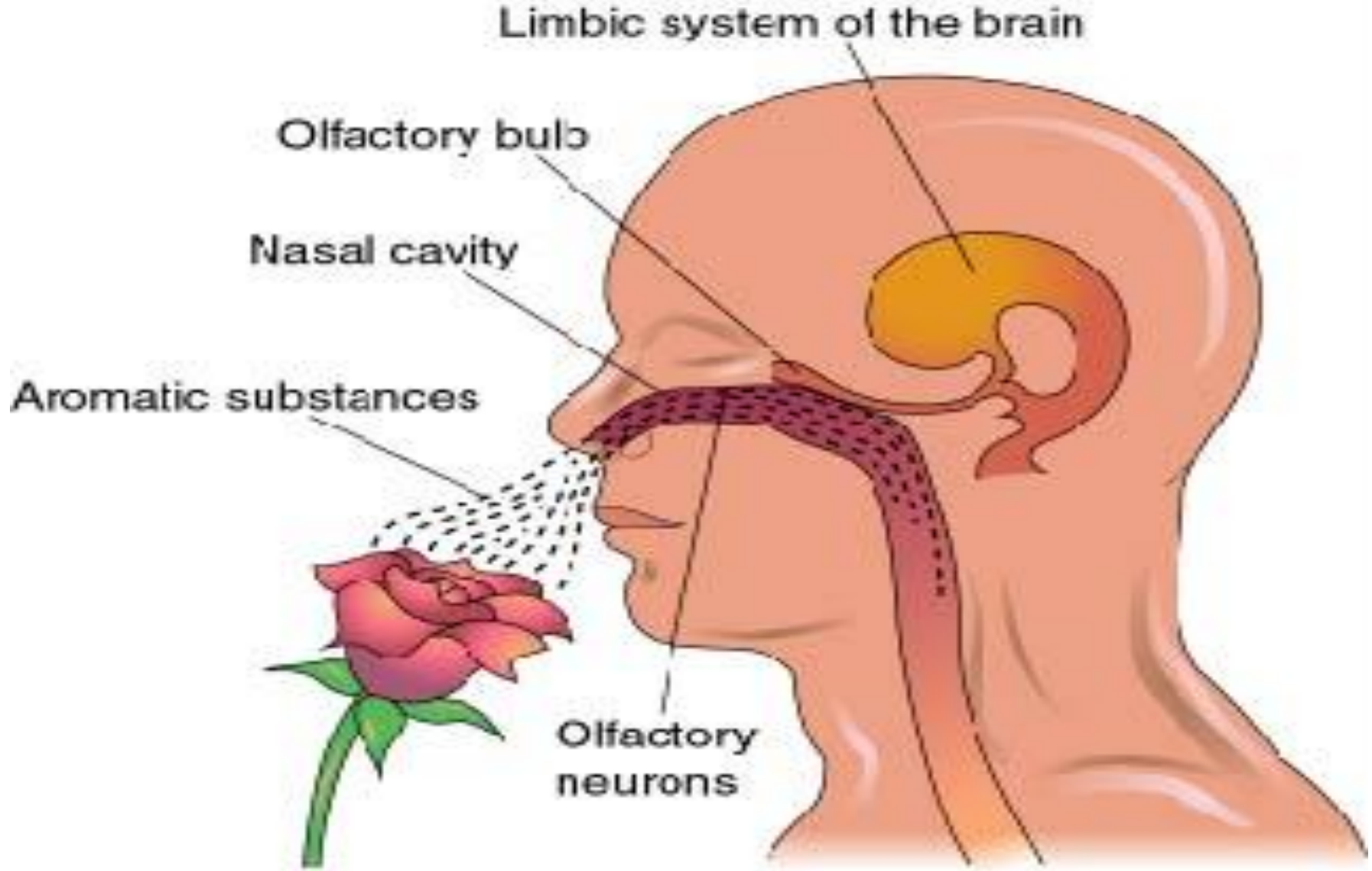
- The inhaled aroma from these "essential" oils is widely believed to stimulate **brain function**.
- Essential oils can also be absorbed through the skin, where they travel through the bloodstream and can promote whole-body healing.
- A form of alternative medicine, aromatherapy is gaining momentum. *تطور وتزداد أهميتها*
- It is used for a variety of applications, including pain relief, mood enhancement and increased cognitive function.





## The Benefits of Aromatherapy contd

- With complete perspective, preventive health care and useful complementary treatment
- Essential oils have antiseptic, and some have antiviral, anti-inflammatory, pain relieving, antidepressant, stimulation, relaxation, digestion improvement, diuretic properties and expectorant properties.
- widely used at home, clinics and hospitals.





# How does Aromatherapy work?

- The effects of an aroma can be relaxing or stimulating.
- Work at psychological, physiological, and cellular levels.
- affect body, mind and all the delicate links in between
- Produced Only steam distillation or expression or squeezing methods.



# Methods of application

- Three ways:
- through ingestion,
- through olfaction, the fastest effect, triggers olfactory sense and trigger responses in limbic system.
- through topical application, via diffusion, compression, massage.



# Methods of application

- • *massage*: Oils penetrate the skin and are absorbed into the body fluids and bloodstream to work internally
- • *aroma alone*: Believed to have the quickest beneficial effect, as smell has been shown to have an immediate effect on the brain, almost instantly releasing desired hormones
- • *inhalation*: Helps clear the head, again working on the brain
- • *adding to baths*: Working at two levels, by inhalation and by absorption into the skin by use of skin products, compresses etc



# Effects and ways oils are used

- 1) *stimulating*: to refresh the body and raise the spirits
- 2) *sedative*: to relax and calm the body and mind
- 3) *regulating*: to regulate the main bodily functions
- 4) *euphoric*: to uplift emotions



# 5 Aromatherapy Oils Everyone Should Have at Home

- **1. Lavender.** Lavender oil has a calming effect which does wonders for those suffering from anxiety. Medicinally, it can be used as an antiseptic and pain reliever to soothe minor burns, insect bites and stings, and muscle or joint pain.
- **2. Peppermint.** Peppermint oil has a very stimulating yet soothing aroma and is what I like to call “mother nature’s Icy Hot” due to its main constituent, menthol which is it effective in arousing your mental sharpness but it can be used to relieve congestion, headaches, migraines, digestive problems, and soothe achy muscles. it can be typically used to get rid of headaches or to relieve muscle soreness by diluting it with a carrier oil, like grape seed oil, and rubbing it into whatever is sore.



# 5 Aromatherapy Oils Everyone Should Have at Home

- **3. Eucalyptus.** This oil has a very fresh and clean aroma that is sure to open your airways up. Eucalyptus oil is anti-everything, and for once that's a good thing. It is a natural antibacterial, antifungal, antimicrobial, antiviral, and anti-inflammatory. It is best used for respiratory problems like colds, coughs, asthma, and congestion in addition to wounds, muscle pain, mental exhaustion, dental care, and skin care.
- **4. Lemon.** With its uplifting and fresh scent, lemon oil can help get rid of bad feelings and increase concentration and mental awareness. It is also an antiseptic and antifungal

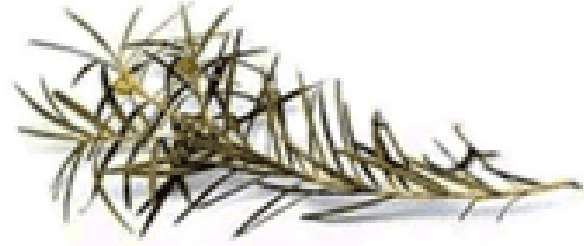


# 5 Aromatherapy Oils Everyone Should Have at Home

- **5 Tea Tree.** A widely popular form of alternative medicine, tea tree oil is awesome! Not only is tea tree oil's astringent properties great for alleviating oily secretions of the skin – think oily face & scalp issues – but it's terpinen content soothes minor wounds without irritation. add a few drops to your shampoo prior to washing; it leaves my scalp clean.



# Tea tree oil



- Origin: is the **pale yellow volatile oil** distilled with steam from the *leaves* of several species of Melaleuca Australian trees : Myrtaceae
- The *Australians* have used the tea tree as a remedy for cuts, burns and insect bites



# Contents:

- Volatile oil: **cineole**, terpinen-4-ol,  $\alpha$ -terpineol and linalool
- Uses: topical **antibacterial** and **antifungal** agent in various vaginal and skin infections and acne vulgaris.
- Tea tree oil is **toxic** when taken orally



# Patient advised to

- 1) Never eat or drink pure V.O unless under medical supervision ( mouth wash and gargles should never be swallowed ) .
- 2) Never use concentrated V.O directly on the skin ( typical dilution 15 drops : 50 ml of carrier oil .
- 3) Some oils might react with sunlight and burn skin ( lemon ,orange)
-



# Patient advised to

- 4) Infants , pregnant , elderly , kidney or liver diseased pt , are at high risk of toxicity
- 5) Don't use homeopathic remedies concurrently with aromatherapy .
- 6) Rate of absorbance increase with increased temp. of skin , pressure of water ( showers with soap ) .
- Note : oils safe to be used by pregnant : lavender and ginger oils which may be used to relief nausea , motion sickness and even burns also chamomile.



# Homeopathy



- **What is homeopathy?**

- Homeopathy is derived from the Greek words for "like" and "suffering." The guiding principle behind homeopathy is "like cures like," originates from Egypt and ancient Greece. In the late 18th century, a German physician named Samuel Hahnemann read that quinine-containing Peruvian bark (cinchona) cured malaria. Hahnemann swallowed a dose of Peruvian bark and began to feel feverish, drowsy, extremely thirsty, and agitated, which are all symptoms of malaria. Hahnemann started to experiment more and formed his theory that like cures like, or the Law of Similars: that when a substance in large doses causes certain symptoms, in small doses it can cure these same symptoms.



- Herbs and other plants, minerals, venom from snakes, and other substances can be used to make homeopathic remedies. They are diluted again and again and "succussed" or shaken vigorously between each dilution. The process of sequential dilution and succussion is called potentization.
- Succussed (Definition): (in preparing homeopathic remedies) shake (a solution) vigorously.



# Definitions

**Homeopathy**--System of therapy developed by Samuel Hahnemann based on the “law of similia”, مبدأ التشابه

from the aphorism المقولة اللاتينية, *simila similibus curantur* (likes are cured by likes), which holds that a medicinal substance that can evoke certain symptoms in healthy individuals may be effective in the treatment of illnesses having symptoms closely resembling those produced by the substance

Therapy mediated through the potentiation of substances which are prepared with serial dilutions, often to the point in which no molecules of the active substance is detectable

Flourished during the 1800's when patients often did better than those treated with blood letting, emetics and other treatments.



Homeopathic preparation *Rhus toxicodendron*, derived from poison ivy



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# How can pharmacists be involved in CAM?

- The most obvious involvement for pharmacists in CAM is through the sale of products such as dietary supplements, herbal medicines, homoeopathic remedies and aromatherapy oils. However, as in other areas of pharmacy practice, pharmacists' role could extend beyond products. Pharmacists can be involved in:
  - Providing information on the appropriate use of CAM. This should include not only those products sold in the pharmacy but also those products and therapies received by patients outside of the pharmacy.
  - Asking customers questions about their use of CAM.
  - Being aware of potential adverse reactions and interactions with conventional medicines.



# How can pharmacists be involved in CAM?

- **Providing information**

Pharmacists should only provide information on complementary medicines and therapies to the level at which they are trained and competent. The Royal Pharmaceutical Society Code of Ethics makes this quite clear. It states:

- “The public trusts pharmacists to offer informed advice on treatments and medicines, and the profession expects pharmacists to ensure that they are competent in any area in which such advice is given. Pharmacists providing homoeopathic medicines or other complementary therapies have a professional responsibility:



# How can pharmacists be involved in CAM?

- To ensure that stocks of homoeopathic medicines or herbal medicines or other complementary therapies are obtained from a reputable source of supply
- Not to recommend any remedy where they have any reason to doubt its safety or quality
- Only to offer advice on homeopathic or herbal medicines or other complementary therapies or medicines if they have undertaken suitable training or have specialized knowledge.”



- The British Register of Complementary Practitioners has a list of practitioners registered according to the different disciplines (see [www.icmedicine.co.uk](http://www.icmedicine.co.uk)), and is currently the best overall guide to appropriately qualified practitioners.





- CAM therapies may also have adverse effects and may influence the progression of a disease or have implications for the outcome of conventional therapy. Use of CAM may also delay a proper medical diagnosis of an illness or influence adherence to prescribed medication. Patients are often wary of telling health care professionals that they are using CAM, and if pharmacists are to contribute to the wise use of these therapies, they must be non-judgemental in their approach.



- **Questions**

Questions about CAM should form part of any medication review or response to symptoms in the pharmacy. It is important to be aware that patients may be using CAM in addition to, or instead of, conventional treatments. This is most likely when conventional treatments offer little hope of a cure (eg, in cancer or AIDS), are associated with serious side effects (eg, chemotherapy) or when the condition is not easily managed by conventional medicine (eg, insomnia, back pain).



# Herbal drug interactions

- I. INTRODUCTION. Many of the drugs available on the market are derived from plants. Some of those include aspirin, atropine, belladonna, capsaicin, cascara, colchicine, digoxin, ephedrine, ergotamine, ipecac, opium, physostigmine, pilocarpine, podophyllum, psyllium, quinidine, reserpine, scopolamine, senna, paclitaxel, tubocurarine, vinblastine, and vincristine. Herb products are also derived from plants; however, these products are considered drugs by the U.S.



# Food and Drug Administration (FDA). A. Regulations

- **1. The Federal Food, Drug, and Cosmetic Act of 1938** mandated pharmaceutical companies to test drugs for safety before marketing.
- **2. The Kefauver–Harris Drug Amendments of 1962** mandated pharmaceutical companies ~~to test~~ drugs for efficacy before marketing.



# Food and Drug Administration (FDA). A. Regulations

- **3. The Dietary Supplement Health and Education Act of 1994** mandated the following:
  - a. Dietary supplements are not drugs or food. They are intended to supplement the diet.
  - b. Herbs are considered dietary supplements.
  - c. Dietary supplements do not have to be standardized.
  - d. The secretary of Health and Human Services may remove a supplement from the market only when it has been shown to be hazardous to health.
  - e. Dietary supplements may make claims only regarding the effects on structure or function of the body. No claims regarding a particular disease or condition may be made.
  - f. The following statement is required on the product label: **“This product has not been evaluated by the FDA. It is not intended to diagnose, treat, cure, or prevent a disease.”**



This product has not been evaluated by the FDA. It is not intended to diagnose, treat, cure, or prevent a disease.





# Food and Drug Administration (FDA). A. Regulations

- **4.** Final rule for Current Good Manufacturing Practices (CGMPs) for dietary supplements (2007)
  - a. Manufacturers are required to evaluate for identity, purity, strength, composition
- **5.** German Federal Health Agency
  - a. In 1978, the German Federal Health Agency established Commission E.
  - b. Commission E evaluates the safety and efficacy of herbs through clinical trials and cases published in scientific literature.
  - c. There are 380 published monographs on herbs.



# HERBAL-DRUG INTERACTIONS

- A. Herbal preparations are various combinations of herbs, sometimes being one herb, or a combination of herbs.
- 1. Herbal preparations generally contain several different pharmacologically active alkaloids or other active constituents. For example, St. John's wort has at least six different constituents: hyperforin, biapigenin, hypericin, quercetin, chlorogenic acid, and pseudohypericin. Each constituent has its own metabolism, binding, and pharmacologic action.



# HERBAL-DRUG INTERACTIONS

- The predominant effect or interaction depends on the relative potency of each constituent in the herb. For example, the constituents of St. John's wort have inhibitory activity of the CYP450 isoenzymes 3A4, 2C9, 1A2, 2D6, and 2D9, but none of these effects are considered clinically significant. St. John's wort appears overall to be an inducer of CYP3A4, and its constituents have many additional effects on metabolism and binding sites.
- 2. Herbal preparations with the same name, for example, St John's wort, marketed by different manufacturers do not have equivalent amounts of each constituent. The USP-NF is attempting to create quality standards for these preparations.



# HERBAL-DRUG INTERACTIONS

- 3. Many herbal drugs interact at the same transport, metabolism, and receptor sites as traditional prescription drugs (Table 13-6).
- 4. Traditional Chinese medicine (TCM) may contain a combination of herbs. Some imported TCM products have been found to contain unlisted legend drugs. An example is a TCM medication advertised to treat diabetes that was found to contain the pharmaceuticals glyburide and phenformin.
- 5. Some herbal preparations may contain unrecognized contaminants such as heavy metals or a similar-appearing herb that is mistakenly harvested. These quality control issues are to a large extent unregulated by government agencies.