



Why should pharmacy students be interested in complementary and alternative medicine?



What is CAM?

- Complementary and alternative medicine (CAM) is a term used to describe a wide range of healing systems that are not typically considered part of mainstream or conventional Western medicine.
- The goal of conventional medicine is to find the physical source of a particular disease and treat it. For example, if a person has an infection, a conventional doctor may prescribe an antibiotic to kill the invading bacteria.
- CAM practitioners, on the other hand, take a more "holistic" approach to health care. They believe that health and disease involve a complex interaction of physical, spiritual, mental, emotional, genetic, environmental, and social factors. In order to treat a disease or promote good health, CAM practitioners treat the whole person.



What does complementary medicine and alternative medicine mean?

- The terms "complementary medicine" and "alternative medicine" sometimes mean the same thing. But they have different implications.
- Complementary medicine refers to therapies used in combination with conventional medicine
- While alternative medicine is used in place of conventional medicine. An example of complementary medicine is using hypnotherapy (hypnosis) with pain medications to reduce anxiety and enhance relaxation in people recovering from severe burns.
- An example of alternative medicine would be following a special diet and taking herbs or vitamins rather than medications to treat attention deficit hyperactivity disorder (ADHD).





What are the basic principles of CAM?

- Although CAM therapies vary widely, several themes can be traced through them all:
- The focus is on the whole person, the physical, emotional, social, and spiritual.
- Prevention of illness is a primary goal.
- Treatments are highly individualized.
- Treatments are aimed at the causes of illness rather than at its symptoms.
- Treatments are designed to support the natural healing processes of the body.



What is CAM?

- Though the terms “complementary” and “alternative” are often used together, they are not necessarily synonymous.
- Complementary therapies are often defined as therapies that are used alongside conventional medical therapies, while alternative approaches are generally thought of as being used instead of conventional methods.
- Using tai chi in addition to a prescription medicine for anxiety is an example of the former and seeing a homoeopath or herbalist instead of a GP an example of the latter.



There are hundreds of complementary therapies available, and the US National Institutes of Health (NIH) has categorized them according to five

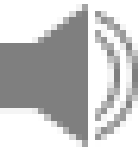
broad types:

- **Healing systems** (eg, ayurveda and traditional Chinese). These are complete sets of theories and practices. A healing system is not just a single practice or remedy — like massage — but many different practices that revolve around a philosophy or lifestyle, such as the power of nature or the presence of energy in the body.
- **Mind-body connections** (eg, biofeedback, hypnosis, meditation, relaxation, yoga). These techniques are intended to strengthen the communication between mind and body. CAM practitioners believe these two systems must be in harmony to maintain health.



There are hundreds of complementary therapies available, and the US National Institutes of Health (NIH) has categorized them according to five broad types:

- • **Dietary supplements** (eg, vitamins, minerals, fish oil, glucosamine) and herbs (eg, echinacea, St John's wort).
- • **Manipulation and touch** (eg, acupressure, chiropractic, massage, osteopathy). These methods use human touch to move or manipulate a part of the body.
- • **Restoring natural energy forces** (eg, acupuncture, magnet therapy, light therapy). Some CAM practitioners believe an energy force flows through the body. Although this force is invisible, if its flow is blocked or unbalanced, illness can result. These therapies aim to unblock or balance the energy force, and each one achieves this differently.



Biologically based approaches

Diets
Herbs
Vitamins



Manipulative and body-based therapies

Massage
Chiropractic
Osteopathy



Energy therapies

Reiki
Magnets
Qigong

Mind-body interventions

Yoga
Spirituality
Relaxation



Alternative medical systems

Homeopathy
Naturopathy
Ayurveda

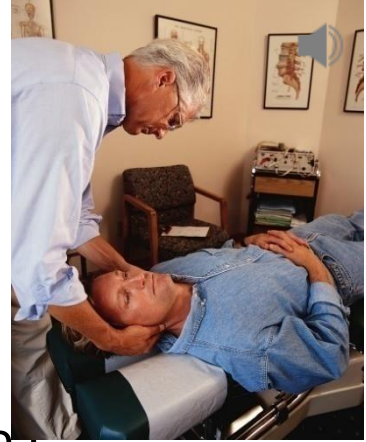




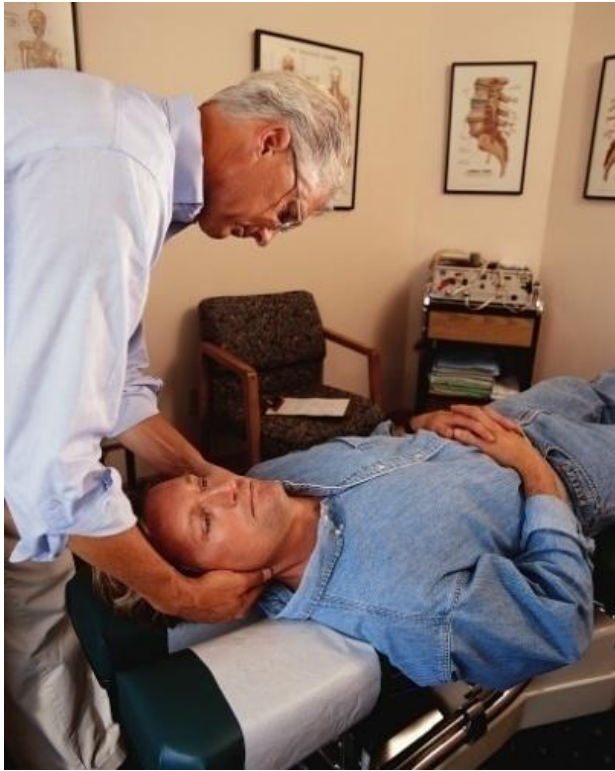
Manual therapies :

- Chiropractice
- Osteopathy
- Reflexology
- Massage

Chiropractic



- [?] Chiro = done by hand .
- [?] A method of treatment that manipulates body to relieve (especially the spine) and spinal joints low back pain or even headache or high blood pressure .
- [?] Complementary Rx focuses on the spine as being integrally involved in maintaining health , providing primary to the nervous system as the primary coordination for function and health in body .
- Efficacy:
- [?] Chiropractic treatment appears to be effective for muscle spasms of the back, neck, tension headache and some sorts of leg pain.
- Manipulations and alignment of vertebral joints leads to normal brain and nerve transmissions resorting and recovery the body from illness locating of eliminating subluxation.





How can a qualified practitioner be located?

- All 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands recognize chiropractic as a health care profession.
- A chiropractic degree requires about the same number of classroom hours as a medical degree. The chiropractic program includes clinical experience, basic sciences, and standard, as well as structural (spinal) and functional (nervous system) diagnoses.
- At least one chiropractic organization serves each state in the U.S. The largest association is the American Chiropractic Association (ACA). The ACA can provide a list of licensed chiropractors in your area



Osteopathy

- (Osteo = bone , Pathy = disease)
- This method is somewhat similar to chiropractice and it is usually performed by the same practitioner, but the patient in case of osteopathy has a greater role.
- Definition: osteopathy is the diagnosis and treatment of pain and dysfunction in the **musculo-skeletal** system (dysfunction in muscles associated with a major bone or with a joint) due to mechanical problems.
- The effectiveness of such method is due to the increase in blood flow to nerves and organs, this will help organs to get rid of toxins and provide them the required energy for their function (especially heart & kidney). This method also activates the peripheral nervous system and organs associated with it.



Conditions benefiting from osteopathy:

- **Backache**; patients with **disability** due to serious injuries (from accidents or bad exercises), certain diseases or surgery will suffer from weakness in muscles.
- Such cases will benefit from **both** chiropractic (mainly applied on vertebrae) and osteopathy (mainly applied on muscles associated with bones {including vertebrae})
- - **Neck pain**; directed mainly to the muscles of the neck rather than vertebrae.
- - **Sport injuries**; people who specialize in dealing with this type of injuries usually receive training courses in chiropractic, osteopathy, massage and first aid.

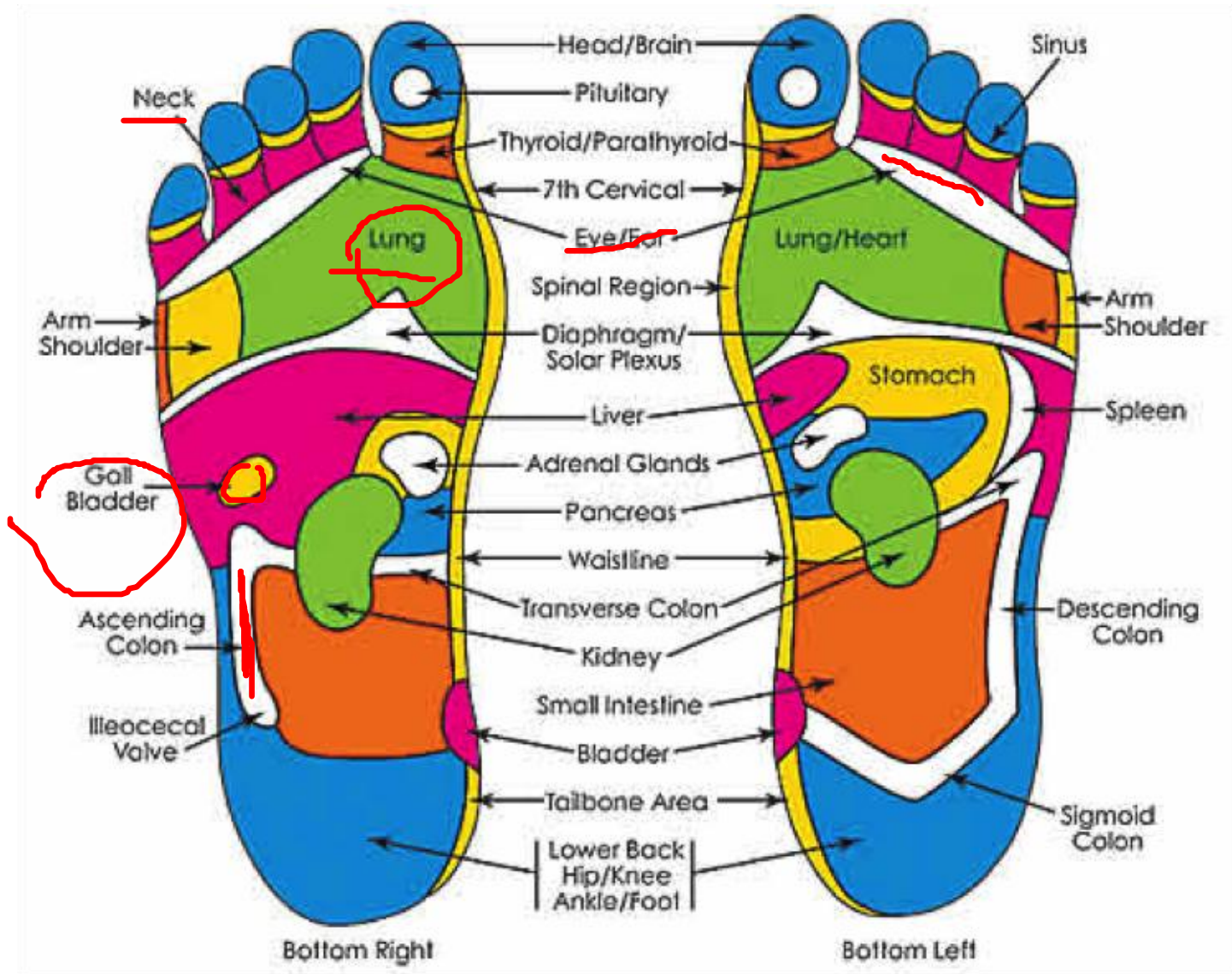


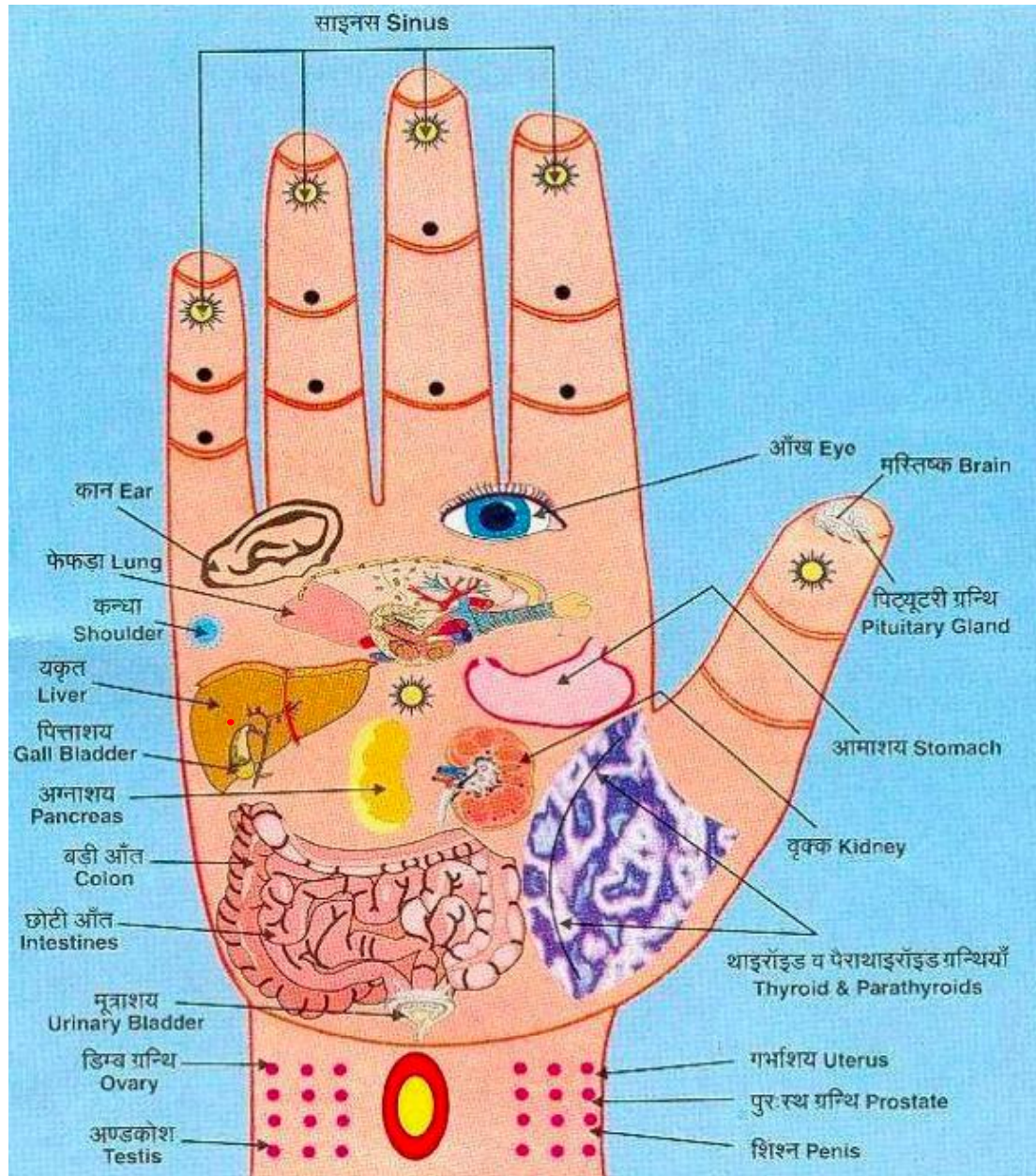
- - **Repetitive strains;** result from repetitive use of certain part of the body, e.g. printers usually suffer from pain in the joints of their hands.
- Some types of **headache** such as **tension headache** (this type may benefit from chiropractic, reflexology as well as osteopathy).



Reflexology

- **What is reflexology? Can it relieve stress?**
- Reflexology is the application of pressure to areas on the feet, hands and ears. Reflexology is generally relaxing and may be an effective way to alleviate stress.
- The theory behind reflexology is that these areas correspond to organs and systems of the body. Proponents believe that pressure applied to these areas affects the organs and benefits the person's health.
- Reflexologists use foot charts to guide them as they apply pressure to specific areas. Sometimes these practitioners use items, such as rubber balls, rubber bands and sticks of wood, to assist in their work. Practitioners of reflexology include chiropractors, physical therapists and massage therapists, among others.







Reflexology

- Several studies funded by the National Cancer Institute and the National Institutes of Health indicate that reflexology may reduce pain and psychological symptoms, such as anxiety and depression, and enhance relaxation and sleep. Studies also show that reflexology may have benefits in palliative care of people with cancer.
- Reflexologists claim that reflexology also can treat a wide variety of medical conditions, such as asthma, diabetes and cancer. However, scientific evidence is lacking to support these claims.
- Reflexology is generally considered safe, although very vigorous pressure may cause discomfort for some people



Example on Healing systems: Traditional Chinese Medicine (TCM)





What is Traditional Chinese Medicine?

- Traditional Chinese Medicine (TCM) is a complete medical system that has been used to diagnose, treat, and prevent illnesses for more than 2,000 years. TCM is based on a belief in yin and yang, defined as opposing energies, such as earth and heaven, winter and summer, and happiness and sadness. When yin and yang are in balance, you feel relaxed and energized. Out of balance, however, yin and yang negatively affect your health.
- Practitioners also believe that there is a life force or energy, known as qi (pronounced "chee" healthy), in every body. For yin and yang to be balanced and for the body to be, qi must be balanced and flowing freely. When there is too little or too much qi in one of the body's energy pathways, called meridians, or when the flow of qi is blocked, it causes illness.
- The ultimate goal of TCM treatment is to balance yin and yang by promoting the natural flow of qi. In an interesting analogy, often used to explain its nature, qi is described as the wind in a sail, we do not see the wind directly, but we are aware of its presence as it fills the sail



Traditional Chinese Medicine (TCM)

- TCM is a type of complementary therapy which has been developed over thousands of years. China, the country of origin for such therapy, allocates specialized hospitals for TCM.
- TCM is a term used to describe a number of medical practices that originated in china.
- Encompasses large number of disciplines including **acupuncture**, **Chinese Herbal medicine** (plants used are those grow in china), **dietary therapy**, mind & body **exercise**, **Meditation** (TCM include about 350 disciplines but those are which has been approved by WHO).



Traditional Chinese Medicine (TCM)

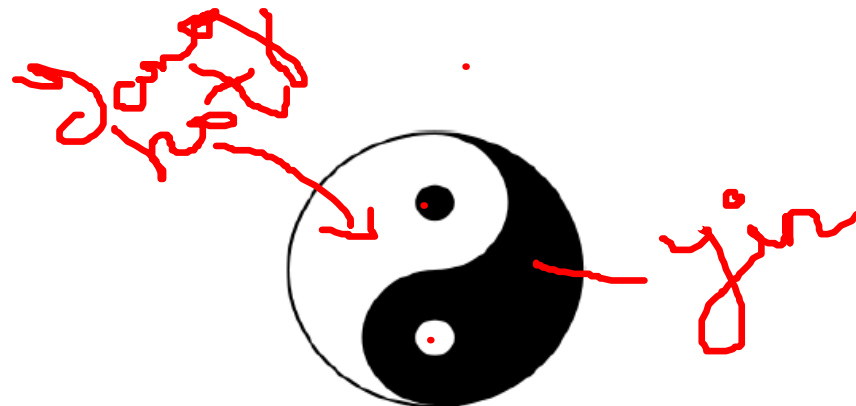
- The philosophy of most complementary therapies (such as reflexology, chiropractic, osteopathy and homeopathy) has been evolved from TCM but with some modifications.





Traditional Chinese Medicine (TCM)

- The philosophy of TCM is the reestablishment of the balance between positive (yang) & negative (yin) energy.
- Yin (cold): illustrated by the dark part of the symbol, it is considered the active type of energy.
- Yang (hot): illustrated by the white part of the symbol, it is the nutritious type of energy which supports body functions. It is also associated with masculinity طاقة ذكورية.





Acupuncture الوخز بالإبر الصينية





Acupuncture الوخز بالإبر الصينية

- Acu = perforation (الثقب)
- Puncture = piercing ادخال الابرة
- This type of complementary therapy includes a collection of procedures involving penetration of the skin with fine needles to stimulate certain points on the meridians مسارات الطاقة
- This will reestablish energy flow into the organs!!! The diagnosis in TCM is made by the observation of certain defects in some parts of the body resulted from an imbalance (due to blockage in the meridians) in the energy in such parts.
- Meridian is a path through which the +ve & -ve energy flows in opposite directions, it starts from the head and branches all over the body.
- Needles have been modified by adding a source of energy (thermal, magnetic, electrical, laser...). The length of the needles varies depending on the depth of the insertion point.



Acupuncture

A part of Traditional Chinese Medicine (TCM)

36 States have state licensure for acupuncture

9-12 million visits to acupuncturists take place in the United States

Acupuncture needles are regulated by the FDA as medical devices





Definitions

Acupuncture:

- 2,000 acupuncture points on the body
- Connected via 12 main and 8 secondary pathways (Meridians)
- **Meridians** connect energy, **qi** (“chee”), between the surface of the body and the internal organs
- Qi regulates spiritual, emotional, mental and physical balance
- Qi is influenced by the opposing forces of yin and yang
- When yin and yang are balanced, they work with the natural flow of qi to keep the body healthy
- The placement of needles in the acupuncture points helps to keep the flow of qi unblocked.



Acupuncture

- Each of 12 primary meridians associated with and named for a specific organ
- Organs represent more than just the anatomic structures
- Approximately 360 acupuncture points lie along meridians
- Endorphins and cortisol are released with point stimulation





CONTRAINDICATIONS of Acupuncture:

- 1-patient unwilling; may lead to paralysis if any sudden movement occurs during treatment.
- 2- patient at high risk of bleeding e.g. as a result of using antiplatelets or anticoagulants.
- 3- Patient with pacemaker, or who using any electrical device such as insulin pump.

SIDE EFFECTS:

- **1. Hepatitis, HIV** (inadequate sterilization , reusable needles).
- **2. Trauma:** local hematoma at the site of needle insertion, it may be fatal if the insertion was close to the heart.



CONTRAINDICATIONS of Acupuncture:

- **3.** Allergy to metallic needles; original needles were made from aluminum or copper but those were allergic for some patients, so they have been replaced by chrome or nickel.
- **4.** Drowsiness (most common), convulsions (in patients with history of any type of epilepsy even infantile spasms), fainting.
- **5.** Cardiac arrhythmia



Notes & precautions for acupuncture:

- 1. Patient should lie down during treatment, then the patient should sit for few minutes after the end of treatment session.
- 2. Disposable sterile needles to be used and should be counted prior and post treatment.
- 3. Observe for excessive bleeding after and through treatment



Notes & precautions for acupuncture:

- **Indications:**
- 1. Back & knee pain.
- 2. Dental pain; sometimes acupuncture is used instead of local anesthetics.
- 3. Recurrent headache e.g. migraine
- 4. Smoking cessation (best indication) and other types of dependence or addiction (rehabilitation of addicts).
- 5. Weight loss.
- 6. Stroke (very effective).
- 7. GI problems; especially in IBS (irritable bowel syndrome, (القولون العصبي)).



Chinese Herbal Medicine (CHM = Zhang Yao):

- CHM is one of the main disciplines of TCM in which thousands of environmental substances are used. CHM is also based on the philosophy of Yin-Yang. The prescription is usually prepared by combining many plants, animals or animal parts (Controversial; not preferred), minerals.



Chinese Herbal Medicine (CHM = Zhang Yao):

- The benefits of such combinations (rather than using one ingredient) are:
 - 1. Increase efficacy (synergistic effect).
 - 2. Decrease toxicity & side effects.
 - 3. Accommodate complex clinical situations.
 - 4. Alter the action of other substances (some substances are added just to improve the action of other ingredients in the combination).