

Ministry of Higher Education
 Salahaddin University-Erbil
 College of Agricultural Engineering Sciences
 Field Crops and Medicinal Plants Department



Herbs and Natural Supplements

Third Grade

Spring Semester (2023-2024)

Instructor: Assist Prof. Dr. Saber Wasman Hamad

email: saber.hamad@su.edu.krd

Lecture 7



1

1



What is a Dietary Supplement?

A dietary supplement is a product taken by mouth that contains a "dietary ingredient" intended to supplement the diet. **Herbal** supplements haven't been subjected to the same scientific scrutiny and aren't as strictly regulated as medications. **However**, guarantee that herbal supplements are safe for anyone to use. **Because** many supplements contain active ingredients that have strong effects in the body, these products can pose unexpected risks.

For example, taking a combination of herbal supplements or using supplements together with prescribed medications could lead to harmful, even life-threatening results. **For this reason**, it's important to talk with your doctor before using herbal supplements.

2



Who shouldn't use herbal supplements?

If you have health issues, it's essential that you talk with your doctor before trying herbal supplements.

In fact, in some **high-risk situations**, your doctor will likely recommend that you avoid herbal supplements altogether.

It is especially important that you talk to your doctor before using herbal supplements **if:**

3



1. You're taking prescription or over-the-counter (OTC) medications.

Some herbs can cause serious side effects when mixed with prescription and OTC drugs, such as **aspirin, blood thinners or blood pressure medications**. Talk to your doctor about possible interactions.

4



2. You're pregnant or breast-feeding.

Medications that may be safe for you as an adult may be harmful to your fetus or your breast feeding infant. As a general rule, don't take any medications — 1 prescription, OTC or herbal — when you're pregnant or breast feeding unless your doctor approves.

5



3. You are having surgery.

Many herbal supplements can affect the success of surgery. Some may decrease the effectiveness of **anesthetics** or cause dangerous complications, such as **bleeding** or **high blood pressure**. **Tell your doctor** about any herbs you're taking or considering taking as soon as you know you need surgery.

6



4. You are younger than 18 or older than 65.

Older adults may metabolize medications differently.

And few herbal supplements have been tested on children or have established safe doses for children.

7



Daily Dosage

Dosing of herbal preparations is highly dependent on a variety of factors, such as **growing and harvesting conditions, plant parts, extraction methods used, and the dosage form chosen by the manufacturer.** Standardization to single constituent makers has proven unreliable. Since no official standards have been established to date to regulate production of herbal medicines in the United States, dosage ranges must be employed as guidelines.

8



Safety using of herbal supplements

Follow supplement instructions. Don't exceed recommended dosages or take the herb for longer than recommended.

- Keep track of what you take.
- Take only one supplement at a time to determine if it's effective.
- Make a note of what you take — and how much for how long — and how it affects you.
- Be cautious about supplements manufactured outside the United States. Herbal products from some European countries are highly regulated and standardized. But toxic ingredients and prescription drugs have been found in supplements manufactured elsewhere, particularly China, India and Mexico.

9



Safety using of herbal supplements

Check alerts and advisories.

The FDA and NCCAM maintain lists of supplements that are under regulatory review or that have been reported to cause adverse effects. Check their websites periodically for updates.

Dietary supplements are unnecessary if one eats a balanced diet.

The "dietary ingredients" in these products may include:

vitamins, amino acids, minerals and herbs or other botanicals, and substances such as enzymes, organ tissues, glandular.

10



Water Soluble Vitamins

It is best to get your vitamins and minerals from food rather than supplements,

● B1, thiamine , B2, riboflavin ,B6, pyridoxamine , B12 , Biotin ,Panothenic acid , Vitamin C

1- Minerals

● Issues – Absorption – Bioavailability

● Percent of Body weight – Calcium 2%– Phosphorus 1% – Potassium 0.3 – Sulfur % 0.2 – Sodium 0.1% – Chloride 0.1% – Magnesium 0.05% – Iron 0.04%

11



2- Herbs

Ginkgo to improve memory. **Flax seed** to lower cholesterol. **Echinacea** to prevent colds. The list of herbal remedies goes on and on.

Ginkgo biloba Ginkgo is an herb. The leaves are generally used to make “extracts” that are used as medicine.



12



Effective for.....

Alzheimer's disease and other forms of dementia.

- Improving thinking problems caused by old age.
- Improving thinking in young people.
- Painful response to cold especially in the fingers and toes (Raynaud's syndrome).

Ginkgo seeds contain substances that might kill the bacteria and fungi that cause infections in the body. The seeds also contain a toxin that can cause side effects like seizure and loss of consciousness.

13



Alfalfa

Alfalfa is an herb. People use the leaves, sprouts, and seeds to make medicine.

People also take alfalfa as a source of vitamins A, C, E, and K4; and minerals calcium, potassium, phosphorous, and iron.



14



Effective for...

Lowering cholesterol in people with high cholesterol.

Taking alfalfa seeds seems to lower total cholesterol and “bad” low density lipoprotein (LDL) cholesterol in people with high cholesterol levels.

Alfalfa seems to prevent cholesterol absorption in the gut. Alfalfa leaves are POSSIBLY SAFE for most adults. But taking alfalfa seeds long-term is LIKELY UNSAFE. Alfalfa seed products may cause reactions that are similar to the autoimmune disease called lupus.

Alfalfa might also cause some people's skin to become extra sensitive to the sun.

15

Aloe Vera



Aloe is used as :

- 1-** A folk or traditional remedy for a variety of conditions, including diabetes, asthma, and osteoarthritis.
- 2-** It is also used topically for osteoarthritis, burns, sunburns, and psoriasis.
- 3-** Aloe vera gel can be found in hundreds of skin products, including lotions and sunblocks.
- 4-** The Food and Drug Administration (FDA) has approved aloe vera as a natural food flavoring.

Aloe leaves contain a clear gel that is often used as a topical ointment. The green part of the leaf that surrounds the gel can be used to produce a juice or a dried substance (called latex) that is taken by mouth.

16



Belladonna

Belladonna is a plant. The leaf and root are used to make medicine. The belladonna berry juice was used historically in Italy to enlarge the **pupils of women**. This was not a good idea, because belladonna can be poisonous.

effective for...

- Colds.
- Hay fever.
- Parkinson's disease.
- Motion sickness.
- Arthritis-like pain.
- Nerve problems.



17



Ginseng

American ginseng is an herb. The root is used to make medicine.

American ginseng **is used** for stress, to boost the immune system, and as a general tonic and stimulant. American ginseng is often used to fight infections such as colds and flu.

There is some evidence that it might help prevent colds and flu and make symptoms milder when infections do occur.



18



How does it work?

American ginseng contains chemicals called ginsenosides that seem to affect **insulin levels** in the body and **lower blood sugar**. Other chemicals, called polysaccharides, might affect the immune system.



19

Fish Oil

Inside your cells, you have a balance of omega-6 and omega-3 fatty acids.

Most people's diets are heavy in omega-6 fatty acids (especially from cheap vegetable oil), which throws the balance off.

A great source for omega-3 fatty acids are fatty fish, and eating these fish or supplementing directly with the fish oil itself can improve overall health.



20



Vitamin D

There are two numbers to think about with vitamin D - the minimum, and the ideal amount.

Most people get a minimum amount of vitamin D. But they do not get the ideal amount. Vitamin D supplementation can improve mood and provide long-term protection against **cognitive decline and bone deterioration**.

It stacks very well with vitamin K2 and magnesium.

People in cold places or overcast areas should possibly take it.

Many studies have shown that most people are not in the optimal range for vitamin D. Vitamin D supplementation works to improve your health.

21



Creatine

If you follow sports, you may have heard of creatine being compared to steroids or other drugs. This couldn't be further from the truth! Creatine is naturally found in meat, and even the IOC (International Olympic Committee) has said that creatine is 100% legal. Creatine is basically a source of energy for your cells. Extra energy means extra effort, which means better results! Creatine has a lot of evidence to support its safety, and it's cheap and can be supplemented indefinitely.

Bottom line: Creatine works. It is especially powerful if you are vegetarian.



22



Turmeric/Curcumin

According to nutrition research career, noting that the curcumin in turmeric needed an absorption enhancer or else it wouldn't be able to cross through the intestine and enter circulation. But a decade later, evidence has come out that sometimes you want the curcumin to stay inside your intestine (for example, if you have intestinal inflammation). Turns out grandma was right, turmeric is healthy, and it doesn't have to come in a fancy absorbable pill



23



Melatonin

This hormone had a pretty defined role until recently - it helps sleep. But then marketers started latching onto papers exploring other characteristics of melatonin, and suddenly it became a magic pill.

For example, cherries naturally contain melatonin, as do a few other foods. Alternative medicine websites have just started to note the benefits of cherries on a huge variety of different conditions, due to their melatonin and phytochemical content



24



References

Joshee, N., Dhekney, S.A. and Parajuli, P., 2019. *Medicinal plants*. Springer Nature Switzerland AG, Cham.

Aftab, T. and Rehman, K., 2020. *Medicinal and Aromatic Plants. Expanding their Horizons through Omics*; Elsevier: Amsterdam, The Netherlands.

