

Herbal supplements and the geriatric population

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Objectives

- Explain history and trends of herbal supplements use in US
- Most commonly used herbal supplements by geriatric patients and why
- Uses of herbal supplements and potential drug interactions
- Goals for physicians and their geriatric patients

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"It's anxiety. Don't worry, vitamin B happy."

Background

- Use of herbal supplements is on the rise
- Increase in use from 3% in 1990 to 12% in 1997 to 30% in 2008 for US adults
- Retail sales of herbal products increased from \$8.8 billion in 1994 to \$14.7 billion in 1999
- In patients greater than age 65, 12.9% reported using an herbal supplement in the previous 12 months (study in 2002)

Background Continued...

- Herbal supplements are **not** regulated by the Food and Drug Administration (FDA)
- Their regulation is based on the Dietary Supplement Health and Education Act (DSHEA) of 1994
- This act was passed to make natural medicine available to the population at a faster rate than if they went through the rigorous testing of the FDA
- The act worked under the assumption that “natural” medicines were safe and did not need to be as regulated

Background continued

- Manufacturers of herbal supplements do **not** need to demonstrate efficacy of their product or safety profiles
- They market their products making claims that have never been properly tested
- Herbal manufacturers are also not required to present evidence of safety

Top 10 used herbal supplements in US

- Echinacea
- Garlic
- Ginkgo biloba
- Saw palmetto
- Ginseng
- Grape seed extract
- Green tea
- St. John's wort
- Bilberry
- Aloe

Efficacy

- Of the 10 most commonly used herbal supplements only 4 have statistically significant evidence of working including:
 - Garlic
 - Ginkgo biloba
 - St. John's wort
 - Saw palmetto

Most commonly used herbal supplements in Geriatrics

- Glucosamine
- Echinacea
- Garlic
- Ginkgo biloba
- Fish oils
- Ginseng
- Ginger
- Saw palmetto
- Soy
- Peppermint
- St. John's wort
- Ragweed/chamomile

Reasons for use in elderly

- Conventional medical treatments would not help the patient
- Conventional medical treatments were too expensive
- Herbal use was twice as likely in patients that had previously had difficulty obtaining prescription medicine due to cost
- Thought it would be interesting to try

Positive correlation with herbal use in geriatrics

- Female gender
- Higher education
- Higher household income
- Western region of residence
- Hispanic or nonhispanic minorities
- Individuals who had more positive self-reported health status

Drug Interactions

- Most people believe that herbal supplements are safe
- Many herbal supplements can have serious drug interactions
- Between 6.9%-22% of herbal supplements taken by geriatric population can theoretically cause serious adverse effects due to interactions with medical treatment or underlying comorbidities

Ginkgo Biloba

- Ginkgo biloba used to improve memory, symptoms of dementia, and concentration
- Ginkgo biloba interacts with:
 - Anticoagulants → (ie warfarin) spontaneous hemorrhage
 - Anticonvulsants → (ie trazadone) coma, decrease seizure threshold
 - Aspirin/salicylates → spontaneous hemorrhage
 - Other NSAIDs

Garlic

- Garlic used to treat increased levels of cholesterol, high blood pressure, cancer and infection
- Garlic interacts with:
 - Anticoagulants → elevation in INR
 - Estrogen/progesterone → decrease unbound sex hormones

Fish oil

- Fish oils used to treat increased levels of cholesterol
- Fish oils interacts with:
 - Antihypertensive → greater reduction in BP
 - Elevations in INR

Glucosamine

- Glucosamine used for joint pain and osteoarthritis
- Glucosamine interacts with:
 - Anticoagulants → elevation in INR
 - Hypoglycemic agents → decrease effectiveness, increased blood glucose
 - Insulin → increased blood glucose

Echinacea

- Echinacea used to boost the immune system
- Echinacea interacts with:
 - Immunosuppressants
 - Medications metabolized by cytochrome P450

St. John's wort

- St. John's wort used for depression
- St. John's wort interacts with:
 - SSRIs → serotonin syndrome
 - Cyclosporine → reduction in plasma levels
 - Theophylline → decreased plasma levels
 - Digoxin → decreased bioavailability
 - Indinavir* → decreased therapeutic effect
 - Warfarin* → decreased therapeutic effect
- * these drugs are metabolized by cytochrome P450 pathway which is altered by St. John's wort



Physician's role

- In numerous studies greater than 50% of geriatric patients do **not** disclose their use of herbal supplements to their physician
- Survey of health care providers only 16% reported to “almost always or always” ask their patients about herbal use
- Important to ask your patient all products/supplements they are using

Goals in geriatrics

- Improve communication between physician and patient
- Awareness of medication costs
- Education of patients on the dangers of interactions of medication and herbal supplements

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"Looks like he died of natural causes."