Herbal supplements and the geriatric population

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February 2009
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
“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)
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
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
References

- Ernst E. Herbal Medicines- they are popular, but are they also safe? *Eur J Clin Pharmacol.* 2006;62:1-2.
“Looks like he died of natural causes.”