Five Herbs Commonly Encountered in a Clinical Setting
Linda White Tribute

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Learning Objectives

Define Integrative Health and Medicine (IHM)

Describe the patterns of utilization of IHM

Be able to distinguish a higher quality supplement due to product labeling

Compare and contrast five herbal products commonly encountered in a clinical setting
Definition

Integrative Health and Medicine

- Healing-oriented practice that incorporates the relationship between the provider and whole person (mind, body, and spirit)
- It emphasizes the evidence and makes use of all appropriate therapeutic approaches to achieve optimal health and healing
Statistics

Utilization
- Adult American population 33.2%
- Children American population 11.6%
- Women more then men
- Patient with higher education and income
- 72% patients didn’t report IHM use to health care provider *

Cost in 2014
- $6.4 billion US dollars
- Estimated $115 billion globally by 2020
Why People Use IHM

- Dissatisfied with the results of conventional therapy
- Lack of disease curing of conventional therapy
- Dramatic reports from media
- Patient empowerment
- Focused on spiritual and emotional wellbeing
What Patients Believe...

- Natural is better than synthetic
- Patients don’t consider herbs as “drugs”
- Herbs don’t have side effects
- Herbs are regulated, standardized, and safe
- Used for thousands of years
Use of Complementary Health Approaches in the U.S.
National Health Interview Survey (NHIS)

10 most common complementary health approaches among adults—2012

- Natural Products*: 17.7%
- Deep Breathing: 10.9%
- Yoga, Tai Chi, or Qi Gong: 10.1%
- Chiropractic or Osteopathic Manipulation: 8.4%
- Meditation: 8.0%
- Massage: 6.9%
- Special Diets: 3.0%
- Homeopathy: 2.2%
- Progressive Relaxation: 2.1%
- Guided Imagery: 1.7%

*Dietary supplements other than vitamins and minerals.

## Use of Complementary Health Approaches in the U.S.

National Health Interview Survey (NHIS)

### 10 most common complementary health approaches among children—2012

<table>
<thead>
<tr>
<th>Approach</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Natural Products*</td>
<td>4.9%</td>
</tr>
<tr>
<td>Chiropractic or Osteopathic</td>
<td>3.3%</td>
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<tr>
<td>Manipulation</td>
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<tr>
<td>Yoga, Tai Chi, or Qi Gong</td>
<td>3.2%</td>
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<tr>
<td>Deep Breathing</td>
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<tr>
<td>Homeopathy</td>
<td>1.8%</td>
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<td>Meditation</td>
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<tr>
<td>Special Diets</td>
<td>0.7%</td>
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<tr>
<td>Massage</td>
<td>0.7%</td>
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<tr>
<td>Guided Imagery</td>
<td>0.4%</td>
</tr>
<tr>
<td>Movement Therapies</td>
<td>0.4%</td>
</tr>
</tbody>
</table>

* Dietary supplements other than vitamins and minerals.

Labeling Requirements

Required Disclaimer

Structure-function claim

“This statement has not been evaluated by the FDA. This product is not intended to diagnose, treat, cure, or prevent any disease”

“When you need to perform Your best…take ginseng!”
Current Good Manufacturing Practices (cGMP)

Food and Drug Administration (FDA) and Federal Trade Commission (FTC)

June 2010

More stringent practices
  • Record keeping
  • Quality control
  • Testing
  • Production
  • Verify quality of raw materials
  • Increase inspecting of facilities by FDA inspectors

483 inspection report
  • Major breaches is due to record keeping
Supplement Seals of Approval

畅销认证

Good Manufacturer Practices (GMPs)
- Examples: Nature’s Way, Country Life, Twin

Consumer Labs (CL)
- Examples: Good Neighbor Pharmacy, Sundown

United States Pharmacopoeia (USP)
- Example: Nature Made

National Sanitation Foundation (NSF)
- Example: GNC Nutritional Supplements
"You know, we really should be taking vitamin supplements."
Echinacea

(*Echinacea purpurea*)

**Echinacea**

**Indications:**
- Common cold
- Upper respiratory infection

**Mechanism of action:**
- Immunomodulation

**Efficacy:**
- Schoop R et al. 2006 meta-analysis: Echinacea was effective in prevention of common cold symptoms after clinical inoculation compared to placebo $P < 0.43$
Echinacea

Adverse reactions:
• Fever, GI upset, sore throat, dizziness and unpleasant taste

Drug interactions:
• Inhibits cytochrome P450 3A4
• Inhibits cytochrome P450 1A2

Disease interactions:
• Autoimmune disease
Echinacea

 대하여

Dosage:

- **Crude extract**: 6.75 mg (95% herb & 5% root)
  2 tab tid
- **Juice**: 20 drops Q2hrs 1\textsuperscript{st} day, then 20 drops tid
- **Tea**: 5-6 cups 1\textsuperscript{st} day, then 1 cup x 5 days

Clinical pearls:

- Chrysanthemum family
- Included in the US National Formulary from 1916 - 1950
- Patient will have a tingling sensation on the tongue
Garlic (Allium sativum)
Garlic (Allium sativum)

Indications:
• Hypertension
• Hyperlipidemia

Mechanism of action:
• Allicin is the active ingredient
• Inhibits hepatic cholesterol synthesis
• Activates production of endothelium-derived relaxation factor to relax smooth muscle and vasodilation
Garlic (Allium sativum)

**Efficacy** - mix data

**Adverse reactions:**
- Halitosis, body odor, heartburn, and GI upset

**Drug interactions:**
- Anticoagulant
- Antiplatelet
- CYP3A4
- CYP2E1

**Herb interactions:**
- Ginger, Ginkgo and Vitamin E
Garlic (*Allium sativum*)

**Dosage:**
- DL: 1000 mg – 7200 mg/day
- HTN: 300-1500 mg qd
- 1 fresh clove (4 g)
- Standardized: 0.65 - 1.3 % allicin

**Clinical pearls:**
- When using fresh product needs to sit for 10 minutes chopped up prior to use for best results
- Generally recognized as safe (GRAS)
- Discontinue 2 - 3 weeks prior to surgery
- Products marketed as odorless, may not contain allicin
Ginger (Zingiber officinale)

https://www.fragrantica.com
Ginger (Zingiber officinale)

**Indications:**
- Nausea (motion, morning, PONV...)
- Arthritis
- Colds & Bronchitis

**Mechanism of action:**
- Antiemetic – acts on the stomach level not CNS

**Efficacy:** Slower onset & some benefit
Ginger (Zingiber officinale)

- **Adverse reactions:** well tolerated
  - GI issues, heartburn, drowsiness

- **Drug interactions:** Anticoagulants

- **Herb interactions:**
  - Garlic, Ginkgo, Ginseng, Clove, Turmeric
  - Devils claw, Fenugreek, Ginseng, Guar gum

- **Dosage:** 2-4 g dried rhizome powder
  - Motion sickness: 500 mg ½ - 1 hr. prior to travel & then every 2-4 hrs. prn
  - Pregnancy: max 1g daily & short term
Ginkgo  (Ginkgo biloba)
Ginkgo biloba

Indications:
• Dementia

Mechanism of action:
• Protects tissues from oxidative damage

Efficacy:
• Some results seen in 4-8 weeks
• Ideally 12 weeks of use for optional results
• GEM study
Ginkgo Biloba Efficacy

Ginkgo Evaluation of Memory (GEM) Study

Design: RDBPC, 6 year study, N = 3069, intervention was 120 mg bid ginkgo verses placebo

Outcome: incident dementia and AD

Results: was not effective in reducing the incidence rate of dementia (95% confidence interval [CI], 0.94-1.33; $P=.21$) or AD 1.16 (95% CI, 0.97-1.39; $P=.11$)

Follow up to GEM study in 2009
Ginkgo Biloba

 관한反応:

- GI, HA, dizziness, palpitations, and allergic skin reactions

薬物相互作用:

- Antiplatelet and anticonvulsants

草本相互作用:

- Garlic, Ginger, Glucosamine
- St John's Wort

疾患相互作用:

- Possible interference with fertility
Ginkgo Biloba

**Dosage:**

- 120 – 240 mg qd in divided doses
- Standardized leaf extract 24% ginkgo flavone glycoside and 6% terpene lactones

**Clinical pearls:**

- Discontinue 2 - 3 weeks prior to surgery
Ginseng (Panax ginseng)
Ginseng (*Panax ginseng*)

**Indications:**
- Adaptogen
- Diabetes
- Erectile Dysfunction

**Mechanism of action:**
- Increase serum cortisol
- Stimulate adrenal function

**Efficacy:**
- Use short term
- Some data ↓ risk of repeat colds in a season
**Panax ginseng Efficacy**

*Korean red ginseng (Panax ginseng) improves glucose and insulin regulation in well-controlled, type 2 diabetes: results of a randomized, double-blind, placebo-controlled study of efficacy and safety.*

**Design:** DBR crossover design, N = 19, 12 weeks, ginseng 2 g/meal verse placebo, adjunct to current diet and or medications

**Results:**
- No effects on HbA1c
- Patients maintained good glycemic control
- Safety and compliance were unchanged

*Nutrition Metabolism & Cardiovascular Diseases. 18(1):46-56, 2008 Jan*
Ginseng (*Panax ginseng*)

- **Adverse reactions:** insomnia, BP changes, appetite loss, rash, dizziness and mood changes
- **Drug interactions:** anticoagulants, diabetic meds, CYP 2D6 & 3A4
- **Herb interactions:** Capsaicin, Chamomile, Feverfew, Garlic, Ginger and Bitter orange
- **Disease interactions:** schizophrenia
**Ginseng (Panax ginseng)**

**Dosage:**
- Standardized > 7% ginsenoside
- ED: 900 mg tid
- DM: 3 – 8 grams 2 hours prior to meals
- Common Cold: 200 mg qd for 4 wks prior to vaccination and then 8 wks afterward

**Clinical pearls:**
- Generally recognized as safe (GRAS)
- Discontinue 2 - 3 weeks prior to surgery
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# Online resources

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<td>Food and Drug Administration</td>
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Conclusions

‡ The use of Integrative Health and Medicine is very prevalent in today’s society

‡ Biological Based System therapies are the most utilized form of IHM

‡ Lack of FDA regulation necessitates informed decisions to find safe and effective products

‡ Health professionals must be educated about IHM or at least know where to find the information

‡ “Do no harm” approach
Questions

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ALTERNATIVE MEDICINE

GROUP HUG

HERBS

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http://theskinnyonline.blogspot.com/2010_01_01_archive.html
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