Complementary and Alternative Medicine: Myths, Realities and Opportunities

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Learning Objectives

• Understand current use of CAM in the United States
• Develop practical approach to assessing risks and benefits of various therapies
• Define ways to incorporate evidence-based therapies for personal well-being of patients, survivors, and caregivers

CAM

• Definition:

  “Complementary and Alternative Medicine (CAM) ... is defined as those treatments and healthcare practices not taught widely in medical schools, not generally used in hospitals, and not usually reimbursed by medical insurance companies.”

  Eisenberg, NEJM, 1993
CAM

• Definition:

“CAM is defined as health care practices that are not an integral part of conventional medicine”.

Stephen E. Straus MD
Director NCCAM
(Academic Medicine, June 2000, 572-3)

CAM Use by U.S. Adults and Children

Adults (2001) 36.0%
Adults (2002) 34.3%
Children (2007) 11.8%

Barnes, 2008

Diseases/Conditions for Which CAM is Most Frequently Used Among Adults - 2007

- Acupuncture - 17.1%
- Chiropractic - 15.1%
- Naturopathy - 7.5%
- Massage Therapy - 7.0%
- Mind-Body - 6.4%
- Yoga - 2.7%
- Herbal Medicine - 2.6%
- Homeopathy - 2.5%
- Ayurveda - 0.6%
- Other - 4.1%
### CAM for AA and MDS

<table>
<thead>
<tr>
<th>Author</th>
<th>Date</th>
<th>Treatment</th>
<th>Disorder</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yao</td>
<td>1989</td>
<td>Qigong</td>
<td>AA</td>
<td>😊</td>
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<tr>
<td>Wang</td>
<td>1993</td>
<td>TCM</td>
<td>MDS</td>
<td>😐</td>
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<td>Yisulkang</td>
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<tr>
<td>Wang</td>
<td>1999</td>
<td>Fuzheng quxie</td>
<td>MDS</td>
<td>😐</td>
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<tr>
<td>Liu</td>
<td>2006</td>
<td>TCM</td>
<td>MDS</td>
<td>😊</td>
</tr>
<tr>
<td>Xu</td>
<td>2008</td>
<td>TCM herbs</td>
<td>MDS</td>
<td>😊</td>
</tr>
</tbody>
</table>

### Can CAM cure cancer?

- **Ginseng**
  - Leaf extract incr. apoptosis in THP-1 leukemia cells
- **Ganoderma lucidum (Reishi)**
  - Extract w/ anti-tumor effects in THP-1 leukemia cells
- **Curcumin**
  - Induces topo-DNA complexes, cell death in K562 leukemia cells
  - Apoptosis in promyelocytic leukemia HL-60 cells


### Can CAM cure cancer?

- **Leukemic cells (53 children w/ leukemias, 4 cell lines)**
  - Viscum album (Mistletoe)
  - Uncaria tomentosa (Cat's claw)
  - Croton lechleri (“Sangre de drago”)
- **Cytotoxicity and apoptotic assays, cell-cycle analysis**
  - No cytotoxic activity
  - Increased cell proliferation in 19%, 32% and 32%

**Conclusion**

“...some alternative medicine remedies might stimulate the viability of childhood leukemic cells”

Styczynski 2006
CAM and Cancer

“Complementary Approaches That May Be Used with Cancer Treatment”

- Aromatherapy
- Art therapy
- Biofeedback
- Massage therapy
- Meditation

- Music therapy
- Prayer, spiritual practices
- T’ai chi
- Yoga

ACS Web site
Accessed 3/14/09

CAM and Cancer

- Cancer-related Distress
  - N = 4496 mixed cancer types
  - Brief Symptom Inventory (BSI)
    - Overall Prevalence 35%
    - Highest in lung cancer pts (43.4%)
    - Lowest in gyn cancer pts (29.6%)

Zabora, 2001

CAM and Cancer

- Prostate cancer and distress
  - 3 large cancer centers Midwest
  - 263 patient/spouse dyads
  - Functional Assessment of Cancer Therapy (FACT)
    - More advanced cancer – more distress
    - Patients and spouses equally affected
    - Recurrence = worse emotional QOL

Northouse, 2007
Stress Effects on Health

- Increased risk of sudden death (Eliot, 1985)
- Significantly worsens px after MI (Shi, 1989)
- Decr. wound healing (39 d vs. 49 d) (Nilsson, 1995)
- Decr. IL-1, wounds 40% longer to heal (Marucha, 1998)
- Decr. IL-1a, IL-6, incr. cortisol (Glaser, 1999)
- Delays healing in chronic wounds (King, 2001)
- Reduces health-related QOL (Keles, 2007)
- Incr. asthma exacerbations (Chen, 2007)
- Incr. freq. of illness in children (Wyman, 2007)
- Incr. LV dysfunction, cardiac ischemia, arrhythmias (Ziegelstein, 2007)
- Incr. HR, BP, O2 demand, coronary a. spasm (JAMA, 2007)
- Incr. BP, blood clotting, ischemia, MI risk
- Decr. insulin sensitivity (Brotman, 2007)
Yoga and Stress Management

• Clinical Trial
  – Adult women (mean age 37.9) N=24
  – Self identified “emotionally distressed”
  – Yoga class, 90’ 2x/week x 3 months
  – Wait list control
    - Perceived stress P<0.02
    - State/trait anxiety P<0.02 and P<0.01
    - Fatigue P<0.01
    - Depression P<0.05
    - Salivary cortisol P<0.05

Michalsen, 2005

Yoga and Stress Management

• Clinical Trial
  – N = 39 pts. w/ lymphoma
    - Tibetan yoga (TY) (7 wkly sessions)
    - Wait list control
    – Patients in TY group
      - Better subjective sleep quality (P < 0.02)
      - Faster sleep latency (P < 0.01)
      - Longer sleep duration (P < 0.03)
      - Less use of sleep medications (P < 0.02)

Cohen 2004

Acupuncture and Stress Management

• Clinical Trial
  – RCT, 106 dialysis pts.
    - 15” acupressure or TEAS 3x/wk for 1 mo.
    - Control group = usual care
    - Piper Fatigue Scale, PSQI, BDI
• Results
  – Decr. fatigue, depression, impr. sleep quality

Tsay, 2004
**Acupuncture and Stress Management**

- **Clinical Trial**
  - Pts. with fibromyalgia, N = 50
  - Acupuncture vs. sham acupuncture
  - 6 sessions
  - Metrics at 1 month, 7 months
    - FIQ P<0.01, P<0.02
    - Fatigue P<0.007, P<0.02
    - Anxiety P<0.02, P<0.02
  
  Martin 2006

**Spirituality and Stress Management**

- **Oncologist Assisted Spiritual Intervention Study (OASIS)**
  - 118 pts., 4 oncologists/hematologists
  - Intervention vs. usual care
    - 5-7" semi-structured exploration of religious/spiritual concerns
  - FACT-G QOL, FACIT-Sp, BSI Depr. Scale
  - Baseline, immediately after, 3 weeks
  
  Kristeller, 2006

**Spirituality and Stress Management**

- **OASIS (cont.)**
  - Physicians “comfortable” 85%
  - Patients “somewhat”, “very” useful 76%
  - At 3 weeks
    - Reduction in depressive sx P<0.01
    - Improved QOL P<0.05
    - Sense of interpersonal caring P<0.05
  - “…the inquiry appears to have a positive impact on perception of care and well-being.”

Kristeller, 2005
Meditation and Stress Management

- Meta-analysis
  - 64 studies considered, 20 included
  - Conclusion:
    - Improvements seen
      - Depression
      - Anxiety
      - Coping style
      - Psychological dimensions of QOL

Grossman, 2004

Meditation and Stress Management

- Systematic Review – Meditation & Cancer Pts
  - 3 RC trials, 7 uncontrolled trials
  - Positive results
    - Mood, sleep quality, reductions in stress
    - Dose-response effect observed
    - Freq. methodological limitations identified

Smith 2005

Massage Therapy and Stress Management

- Memorial Sloan-Kettering Cancer Center
  - 1,290 patients treated over 3 yr period
  - Pre- and Post-therapy sxs recorded
    - Pain
    - Fatigue
    - Stress/Anxiety
    - Depression
    - Nausea

Cassileth, 2004
### Massage Therapy and Stress Management

#### Results:

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>40%</td>
</tr>
<tr>
<td>Fatigue</td>
<td>41%</td>
</tr>
<tr>
<td>Anxiety</td>
<td>52%</td>
</tr>
<tr>
<td>Nausea</td>
<td>21%</td>
</tr>
<tr>
<td>Depression</td>
<td>31%</td>
</tr>
</tbody>
</table>

Cassileth, 2004

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### Measuring the Effect of Massage Therapy on Pain, Anxiety and Tension in Cardiac Surgical Patients

- **Investigators:** Dr. B. A. Bauer, Sue Cutshall RN, Laura Wentworth RN, Penny Kaipin RN, Thoralf Sundt MD
- **Funding:** Mayo Clinic CR20 Award

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### Massage Therapy after CV Surgery

<table>
<thead>
<tr>
<th>Anxiety Level</th>
<th>VAS</th>
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<tbody>
<tr>
<td>After</td>
<td></td>
</tr>
<tr>
<td>Before</td>
<td></td>
</tr>
</tbody>
</table>

![Graph showing anxiety levels before and after massage therapy]
Hypnotherapy and Stress Management

- **Clinical Trial**
  - 76 pre-operative patients
    - Hypnosis group (n=26)
    - Attention control group (n=26)
    - Usual care (n=24)
  - Anxiety upon entering OR
    - Reduced 56%
    - Increased 10%
    - Increased 47%

Saadet 2006

- **Clinical Trial**
  - 236 women, large core Br Bx
    - Standard care (N=76)
    - Structured empathic attention (N=82)
    - Self-hypnotic relaxation (N=78)
  - Anxiety
    - Increased
    - Did not change
    - Decreased (P<0.001)

Lang 2006

Music and Pre-Procedure Anxiety

- **Metaanalysis; music for endoscopy**
  - Decrease anxiety, pain, sedation requirements (Rudin, 2007)
- **N = 69 pediatric cast room pts, soft music**
  - Decreased HR (Liu, 2007)
- **N = 207 surgical pts, music vs diazepam pre-op**
  - Equal efficacy for anxiety, cortisol, HR, BP (Berbel, 2007)
- **N = 50 pts, live guitar/singing during chemotx**
  - Decreased anxiety, fear, fatigue, BP; Increased relaxation (Ferrer, 2007)
CAM and Stress Management

- Conclusions:
  - Herbs/DS need careful scrutiny
  - Stress is common in pts. w/ chronic illness
  - Stress can be a major risk factor
  - CAM modalities can be:
    - cost-effective
    - collaborative
    - used to encourage self care

CAM for Stress Management

- Therapies with good efficacy/ low risk
  - Yoga
  - Acupuncture
  - Massage
  - Spirituality
  - Meditation
  - Music Therapy
  - Hypnosis

Therapies with good efficacy/ low risk

- Yoga
- Acupuncture
- Music Therapy
Integrative Medicine

“The practice of medicine that reaffirms the importance of the relationship between practitioner and patient, focuses on the whole person, is informed by evidence, and makes use of all appropriate therapeutic approaches, healthcare professionals and disciplines to achieve optimal health and healing.”

Consortium of Academic Health Centers for Integrative Medicine

Questions???
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