

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

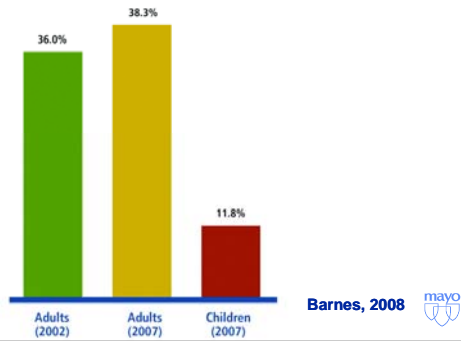
- **Definition:**

“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)

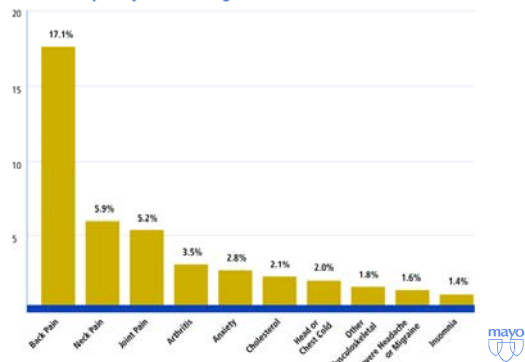


CAM Use by U.S. Adults and Children



Barnes, 2008

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



CAM for AA and MDS

Author	Date	Treatment	Disorder	Outcome
Yao	1989	Qigong	AA	😊
Wang	1993	TCM	MDS	😊
Guo	1995	Yisulkang	MDS	😊
Wang	1999	Fuzheng quxie	MDS	😊
Liu	2006	TCM	MDS	😊
Xu	2008	TCM herbs	MDS	😊



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

Kitts 2007, Cheng 2007, Lopez-Lazaro 2007, Liao 2007



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 (Elliot, 1985)
- Significantly worsens px after MI (Shi, 1989)
- Decr. testosterone, incr. insulin in men (Nilsson, 1995)
- Decr. wound healing (39 d vs. 49 d) (K-Glaser, 1995)
- Decr. IL-1, wounds 40% longer to heal (Marucha, 1998)
- Decr. IL-1a, IL-8, incr. cortisol (Glaser, 1999)
- Delays healing in chronic wounds (C-King, 2001) 

Stress Effects on Health

- Decr. IL-6, TNF-a, IL-1b, wound healing 60% (K-Glaser, 2005)
- Incr. genomic expression cell cycle death, inflammation (Roy, 2005)
- Incr. infection, colds, HIV progr., inflam.
- Decr. immune response to vaccine (Glaser, 2005)
- Delays healing of wounds (McGulre, 2006)
- Incr. risk of liver disease (Chida, 2006)
- Incr. risk of sudden death (Lathers, 2006) 

Stress Effects on Health

- 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, 2005 

Spirituality and Stress Management

• OASIS (cont.)

- Physicians "comfortable" 85%
- Patients "somewhat", "very" useful 76%
- At 3 weeks
 - Reduction in depressive sx's 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 sx's recorded
 - Pain
 - Fatigue
 - Stress/Anxiety
 - Depression
 - Nausea

Cassileth, 2004



Massage Therapy and Stress Management

- **Results:**

<u>Symptom</u>	<u>Improvement</u>
Pain	40%
Fatigue	41%
Anxiety	52%
Nausea	21%
Depression	31%

Cassileth, 2004 

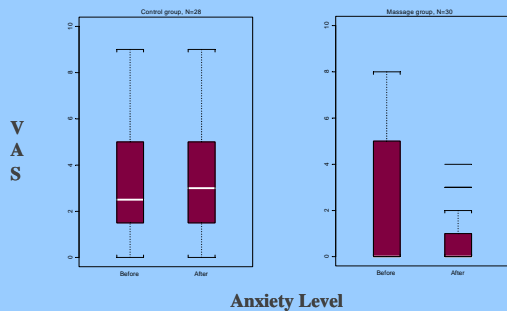
Massage Therapy and Stress Management

- **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 Kalpin RN, Thoralf Sundt MD
- **Funding:** Mayo Clinic CR20 Award



Massage Therapy after CV Surgery



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%

Saadat 2006 

Hypnotherapy and Stress Management

• 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

- **Metanalysis; music for endoscopy**
 - Decr. anxiety, pain, sedation requirements (Rudin, 2007)
- **N = 69 pediatric cast room pts, soft music**
 - Decr. 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**
 - Decr. anxiety, fear, fatigue, BP; Incr relaxation (Ferrer, 2007)



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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