Use of Complementary and Alternative Medicine in the United States: Facts, Figures and Controversies

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My Background/My Perspective
- Registered pharmacist
- Social behavioral scientist
- User of western medicine
- User of CAM

Overview
- Definitions, explanations, with a focus on a few therapies
- Prevalence/Usage of CAM and factors involved
- “Controversies” – where East meets West
- Future predictions
- Resources for more information

Care provided by an MD or DO*
- Western medicine
- Allopathic
- Biomedical
- Conventional
- Orthodox

Terms imply credibility and approval
Some say they provide this form of medicine with a sanctioned power

What is CAM?
- “Complementary and Alternative Medicine”
- An exceptionally varied group of medical practices, products and systems that are not typically thought to be a part of western medicine
- Mostly based on historical or cultural tradition rather than scientific evidence
- Have the boundaries between what is considered to be CAM and western medicine changed over the years?

“Complementary and Alternative Medicine” in MEDLINE database of biomedical journal citations

www.uwyo.edu/consumerconference
Types of CAM

- Alternative Medical Systems
- Energy Therapies
- Exercise Therapies
- Manipulative and Body-based Methods
- Mind-body Interventions
- Nutritional Therapeutics
- Pharmacological and Biologic Treatments
- Spiritual Therapies


Alternative Medical Systems

- Theory and practice
- Developed separately from and prior to the conventional medical approach used in U.S.
- Examples:
  - Acupuncture
  - Ayurveda
  - Homeopathy
  - Naturopathy
  - Traditional Chinese Medicine
  - Tibetan Medicine

Homeopathy

- Practitioners treat patients with highly diluted preparation
- Law of similars (like treats like)
- Ex: Dilution of a substance that causes fever to treat fever

Energy Therapies

- These involve the use of energy fields
- Biofield Therapies
  - Intended to influence energy fields that purportedly surround and penetrate the body.
  - The fields themselves have not been scientifically proven
  - Examples: Qi gong, Reiki, Therapeutic touch
- Electromagnetic-Based Therapies
  - Involve the use of electromagnetic fields
  - Example: Magnet therapy

Exercise Therapies

- Include health-enhancing systems of exercise and movement
- Examples: Tai chi, Yoga

Magnet Therapy

www.uwyo.edu/consumerconference
Yoga

- As exercise
- As lifestyle
- As medicine

$5.7 Billion estimated spent on yoga classes and products last year

1 Harris Interactive Service Bureau study on behalf of Yoga Journal

Manipulative and Body-based Methods

- Use manipulation and/or movement of one or more body parts
- Examples:
  - Spinal manipulation (Chiropractic Care), Therapeutic massage, Osteopathy, Reflexology

Mind-body Interventions

- Techniques intended to enhance the mind’s ability to influence bodily symptoms and function
- Examples:
  - Meditation, Hypnosis, Biofeedback, Imagery, Relaxation therapy, Cognitive-behavioral therapy, Support groups, Art therapy, Music therapy, Aromatherapy

Aromatherapy

- Use of volatile plant materials (essential oils or other aromatic compounds)
- Intended to alter a person’s mind, cognitive function, mood or health

Nutritional Therapeutics

- Nutrients and non-nutrients
- Examples:
  - Probiotics
  - Vitamins
  - Antioxidants

Pharmacological and Biologic Treatments

- Melatonin
- Herbs and herbal extracts
- Mistletoe
- Shark cartilage
Spiritual Therapies
- Focus on deep, often religious beliefs and feelings
- Include a sense of peace, purpose, connection to others, and beliefs about the meaning of life.
- Examples: Spiritual healing, intercessory prayer

How much is CAM used in the U.S.?
- ~ 38% of adults (about 4 in 10)
- ~ 12% of children (1 in 9)

National Health Interview Survey 2007, as cited at the National Center for Complementary and Alternative Medicine website
Accessed 20 Sept 11; hereafter referred to as NHIS 2007

10 Most Commonly Used CAM Among Adults

Natural = Safe?
- There is a high prevalence of natural product use—supported by perceptions that these products are especially “safe”
- Similar to the misperception that non-prescription medications are always “safe”

10 Most Commonly Used Natural Products Among Adults

Who is More Likely to Use CAM? (Adults)
- 30-69 years old
- Women
- More highly educated
- Higher income
- Race/Ethnicity
  - American Indian/Alaska Native (50%)
  - White and Asian (~40%)
  - Black and Hispanic (~25%)
Conditions for Which CAM is most often used

- Insomnia
- Severe Headache/Migraine
- Other Musculoskeletal
- Head/Chest Cold
- Cholesterol
- Anxiety
- Arthritis
- Joint Pain
- Neck Pain
- Back Pain

NHIS 2007

Who is More Likely to Use CAM? (< 18 years old)

- Adolescents
- Parent uses CAM
- Live in West, Northeast or Midwest (compared to South)
- Use a prescription medicine
- Have a parent with a college education
- More likely to have a chronic condition (anxiety or stress, musculoskeletal, dermatologic or sinusitis)


Reasons for Using CAM – Women

- Personal beliefs (most common for Non-Hispanic white women)
- Cost of conventional medicine (most common for Mexican-American women)


Reasons for Using CAM – Women

- Referral from physician, family and/or friends, also media sources (all equally likely for non-Hispanic white women)
- Informal networks of family and friends (strongest social influences among African-, Mexican-, and Chinese-American women)


Reasons for Using CAM – Cancer Patients

- Therapeutic response
- Wanting control
- Strong belief in CAM
- CAM as a last resort
- Finding hope

Verhoef MJ. Integr Cancer Ther. December 2005; vol. 4 no. 4 274-286.

Financing CAM Use

- $33.9 billion “out-of-pocket” (U.S. 2007) on CAM
  - 1/3 on visits to CAM practitioners
  - 2/3 on purchases of CAM products, classes, materials
- 14.8 billion spent on “nonvitamin, nonmineral natural products”
  - OTC use associated with herbal use (“Complementary”) 2
  - More spent on herbs if consulting an herb professional 2

1 Nahin RL et al. National Health Statistics Reports. 18; July 30, 2009.
What are the controversies?

- Cost versus benefit - Is it worth the cost? Is it effective?
- Is it safe? What about in special populations?
- Am I accessing a reputable provider?
- How does it “fit” with my other therapies?
- Anecdotal versus scientific evidence

I am just beginning to get into a more natural approach to health care again. How do you find a good, reputable naturopathic doctor? I went to one years ago that was supposed to be good but turned out to be a quack. Also, I know they are not licensed in Ohio. How do they practice if they are not recognized?

Posting on MedHelp.org

Professional Qualifications of CAM providers

- Naturopathic Doctors
  - 16 states, DC, Puerto Rico, U.S. Virgin Islands have licensing laws (including MT, UT, ID—not WY)
  - Naturopathic Medical Schools – can earn doctorate

- Homeopathic Doctors
  - North American Society of Homeopaths have a registration process that includes verification of education and certification
  - Licensure as a homeopathic physician is available only to medical doctors (M.D.) and doctors of osteopathy (D.O.) in Arizona, Connecticut, and Nevada.

- Acupuncturists
  - National Certification Commission for Acupuncture and Oriental Medicine (NCCAOM) certification or a passing score on the NCCAOM certification exam are documentation of competency for licensure as an acupuncturist by 43 states and DC
  - WY has no licensing

- Massage Therapists
  - 40 states have licensing requirements (None for WY)

- Chiropractic Doctors
  - WY Board of Chiropractic Examiners provides licensing

“[The] Scary thing about herbal stuff to me is quality, consistency and very little or no scientific data.”

— a pharmacist who posted an inquiry about herbal certification programs on the Natural Medicines Comprehensive Database under “Colleagues Interact”
Product Regulation

- Homeopathic remedies
  - Regulated as an “OTC” (non-prescription drug) by the Food and Drug Administration – for products intended for “self-limiting conditions” (i.e., not serious such as cancer)
  - Must meet certain standards for strength, purity, packaging and be labeled with ingredients, dilutions, instructions, intended use
  - Not need to undergo safety and efficacy testing like with Rx and new OTC products


Product Regulation

- Dietary supplements/Herbal products
  - Regulated as a “food” rather than a “drug” by the FDA
  - They do not have to be proven as efficacious or safe, however Good Manufacturing Practices are required. It is up to the manufacturers to ensure safety.
  - Makers can make claims if they have supporting research, however they must include a disclaimer that the FDA has not evaluated the claim


Milk Thistle...possible interactions

- Antipsychotics
- Phenytoin (Dilantin)
- Halothane
- Birth control pills, hormone replacement therapy
- Allergy drugs
- Drugs for high cholesterol – including “statins”
- Antianxiety drugs
- Antiplatelet and anticoagulant drugs (blood thinners)
- Some cancer drugs

Celestial Seasonings Detox A.M. tea

“One A Day® Women’s 50+
Advantage contains Ginkgo to promote memory and concentration,”

Possible interactions with Ginkgo:

- Anticonvulsants
- Blood-thinning Medications
- Cyclosporine
- MAO Inhibitors
- Thiazide Diuretics
- Trazodone

What can you do?

- Be informed
- Internet resources with .gov or .edu most reliable, reputable
- Let your prescribers and pharmacists know what you are taking to avoid or minimize possible interactions with dietary supplements, herbs, other

Physician Education about CAM

- NIH 2000-03 funding to support and encourage schools of medicine, nursing, dentistry, allied health to incorporate CAM into their curricula
- If CAM is present in medical schools:
  - One elective course in past
  - One-two required courses more common now
  - However, ultimately the focus of medical schools is on western medicine
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Which clinicians are more receptive to CAM?

- Which western medicine clinicians are more likely to have favorable beliefs toward and/or recommend CAM to their patients?
  - Among Rheumatologists, women>men and those born outside of North America

Patients and Doctors: Is CAM discussed?

- In a large qualitative study using patient interviews and focus groups of clinicians
- Findings show that how patients believe their doctor will react to their CAM use is the most important factor regarding how willing they are to discuss it
- Doctors' potential lack of knowledge of CAM did not matter to patients
- Patients reported wanting their doctors to start the dialogue; Doctors reported not thinking their patients used much CAM, so they didn't ask

Patients and Doctors: Do they talk about CAM?

- Implications:
  - Assume YOU will have to initiate that conversation
  - You can choose not to mention it because of fear of being judged, however there are risks you want to avoid, and it’s difficult to always anticipate them yourself
  - Ex: Because of interactions between therapies
  - Same applies for sharing with pharmacists when it comes to interactions and taking multiple products

What about doctors who are more open to discussing CAM or who even recommend it?

- “Integrative Medicine”
- Replacing “Holistic Medicine”

Shelley BM. Ann Fam Med, 2009; 7:139-147.
"Integrative Medicine"

“The philosophy behind integrative medicine is a focus on all stages and aspects of an individual’s care, placing the patient at the center and making individuals responsible for and involved in their own health. The physical, mental, social, spiritual, environmental, and other states of being must be considered to ensure that patients receive the highest quality and most comprehensive and coordinated care possible.”

— Judith Salerno, MD, MS, Executive Officer, The Institute of Medicine

“Integrative Medicine”

“Integrative medicine encompasses the whole spectrum of health care interventions from prevention to treatment to rehabilitation and recovery.”

— Harvey Fineberg, MD, Institute of Medicine President

Several of Integrative Medicine Centers in the U.S.

- Univ of Arizona Program in Integrative Medicine
- Creighton Univ School of Medicine
- Columbia Univ Rosenthal Center for Complementary & Alternative Medicine
- Duke Univ Center for Integrative Medicine
- George Washington Integrative Medicine Program
- M D Anderson Cancer Center
- Univ of Minnesota Center for Spirituality and Healing
- Univ of North Carolina Program for Integrative Medicine
- Univ Center for Integrative Medicine

Integrative Medicine in the Region

- The Center for Integrative Medicine at University of Colorado Hospital http://www.uch.edu/conditions/integrative-medicine/
- Teton Wellness Institute http://www.tetonwellness.org/
- Wholeness Center (in Fort Collins) www.wholeness.com

Local Sightings

- Meredith & Jeannie Ray Cancer Center
- Features and Services listed include Integrative Medicine
- Ivinson Memorial Hospital
- Integrated Therapies Department
In the Medical Community the Desire for Evidence is Strong

“There is no alternative medicine. There is only scientifically proven, evidence-based medicine supported by solid data or unproven medicine, for which scientific evidence is lacking. Whether a therapeutic practice is “Eastern” or “Western,” is unconventional or mainstream, or involves mind-body techniques or molecular genetics is largely irrelevant except for historical purposes and cultural interest…”


“Evidence-Based Medicine”

- Looking for safety and effectiveness
- Taking the best available evidence and applying it to clinical decision-making
- Evidence gained using the scientific method

“Evidence-Based Medicine”

- What is the best scientific evidence?
  - Double-blinded, randomized controlled clinical trials
  - Neither patient nor clinician knows who has the placebo to prevent bias of interpretation
  - All other variables are chance
  - Comparison to placebo or standard treatment

Evidence-Based Medicine and CAM Education for Physicians

Medical schools have been accused of uncritically embracing CAM while half-heartedly supporting evidence-based medicine...

“Evidence-based medicine (EBM) is like safe sex; talked about a lot, preached (taught) a little and practiced infrequently”

— Dr Paul P Glasziou MBBS, PhD, FRACGP, Director of the Centre for Evidence-Based Medicine, at the University of Oxford


Evidence-based medicine and Integrative Medicine

- Typically Integrative Medicine uses scientifically proven strategies – both “conventional” and CAM
- The Bravewell Collaborative and "Compassionate skepticism"

CAM Research Funding at NIH (in Millions)

CAM Research Funding Priorities

- Answering: What are the biological effects of CAM? How do various forms of CAM work?
- Clinical trials of CAM, but also observational, seeing what happens in the “real world”
- Systematic reviews of clinical trials – in attempt to be more conclusive
- Notably in the area of cancer, chronic pain, inflammation and improving health and wellness

Natural Medicines Comprehensive Database

- Tagline: “Unbiased, Scientific Clinical Information on Complementary, Alternative, and Integrative Therapies”
- Uses an evidence-based approach
- Reviews the literature systematically and critically appraises it
- Uses peer review
- Updates the database daily
- Invites users to communicate with the editors

The Future of CAM Use in U.S.?

- Continue increasing as Integrative Medicine centers and departments at universities and hospitals grow
- Continue to be more popular among women, if for no other reason than women overall experience more health problems and report more symptoms than men, and likely make more of the health decisions for their households

- With changing demographics in the U.S, CAM may continue to grow as it is perceived to be more consistent with one’s belief set
- Uncertain how the growing U.S. Hispanic population will influence this wherein women are primarily responsible for maintaining the health/well-being of the family (immigrant and 1st generation versus more enculturated)
- It’s very likely that the influential female in the family provides the most reliable medical history

The Future of CAM Use in U.S.?

- A possible two-tiered system of CAM use
  - Evidence-based and safe accessible to those with more disposable income
  - CAM with uncertain effectiveness available to all
- With the current economic downturn, CAM that presents as less expensive to consumers is likely to become more popular
  - And yet much of it is not covered by insurance

Other Resources

- The Bravewell Collaborative: www.bravewell.org/
- Integrative Medicine for Mental Health Referral Registry and Resources URL: www.integrativemedicineformentalhealth.com
- American Holistic Medical Association: www.holisticmedicine.org/
- Quackwatch: www.quackwatch.com

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Comments and Questions?