Complementary and Alternative Medicine Strategies

2009 JEMF Project Team

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Introduction to this Document

Complementary and alternative medicine (CAM) refers to health care methods that are not usually considered to be conventional medicine. CAM is not typically taught in medical schools or typically available as treatment in hospitals. In the United States, approximately 38 percent of adults (about 4 in 10) and approximately 12 percent of children (about 1 in 9) are using some form of CAM. People of all backgrounds use CAM. However, CAM use among adults is greater among women and those with higher levels of education and higher incomes. Recent statistics (2007) indicate that over 50% of American Indian/Alaska Native adults use CAM, while the statistics drop for other adults of other race/ethnicities: 43% of Whites, 40% of Asians, 26% of Blacks and 24% of Hispanics. Non-vitamin, non-mineral natural products are the most commonly used CAM therapy among adults. The most popular natural products are fish oil/omega 3, glucosamine, echinacea, and flaxseed. People use CAM for an array of diseases and conditions. American adults are most likely to use CAM for musculoskeletal problems such as back, neck, or joint pain.

Several surveys of CAM use by cancer patients have been conducted with small numbers of patients. A large study of CAM use in patients with different types of cancer was published by Richardson (2000). This study found that 69% of 453 cancer patients had used at least one CAM therapy as part of their cancer treatment. Another study found that patients increase their use of CAM after receiving positive results from BRCA1/2 testing (DiGianni, 2006).

We can expect that many patients with other genetic conditions are using CAM, although studies are lacking. To effectively serve our patients, it is important for genetics professionals to be knowledgeable about CAM practices and to assess their utilization of CAM (Buehler, 2007). The culturally competent genetic counselor will anticipate that many clients will be using CAM. It is relevant to explore and discuss use of CAM in genetic counseling sessions. The National Center for Complementary and Alternative Medicine website is complete resource of information, including English and Spanish language materials to facilitate patient/provider discussions about CAM. See http://nccam.nih.gov/timetotalk/

Genetic Counseling Case Examples

Case 1: Mariana Mires is 19 years old and 18 weeks into an unplanned pregnancy. Mariana scheduled a genetic counseling appointment at the urging of her next-door neighbor because she used Contergan and oral contraceptives (Triphasil) until she had a positive pregnancy test at 9 weeks gestation. These medications were prescribed by doctors in Brazil. Mariana just recently moved to the U.S. to begin college studies at a major university. Mariana expressed concern that the (mandatory) tuberculosis skin test she had 2 weeks ago when she registered for school might be harmful to her fetus.
Case 2: Abeo Eze is a 32 year old Nigerian woman who works in a local nursing home. She is seen at your genetics center due to sickle cell disease, for which she is treated with hydroxyurea. To stay healthy, Abeo also follows a daily regimen of taking large daily doses of vitamin C and folic acid at every meal. Abeo wants to become pregnant. Her family doctor encouraged Abeo to talk to the genetic counselor to review the risks to a future pregnancy of all drug exposures.

These cases illustrate several situations that might be encountered by a genetic counselor. It is critical for the counselor to thoroughly explore all exposures that may pose a risk to a developing fetus, to the mother herself, and to others living in the household. Genetic counselors will research the potential effects of exposures to determine any teratogenic risk by using databases such as Reprotox (http://www.reprotox.org/Default.aspx). General pointers for evaluating exposures for teratogenicity are listed in the document titled Teratogens: Genetic Counseling Tips.

The genetic counselor who provides the best quality client-centered culturally sensitive care will go beyond the basics. The counselor may choose to use a mnemonic tool such as ADHERE to guide sessions that involve use of complementary or alternative medicine.

**ADHERE**

“ADHERE” is a mnemonic tool that can be very helpful for health care providers to gain an understanding of the patient’s lifestyle and culture. These key factors of the mnemonic will help eliminate concerns and questions the patients come across. The treatment plan will be a result of both the patient and health care provider’s goals and desires, designed by compromising and discussing important issues together.

Acknowledge: *Acknowledge the need for treatment with the patient, and ask about previous treatments utilized. Together determine mutual goals and desired outcomes.*

Discuss: *Discuss potential treatment strategies and options, as well as consequences of non-treatment with the patient (consider issues such as treatment effectiveness, prognosis, use of complementary/alternative medicine, brand name vs. generics, off-label uses, prescription plans, formularies, etc.).*

Handle: *Handle any questions or concerns the patient may have about treatment (e.g., fears or worries, side effects, costs, dosage, frequency, timing, sequence, duration of treatment, drug or food interactions, and proper storage techniques).*

Evaluate: *Evaluate the patient’s functional health literacy and understanding of the purpose/rationale for treatment, and assess barriers and facilitators to adherence (e.g., environmental, economic, occupational, and socio-cultural factors, family situation and supports)*
**Recommend:** Recommend treatment, and review the therapeutic regimen with the patient.

**Empower:** Empower by eliciting the patient’s commitment and willingness to follow-through with the therapeutic regimen.

Originally referenced:

Reference

**Introduction to CAM**

CAM is a group of health care systems, practices, and products that are not usually included as part of conventional medicine. Complementary medicine is used with conventional medicine. Alternative medicine is used in place of conventional medicine.

According to the National Center for Complementary and Alternative Medicine (http://nccam.nih.gov/), there are five types of CAM: 1) whole medical systems, 2) mind-body medicine, 3) biologically-based practices, 4) manipulative and body based practices, and 5) energy medicine. Whole medical systems are built upon complete systems of theory and practice. Often, these systems have evolved independently and earlier than conventional medical approaches used in the United States. Mind-body medicine uses a variety of techniques designed to enhance the mind's capacity to affect bodily function and symptoms. Biologically-based practices in CAM use substances found in nature, such as herbs, foods, and vitamins. Manipulative and body-based practices are based on manipulation and/or movement of one or more parts of the body. Energy therapies involve affecting energy fields surrounding the body or using electromagnetic fields.
Whole Medical Systems

Ayurvedic Medicine

Definition: Ayurvedic medicine is a whole medical system type of CAM that originated in India thousands of years ago. Ayurvedic medicine aims to integrate and balance the body, mind, and spirit. This balance is believed to lead to happiness and health, and to help prevent illness. Ayurvedic medicine also treats specific physical and mental health problems. The primary goal of Ayurvedic medicine is to cleanse the body of substances that can cause disease, thus helping to reestablish harmony and balance. Methods used to achieve these goals include enemas, massage, administering medical oils in a nasal spray, and ingesting herbs. Tonics made from certain proteins, herbs, minerals and vitamins may also be administered. [http://nccam.nih.gov/health/ayurveda/introduction.htm](http://nccam.nih.gov/health/ayurveda/introduction.htm)

Homeopathy

Definition: Homeopathy, also known as homeopathic medicine, is a whole medical system developed in Germany more than 200 years ago. Founders of homeopathy theorized that if a substance could cause disease symptoms in a healthy person, small amounts could cure a sick person who had similar symptoms. Homeopathy seeks to stimulate the body's ability to heal itself by giving very small doses of highly diluted substances. Homeopathic remedies are derived from natural substances that come from plants, minerals, or animals. Common remedies include red onion, arnica (mountain herb), and stinging nettle plant. [http://nccam.nih.gov/health/homeopathy/](http://nccam.nih.gov/health/homeopathy/)

Native American Healing

Definition: Native American healing is a broad term that includes healing beliefs and practices of hundreds of indigenous tribes of North America. It combines religion, spirituality, herbal medicine, and rituals to treat people with medical and emotional conditions. Some examples include using bark from a tree to treat pain, invoking the healing powers of spirits, performing a ceremony to appease angry spirits, and spending time in a sweat lodge to purify and cleanse the body. [http://www.cancer.org/docroot/ETO/content/ETO_5_3X_Native_American_Healing.asp](http://www.cancer.org/docroot/ETO/content/ETO_5_3X_Native_American_Healing.asp)

Naturopathic Medicine

Definition: Naturopathy is a whole medical system that has evolved over time in different cultures and parts of the world. Naturopathy is rooted in health care approaches that were popular in Europe, especially in Germany, in the 19th century, but it also includes therapies (both ancient and modern) from other traditions. In naturopathy, the emphasis is on supporting health rather than combating disease. A central belief in naturopathy is that nature has a healing power. Another belief is that living organisms have the power to maintain (or return to) a state of balance and health and heal themselves. Some treatments used are hydrotherapy, gentle exercise, herbal medications, wholesome dietary approaches, and exposure to sun and air. [http://nccam.nih.gov/health/naturopathy/](http://nccam.nih.gov/health/naturopathy/)
Traditional Chinese Medicine

Definition: Traditional Chinese medicine (TCM) is a whole medical system that originated in ancient China and evolved over thousands of years. Underlying the practice of TCM is a unique view of the world and the human body that differs from Western medicine concepts. This view is based on the ancient Chinese perception of humans as microcosms of the larger, surrounding universe—interconnected with nature and subject to its forces. The human body is regarded as an organic entity in which the various organs, tissues, and other parts have interdependent, but distinct, functions. In this view, health and disease relate to a balance of functions. TCM practitioners use herbs, acupuncture, and other methods to treat a wide range of conditions.  
http://nccam.nih.gov/health/whatiscam/chinesemed.htm
**Mind-body Medicine**

**Alexander Technique**

**Definition:** The Alexander Technique was developed by T. Matthias Alexander during the 19th century in England. The Alexander Technique is an educational process that identifies and changes poor and inefficient habits that may be causing stress and fatigue. During a lesson, an Alexander teacher assesses the student’s walking, sitting, lifting and other body movements. The teacher uses touch and verbal cues to guide the student and improve coordination and decrease muscle tension.

[http://www.acatnyc.org/what_is_technique.html](http://www.acatnyc.org/what_is_technique.html)

**Hypnosis**

**Definition:** Hypnosis, also referred to as hypnotherapy or hypnotic suggestion, is a trance-like state of mind. It is usually achieved with the help of a hypnotherapist and is different from everyday awareness. When a person is under hypnosis, attention is focused, and he/she is deeply relaxed and calm, more open to suggestions, and less critical or disbelieving. The purpose of hypnosis is to help an individual gain more control over his/her behavior, emotions or physical well-being. Hypnosis can be used for pain control, smoking cessation, reducing stress related to medical procedures, mental health conditions, allergies, asthma, childbirth, weight loss, athletic performance, dental procedures, coping with chemotherapy, skin conditions, and gastrointestinal problems.


**Meditation**

**Definition:** There are many types of meditation, most of which originated in ancient religious and spiritual traditions. Generally, a person who is meditating uses certain techniques, such as a specific posture, focused attention, and an open attitude toward distractions. Meditation may be practiced for many reasons, such as to increase calmness and physical relaxation, improve psychological balance, cope with illness, or enhance overall wellness.


**Tai Chi**

**Definition:** Tai chi originated in China as a martial art and a means of self defense. Tai chi incorporates the Chinese concepts of yin and yang (opposing forces within the body) and qi (a vital energy or life force). Practicing tai chi is said to support a healthy balance of yin and yang, thereby aiding the flow of qi. People practice tai chi by themselves or in groups. There are many different styles of tai chi, but all styles involve slow, relaxed, graceful movements, each flowing into the next. The body is in constant motion, and posture is important. The names of some of the movements evoke nature (e.g., "Embrace Tiger", “Return to Mountain”). Individuals practicing tai chi must concentrate, put aside distracting thoughts, and breathe in a deep and relaxed, but focused manner.

Biologically-based Practices

Biofeedback

Definition: Biofeedback was first studied in the 1970’s and was originally used by counselors, psychologists, and other mental health professionals. Biofeedback is used to help a person regulate specific body functions. By helping a patient change his or her heart rate, skin temperature, breathing rate, muscle tension and other such activities in the body, biofeedback can reduce stress and muscle tension. Biofeedback can promote relaxation, help correct urinary incontinence, and treat migraines and other types of headaches. Monitoring devices are used to amplify physical processes that are hard to detect without help, such as heart rate, temperature, perspiration, blood flow, brain activity, or muscle tension. This information is then "fed back" in the form of a continuous signal (such as a tone or image readout) to the person. Based on the biofeedback, he/she can adjust his or her thinking, emotional state, or other mental processes to focus on changing the signal and more effectively controlling his or her bodily functions.

http://www.cancer.org/docroot/eto/content/eto_5_3x_biofeedback.asp

Dietary Supplements

Definition: A dietary supplement is a product intended to supplement the diet. It contains one or more dietary ingredients or their constituents (vitamins, minerals, herbs, etc…) and is intended to be taken by mouth as a pill, capsule, tablet, or liquid. Dietary supplement manufacturers make certain claims about the supplement’s effect on the body or the nutrient content of the supplement. People usually take dietary supplements when they believe that they are not getting sufficient dietary ingredients in their normal diet. For example, people take calcium supplements to increase bone health, prevent colon or prostate cancer, prevent kidney stones, or prevent hypertension. Depending on the specific dietary supplement in question, there may or may not be research supporting its medical value.

http://ods.od.nih.gov/health_information/health_information.aspx

Metabolic Therapy

Definition: Metabolic therapy originated in the 1930’s and is based on the belief that toxic substances in food and the environment build up in the body and create chemical imbalances that lead to diseases. Metabolic therapy uses a combination of special diets, enzymes, nutritional supplements, and other measures in an attempt to remove "toxins" from the body and strengthen the body's defenses against disease. Metabolic therapy usually involves natural, whole foods such as fresh fruits and vegetables, as well as vitamins and mineral supplements. Other measures may include colonic irrigation with coffee or hydrogen peroxide enemas, juicing, enzyme supplements, visualization, and stress-reduction exercises.

http://www.cancer.org/docroot/ETO/content/ETO_5_3X_Metabolic_Therapy.asp
Neural Therapy

Definition: Neural therapy is mainly used in Germany. This therapy is based on the belief that energy flows through the body of a healthy person and is disrupted in a sick person. Neural therapy involves the injection of anesthetics (drugs that normally cause numbness or reduce pain) into various places in the body to eliminate pain and cure illness.

http://www.cancer.org/docroot/ETO/content/ETO_5_3X_Neural_Therapy.asp?sitearea=ETO

Systemic Enzyme Therapy/Enzyme Replacement Therapy

Definition: Both plant-derived and pancreatic enzymes are used independently or in combination in enzyme therapy. Plant enzymes are prescribed to enhance the body's vitality by strengthening the digestive system, while pancreatic enzymes may be beneficial to both the digestive system and immune system. As proper digestive functioning is restored, many acute and chronic conditions may also be remedied. Enzyme therapy is used for a variety of ailments, including some common ailments such as headaches, hypertension, and back pain.

http://library.thinkquest.org/24206/enzyme-therapy.html
Manipulative and Body-based Practices

Acupuncture

Definition: Acupuncture originated in China and is a key component of Traditional Chinese Medicine (TCM). In TCM, the body is seen as a delicate balance of two opposing and inseparable forces: yin and yang. Yin represents the cold, slow, or passive principle, while yang represents the hot, excited, or active principle. According to TCM, health is achieved by maintaining the body in a "balanced state;" disease is due to an internal imbalance of yin and yang. The term "acupuncture" describes a family of procedures involving the stimulation of anatomical points on the body using a variety of techniques. The acupuncture technique that has been most often studied scientifically involves penetrating the skin with thin, solid, metallic needles that are manipulated by the hands or by electrical stimulation. People experience acupuncture differently, but most feel no or minimal pain when the needles are inserted. Some people feel energized by acupuncture treatment, while others feel relaxed.  

Chiropractic

Definition: Chiropractic is a health care approach that focuses on the relationship between the body's structure, mainly the spine, and its functioning. A chiropractic adjustment involves using the hands or a device to apply a controlled, sudden force to a joint, moving it beyond its passive range of motion. The goal of chiropractic care is to increase the range and quality of motion in the area being treated and aid in restoring health.  
http://nccam.nih.gov/health/chiropractic/

Craniosacral Therapy

Definition: Craniosacral therapy involves the gentle massage of bones in the skull (including the face and mouth), spine, and pelvis to ease stress in the body and improve physical movement. Craniosacral therapy supporters believe that it alleviates ailments by increasing the flow of cerebrospinal fluid.  
http://www.cancer.org/docroot/ETO/content/ETO_5_3X_Craniosacral_Therapy.asp

Massage Therapy

Definition: The term "massage therapy" encompasses many different techniques. In general, massage therapists press, rub, and otherwise manipulate the muscles and other soft tissues of the body. They most often use their hands and fingers, but may use their forearms, elbows, or feet. People use massage for a variety of health and wellness
purposes, including relieving pain, rehabilitating sports injuries, reducing stress, increasing relaxation, and relief from mental illnesses such anxiety and depression. 

http://nccam.nih.gov/health/massage/

Reflexology

**Definition:** Reflexology is massage of the feet or hands that aims to promote other areas of the body. Modern reflexology is based on the principle that the foot has ‘reflex’ points that correspond to the various structures and organs throughout the body. For example, on the left foot, the tip of the big toe corresponds to the brain’s left hemisphere. During a reflexology session, a practitioner relaxes an individual’s feet with gentle massage, and then works on the reflex points using specific techniques. Supporters of reflexology believe that it can cure a variety of ailments, such as stress, digestive disorders and sleep problems.

**Energy Medicine**

**Electromagnetic Therapy**

**Definition:** Electromagnetic therapy involves the use of energy to diagnose or treat disease. Electromagnetic energy includes electricity, microwaves, radio waves, and infrared rays, as well as electrically generated magnetic fields. Practitioners of electromagnetic therapy claim that when electromagnetic frequencies or energy fields within the body go out of balance, disease and illness occur. They claim that these imbalances disrupt the body's chemical makeup. By applying electromagnetic energy from outside the body, usually with electronic devices, practitioners claim they can correct the imbalances in the body.  
[http://www.cancer.org/docroot/ETO/content/ETO_5_3X_Electromagnetic_Therapy.asp](http://www.cancer.org/docroot/ETO/content/ETO_5_3X_Electromagnetic_Therapy.asp)

**Reiki Healing**

**Definition:** Reiki is a healing practice that originated in Japan. Reiki practitioners place their hands lightly on or just above the person receiving treatment, with the goal of facilitating the person's own healing response. Reiki is based on the idea that there is a universal (or source) energy that supports the body's innate healing abilities. Practitioners seek to access this energy, allowing it to flow to the body and facilitate healing. Although generally practiced as a form of self-care, Reiki healing can be received from someone else and may be offered in a variety of health care settings, including medical offices, hospitals, and clinics. In a Reiki session, the client lies down or sits comfortably, fully clothed. The practitioner's hands are placed lightly on or just above the client's body, palms down, using a series of 12 to 15 different hand positions.  
References


Online Resources

American Cancer Society


This website explains the use of CAM for cancer therapy. Each summary has a description of the strategy, an explanation of how it is used, a description of CAM treatment, the history behind its use, an overview of the evidence supporting the strategy, possible complications, and a list of resources.

Better Health Channel


The Better Health Channel is a website sponsored by the government of Victoria, Australia. Each CAM summary on this site includes an overview, health problems the CAM can treat, an explanation of how the specific CAM is performed, and a description of providers that perform the CAM.

InteliHealth Complementary and Alternative Medicine


This website explains the basics of CAM and provides summaries for several CAM strategies, herbal medicines and supplements.

Mayo Clinic


This website describes several CAM strategies. Enter the name of the strategy in the search engine. Each summary explains why the strategy is performed, the risks involved, how to prepare, what to expect during treatment, and possible results.
National Cancer Institute
http://www.cancer.gov/cancertopics/factsheet/therapy/CAM
This website offers a fact sheet on Complementary and Alternative Medicine in Cancer Treatment in questions and answer format. It is available in both English and Spanish.

National Center for Complementary and Alternative Medicine
http://nccam.nih.gov/
This is the website of the National Center for Complementary and Alternative Medicine (NCCAM), which is part of the NIH. It has a summary of CAM, overviews of several different types of CAM and links to resources and clinical trials. This website also has video clips of CAM practices and video lectures.

NIH Office of Dietary Supplements
http://ods.od.nih.gov/health_information/health_information.aspx
This website provides very detailed information about using dietary supplements and relevant government regulations.