

Introduction to Complementary, Alternative, and Traditional Therapies

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The use of complementary, alternative, and traditional therapies is increasing in the United States, and patients and their families are bringing these practices into the acute care setting. Acute and critical care nurses are in a unique and trusted position to advocate for their patients and to promote safe incorporation of complementary, alternative, and traditional therapies into the plan of care. (*Critical Care Nurse*. 2014;34[6]:50-57)

Complementary and alternative medicine or modalities (CAM) are defined by the National Center for Complementary and Alternative Medicine (NCCAM),¹ National Institutes of Health, as “health care approaches with a history of use or origins outside of mainstream medicine.” Various forms of CAM have been reported for centuries. Use of CAM declined with the appearance of antibiotics in the early 1900s and then regained popularity in the 1970s.² The World Health Organization³ has noted that various forms of CAM have served as the primary health practice in developing countries for years and are expanding worldwide in countries where more conventional medicine is predominant. Numerous social, economic, and political factors have influenced the renewed interest in CAM in the United States.⁴ More than 1800 CAM therapies have been identified that can offer both benefits and risks to the users, so health care providers must have a basic knowledge of these therapies. In this column, I provide an overview of CAM therapies that nurses may encounter in their practices, with specific attention to implications for acute and critical care nurses.

CNE Continuing Nursing Education

This article has been designated for CNE credit. A closed-book, multiple-choice examination follows this article, which tests your knowledge of the following objectives:

1. Distinguish between types of complementary and alternative medicine or modalities
2. Discuss the significance of complementary and alternative medicine use for acute and critical care nurses
3. Identify benefits of nonpharmacologic therapies for critically ill patients

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Background and Significance of CAM

The use of CAM practices, therapies, and products continues to increase exponentially as evidenced by analysis of data from the 2002 and 2007 National Health Interview Surveys conducted by the National Institutes of Health (the most recent years for which data have been analyzed and reported).⁵ Nearly 40% of adults and 12% of children reported use of CAM.⁶ Adults reported spending nearly \$34 billion out of pocket on visits to CAM practitioners and purchase of CAM products, classes, and materials.⁷ The most dramatic growth occurred in provider-based therapies, such as chiropractic care (14.5% increase; $P < .01$), massage (67.2% increase; $P < .01$), acupuncture (35.8% increase; $P < .01$), and folk medicine (208.3% increase; $P < .01$). Non-provider-based CAM therapies, such as relaxation techniques, yoga, *t'ai chi*, and *qigong*, also had a statistically significant increase in growth ($P < .01$) during the 5-year span. Data from the 2012 National Health Interview Survey have not been fully analyzed and reported yet, but a preliminary report⁸ suggests that nonvitamin, nonmineral dietary supplements; chiropractic or osteopathic manipulation; yoga; and massage therapy were the most common complementary health approaches used.

According to both the 2002 and 2007 surveys, use of CAM was more likely when access to conventional care was restricted, care had been delayed due to cost, or medical care needs continued to be unmet ($P < .01$).⁵ Data from the 2001 Health Care Quality Survey suggested that individuals who experienced unmet medical needs and discrimination based on ability to pay, ability to speak English, racial or ethnic background, and sex were statistically significantly more likely than other individuals to use CAM ($P < .01$).⁹ Health care workers were more likely than the general population to use all forms of CAM ($P < .01$).¹⁰

Despite the use of CAM by health care workers, nearly two-thirds of the users have reported not discussing their use of CAM with their physicians.^{5,11} More recent studies¹²

have indicated variable change in those disclosure rates; for instance, in cross-sectional surveys of pregnant women, disclosure rates of CAM use increased from less than 1% in 2006 to 50% in 2013. Disclosure rates in the United Kingdom are 20% to 40%.^{13,14} A systematic review¹⁵ of disclosure of CAM use by cancer patients and patient-doctor communication about CAM use revealed that 20% to 77% of the patients did not disclose that they used CAM. The main reasons given for lack of disclosure included the physician's lack of inquiry; the patient's anticipation of the physician's disapproval, disinterest, or inability to help; and the patient's perception that disclosure of

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CAM use is irrelevant to conventional care.^{13,15} Disclosure seems to be particularly lower among African Americans, Latinos, and Asian Americans than among non-Latino whites ($P < .05$), most likely related to differences in access to and quality of conventional care.¹⁶

The lack of disclosure of CAM use is concerning for several reasons. Herbal and dietary supplements may cause adverse interactions with prescription medications, and use of the supplements may result in unanticipated adverse consequences, such as hypertension, hypoglycemia, and hemorrhage.^{17,18} Acute and critical care nurses are in a unique and trusted position to advocate for their patients. Basic knowledge of CAM may facilitate nurses' communication with patients and patients' family members about the patients' CAM practices, support culturally sensitive and competent care, and promote safety by helping CAM users make informed decisions.

Definitions and Categories of CAM Therapies

Although NCCAM generally applies the term *complementary health approaches* to a broad spectrum of practices, distinctions exist among the various approaches^{1,2}:

- Complementary: use of a nonmainstream approach together with conventional medicine
- Alternative: use of a nonmainstream approach in place of conventional medicine
- Traditional: cultural healing systems that have persisted for thousands of years
- Integrative: integration of nonmainstream practices into conventional medical treatment and health promotion

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NCCAM identifies 2 broad subgroups of therapies—natural products and mind-and-body practices—classified into the following 5 categories, with many individual therapies crossing categories: biologically based therapies, mind-body therapies, manipulative and body-based therapies, energy therapies, and systems of care.^{1,19} The following material is a brief description of each category; examples and potential risks^{13,17,20-25} are summarized in the Table.

Biologically Based Therapies

Biologically based therapies use substances typically found in nature and include herbs and essential oils, special diets (eg, Ayurveda, hot-cold balance), nutritional and food supplements, and other products such as cartilage. According to NCCAM, these therapies are the most popular of the complementary therapies; nearly 18% of adults have reported use of so-called natural, nonvitamin,

Biologically based therapies are the most popular of the complementary therapies; about 18% of adults have reported use of natural, nonvitamin, nonmineral products.

nonmineral products.⁶ These products may be consumed,

applied topically, or inhaled. NCCAM¹ notes that although some of these products have been well studied, many have not had anticipated effects, and research into the safety and efficacy of supplements is ongoing. Such products may be disruptive to normal physiological processes, such as coagulation and glucose regulation, and interactions with conventional medications may produce devastating effects, as noted in the Table.

Mind-Body Therapies

Interventions that use a variety of techniques to enhance the mind's ability to affect body functions and symptoms are known as mind-body therapies (or mind-body-spirit therapies, from a holistic perspective). These therapies are among the most widely used category of CAM¹ and include guided imagery, visualization, progressive muscle relaxation, meditation, prayer, music therapy, light therapy, art therapy, journaling, storytelling, biofeedback, hypnosis, humor, animal-assisted therapy, *t'ai chi*, *qigong*, and yoga.

Manipulative and Body-Based Therapies

Therapies that apply pressure to, manipulate, or move 1 or more body parts are known as manipulative

or body-based therapies. Examples include chiropractic medicine, osteopathic manipulative medicine, movement therapy, massage, and other body work, such as rolfing (a form of soft-tissue manipulation). Practitioners of these therapies may be licensed or certified and have received more extensive education and training than have practitioners of other therapies. The practices may often be regulated, as well; credentialing of practitioners is established by local and state governments and professional organizations. No standardized national system for credentialing complementary health practitioners currently exists in the United States.²⁶ Some concerns about manipulative therapies include delay or avoidance in seeking conventional care and aggravation of existing conditions.¹³

Energy Therapies

Energy therapies focus on the electromagnetic and biofield energies that are thought to originate in or near the body and on energy from other sources. These esoteric therapies may modify, manipulate, enhance, or simply support the energy fields.¹⁹ Veritable energy fields, which are measurable, involve use of magnet or light therapy.²⁰ Putative energy therapies are not yet measurable and are based on the concept that humans (and, some think, animals, plants, and inanimate objects) are infused with subtle forms of energy that connect everything.^{20,21} The energy is called by various names, such as *ki* by the Japanese, *prana* by the Hindus, *qi* or *chi* by the Chinese, and *oki*, *orenda*, or *ton* by Native Americans.²¹ Energy therapies may include healing touch, therapeutic touch, Reiki, acupuncture or acupressure, and reflexology.²⁰ Concerns with some of the energy therapies include inaccurate diagnoses of conditions by practitioners and safety issues associated with the manipulative therapies.¹³

Systems of Care

Some practices do not fit into the other categories and have evolved from cultural and spiritual traditions, such as Ayurvedic medicine, traditional Chinese medicine, folk medicine, homeopathy, and naturopathy. These practices encompass whole systems of care built on theory and practices that evolved earlier than and apart from more conventional Western medicine. Some cultural healing systems, such as Hmong, Samoan, Somali, Latin American, and Native American, have persisted for centuries.^{19,20}

Table Common examples, uses, and potential safety concerns of selected complementary, alternative, and traditional therapies

Therapy	Examples	Uses	Potential safety concerns
Biologically based therapies	Black cohosh	Hormonal balance	May potentiate hormone replacement therapy
	Echinacea	Colds	Liver damage, interference with immunosuppressants
	Garlic	Infection, hypertension, hyperlipidemias	Bleeding, hypoglycemia, interference with antihypertensives
	<i>Ginkgo biloba</i>	Attention and memory	Increased bleeding, decreased effectiveness of anticonvulsants
	Ginseng	Mood stabilization	Potentiated side effects of oral contraceptives, extreme mood swings, resistance to loop diuretics, reduces effect of warfarin
	Licorice	Respiratory and gastrointestinal conditions	Depletes potassium, interferes with glucose and thyroid regulation, potentiates effects of corticosteroids
	Ma huang (ephedra)	Allergies, respiratory conditions, weight loss	Hypertension, arrhythmias, glucose regulation
	St John's wort	Depression	Interferes with anticonvulsants, prolongs effect of anesthesia, severe agitation and confusion, decreased prothrombin time
Mind-body therapies	Valerian	Insomnia, muscle pain, menstrual cramps	Extreme sedation, prolonged effect of anesthesia
	Biofeedback	Trained awareness of physiological functions by using sensors	Considered safe
	Hypnotherapy	Produces altered state of consciousness	May aggravate mental illnesses
	<i>Qigong/t'ai chi</i>	Both forms of integrated physical postures, breathing techniques, and focused intention	Can be overdone, causing soreness, and aggravating preexisting physical conditions
Manipulative and body-based therapies	Yoga	Various traditions involving postures and breath control	Can be overdone, certain postures not recommended for various conditions
	Alexander technique/Feldenkrais method/Trager psychophysical movement	Forms of movement education and mind-body movement, integration, teaches individuals efficiency of somatic awareness, relaxation	People may stop taking prescribed medications
	Chiropractic medicine	Spinal manipulation, may also include topical and ingested supplements	Syncope, numbness/tingling after manipulation, cerebrovascular events, people may stop taking prescribed medications
	Osteopathic manipulative medicine	Manipulation of spine, joints, and soft tissue	Relatively safe but reports of aggravation of underlying conditions/symptoms
	Rolfing/structural integration	Hands-on manipulation of deep connective tissue	Should be avoided by those with bleeding, connective tissue, and bone disorders

Continued

Table *Continued*

Therapy	Examples	Uses	Potential safety concerns
Energy therapies	Acupuncture, acupressure, shiatsu	Stimulation of specific body points by using small needles or the fingers	Risk of injury of skin or nerves, infection
	Magnet therapy	Application or wearing of magnets	Unproven, may be unsafe for those with pacemakers or insulin pumps
	Reflexology	Application of pressure to specific points and areas on the feet, hands, or ears	Generally safe
	Healing touch, therapeutic touch, Reiki	Various forms of gentle, non-manipulative light touch or slightly hands-off the body	No known contraindications or safety issues
Systems of care	Ayurveda—from India, world's oldest medical system	Balancing cooking, timing, and consumption foods, use of herbal compounds, behavioral routines	Contamination and toxic effects associated with some herbal compounds
	Hmong	Use cupping (creating suction) and coining (rubbing coin over skin)	Inflammation, bleeding
	Homeopathy	Dilute substances tailored for specific patient, regulated by the Food and Drug Administration	Products may contain substantial active ingredients, alcohol, and heavy metals
	Naturopathy	Combination of nutrition, herbal medicine, homeopathy, hydrotherapy, and lifestyle adjustment	Same concerns with herbal remedies and other unconventional practices
	Traditional Chinese medicine	In addition to herbs and acupuncture, use moxibustion ("burning of mugwort")	Burns, skin inflammation

Implications for Acute and Critical Care Nurses

The significance of CAM awareness for acute and critical care nurses cannot be overemphasized. The demographics of acute and critical care patients are rapidly changing because of increased immigration and life expectancy. Cultural beliefs about health and illness may delay access to conventional care and decrease medical adherence, often with catastrophic results.²⁷ For instance, Asian and Latino immigrants often see illness as the result of imbalances in various energies and may seek the advice of folk healers and use the immigrants' traditional methods for restoring balance as a first resort, thus delaying potentially lifesaving interventions.^{28,29}

Use of CAM is reportedly increasing among elderly persons, including concomitant use of herbal supplements with conventional medications.³⁰ Adverse reactions due to polypharmacy, increased sensitivity to some medications, and decreased organ function for medication processing and clearance may be of greater concern to the

elderly than to younger persons. Compared with younger and stronger patients, older and frailer patients admitted to the intensive care unit experience higher rates of mortality and morbidity, affecting quality of life and placing a greater burden on resources.^{31,32}

The overall increased use of CAM by patients who may think that these therapies are safe and who have little understanding of the potential adverse effects place these patients at increased risk for admission to an intensive care unit.¹³ Examples of these effects (see the Table) include acute tubular necrosis (some traditional Chinese and Ayurvedic herbal medicines), severe hemorrhage (*Ginkgo biloba*, garlic, ginger), hypertensive crisis and cardiac arrhythmias (ginseng, yohimbe, ephedra), severe electrolyte disturbances (licorice), and cerebrovascular events (spinal manipulation, particularly when performed by nonlicensed practitioners).

Although patients may be admitted to an acute care unit because of the adverse effects of CAM, these therapies may also be safely incorporated to provide comfort

and enhance care. Critical illness and injury are disruptive to families. Families of critically ill patients have identified specific needs, such as shared decision making and the recognition of and respect for cultural norms and patients' preferences.^{33,34} The critical care environment is often chaotic, adding to the stress and anxiety patients and patients' families experience. The inclusion of CAM, particularly therapies already practiced by a patient and the patient's family, may contribute to a healing environment. Nonpharmacological CAM therapies, such as music, guided imagery, massage, and animal-assisted therapy, may help decrease unpleasant signs and symptoms and promote healing. Such therapies can ameliorate the adverse experience of critical illness in countless ways: improved sleep; decreased anxiety and discomfort; lowered heart rate, respiratory rate, and blood pressure; decreased levels of stress hormones; immune system stimulation; normalized intestinal motility; and reduced need for analgesics and sedatives.^{35,36} In patients with life-threatening illness for whom conventional care may have been unsuccessful or escalation of care may be deemed too risky or no longer beneficial, CAM therapies may be considered to enhance the patients' comfort.³⁷

The goal of CAM therapies is not to replace modern medicine, as the term might suggest. Rather, CAM may be integrated as an adjunct to conventional medical practices.³⁸ More acute and critical care nurses have reported that they use various forms of CAM in their own self-care to decrease stress and enhance health and well-being.³⁹ Many nurses have reported becoming practitioners of these therapies to expand their own strategies to provide holistic care to patients and families.³⁸ More recent studies conducted in the United States,⁴⁰ Australia,⁴¹ Hong Kong,⁴² and Scotland⁴³ have had similar findings. Despite the availability of information, the majority of critical care nurses responding to a survey reported limited training in or knowledge of numerous CAM therapies.⁴⁴ Of particular concern is the respondents' relatively limited knowledge of CAM therapies that could potentially cause serious adverse effects, such as herbal and traditional Chinese medicines.

Nurses need to be aware of the legal and ethical aspects of incorporating CAM into the plan of care, whether provided by a licensed or certified professional or a nonlicensed practitioner.⁴⁵ Various CAM therapies, particularly those that are biologically based or potentially disruptive to tissue, may interfere with conventional medicine, resulting in serious adverse effects for patients who

are already physiologically compromised.^{13,21-24} For more information, the NCCAM website (<http://nccam.nih.gov/>) provides a wealth of resources for health professionals and consumers to promote safe incorporation of CAM into the plan of care, including how to talk to patients and patients' families about their practices.

Incorporation of CAM therapies may be more challenging in the critical care setting because of constraints such as limited space, presence of biomedical equipment and monitoring devices, and frequent interventions. A patient's physiological stability is also of concern. Caring is at the heart of healing, and nurses are skilled at combining scientific evidence with caring practices to meet the unique needs

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of complex, vulnerable, critically ill patients and the patients' families. Through awareness, acceptance, collaboration, and creativity, acute and critical care nurses can create a safe and comfortable setting for patients and patients' families. Open communication, including acknowledgment of the beliefs and preferences of a patient and the patient's family members, can enhance partnerships necessary to promote a healing environment. Resources such as those provided by NCCAM can help nurses expand their awareness and knowledge of CAM therapies. **CCN**

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None reported.



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To learn more about complementary therapies in the critical care setting, read "Use of Complementary and Alternative Therapies: A National Survey of Critical Care Nurses" by Tracy et al in the *American Journal of Critical Care*, September 2005;14:404-415. Available at www.ajconline.org.

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