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Complementary and Alternative Medicine: Why hasn't the Science Kept Up with the Demand?

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From 1999 to 2010, the National Institute of Health Center for Complementary and Alternative Medicine (NCCAM) had an increase in their budget allocation for research; however, the allocation in 2010 ($128.8 million) declined over the past 3 years; fiscal year (FY) 2011 budget was $127.7 million, FY 2012 budget was $128.0 million and FY 2013 budget was $120.7 million (http://nccam.nih.gov/about/budget/appropriations.htm). This is odd and unfortunate because the prevalence of people using complementary and alternative medicine (CAM) has increased over these years. Complementary medicine, as defined by NCCAM, generally refers to a non-mainstream approach given together with conventional medicine while alternative medicine is a non-mainstream approach used in place of conventional medicine [1]. Conventional (western or allopathic) is medicine using modalities commonly learned in conventional training, by holders of a medical degree, doctor of osteopathic medical degree, and by allied health professionals such as physical therapists, psychologists and registered nurses [1]. Most people use non-mainstream approaches with conventional medicine and so NCCAM currently uses the term "complementary health approaches" to describe these practices and products, which fall into two subgroups: natural products (e.g., herbs, botanicals, vitamins, minerals, some dietary supplements, probiotics) and mind and body practices (e.g., meditation, yoga, acupuncture, deep-breathing exercises, guided imagery, hypnotherapy, progressive relaxation, qi gong, tai chi, movement therapy, manipulation and massage therapy) [1]. Mind-body medicine is practiced to direct the mind to affect the physical functioning of the body; this occurs by the interactions of the brain, mind, body and behavior through techniques that promote calmness and relaxation, breathing, open attitudes toward distractions and often specific physical postures. Manipulative and body-based practices focus primarily on the bones and joints, soft tissues and the circulatory and lymphatic system whereas movement therapies like the Feldenkrais method, Alexander technique, Pilates, Rolfing structural integration, and Trager psychophysical integration use movement-based approaches to promote physical, mental, emotional and spiritual well-being. Traditional healers use methods of healing that have been handed down over many generations and which incorporate whole medical systems and complete systems of theory and practice. Included in this category are Ayurvedic medicine, traditional Chinese medicine, homeopathy, naturopathy, and energy practices (e.g., magnet therapy, light therapy, qi gong, Reiki, and healingtouch).

As stated previously, CAM usage is on the rise. For example, Eisenberg et al. [2] found that in 1997, 42.1% of the United States population had used at least one alternative therapy in the previous 12 months; this was an increase from 33.8% in 1990. According to the National Health Interview Survey (NHIS), one-third of adults had used some form of CAM in 2002; the usage increased to 40% in 2007 [3]. The most common types of CAM therapies used included nonvitamin, nonmineral, natural products (17.7%), deep breathing exercises (12.7%), meditation (9.4%), chiropractic or osteopathic manipulation (8.6%), massage (8.3%), and yoga (6.1%) [3]. The therapies that have increased the most over the years were herbal medicine, massage, self-help groups, megavitamins, folk remedies, energy healing, homeopathy, deep breathing exercises, meditation, and yoga [2,4]. Most survey data reveal that patients use CAM frequently for chronic conditions such as back problems, anxiety, depression, and headaches [2,3]. The NHIS surveys, taken in 2002 and 2007, found that CAM use was more prevalent in women (45% and 42.8% respectively). The survey results also revealed that CAM usage is more common in adults (30-69 years) with a higher education level, income, and who lived in the western part of the United States; most were current smokers and were hospitalized within the last year [2,4]. Cross-sectional and longitudinal cohort studies reported that the prevalence of CAM usage in menopausal women was 45-91% [5-8]; the types of CAM used included yoga, meditation, and herbal therapies for relief of menopausal symptoms. Gollschewski et al. [9] published results from a focus group of 15 women concluding that women were using CAM during menopause to address their current symptoms, specifically hot flashes, and to promote long-term health and well-being [9].

In a survey of 423 Canadian menopausal-aged women, 91% were using CAM therapies for menopausal symptom relief; the most common treatments being vitamins (61.5%), relaxation techniques (57%), yoga/meditation (37.6%), soy products (37.4%), and prayer (35.7%) [6]. Newton et al. [5], reported that 76.1% of women used CAM therapies for stress management (43.1%) or to manage menopause symptoms (22%); 37.0% were using over-the-counter remedies, 36.1% were using chiropractic therapies, 29.5% were using massage therapy, 22.9% were using dietary soy, 10.4% were using acupuncture, 9.4% were seeking naturopaths or homeopaths, and 4.6% seeking herbalists for treatment. The Study of Women's Health Across the Nation (SWAN), a prospective cohort study following 3,302 menopausal women from five ethnic groups at seven clinical sites nation-wide, has reported that approximately 80% of women in this cohort used some form of CAM during the 6-year time period [8]. Regarding ethnicity, the highest users of CAM (60%) were either White or Japanese women, followed by Chinese (46%), African American (40%), and Hispanic (20%) [8].

The National Center for Complementary and Alternative Medicine's "areas of special interest"include (1) CAM interventions used frequently by the American public, (2) on the conditions for which they are most frequently used and will fund investigations assessing the impact of CAM modalities in alleviating chronic pain syndromes and

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inflammatory processes, and improving health and wellness (http://nccam.nih.gov/grants/priorities#siareas). Even with this focus, there is a dearth of well-designed research in this area and, of the studies conducted, the knowledge about their efficacy and mechanism of action is not clear. For menopause symptom relief, many of the studies examined the efficacy of phytoestrogens and other biologicals to improve menopausal vasomotor symptoms, lipid profiles and bone mineral density but the results were mixed [10-12]. In addition, many of the CAM interventions are very difficult to adequately mask. For instance, a valid "sham" massage or acupuncture that exactly mimics the active treatment does not exist. Thus, the research in CAM is more complicated than simply giving participants an active pill versus a placebo pill. More money needs to be allocated for research in this area because most of the studies suggest a benefit for certain CAM therapies [1,10-12]. Also, in a survey of 400 independent chain and community pharmacists, 94% of them agreed that many alternative products could benefit patients [13] and 63% of the community pharmacists surveyed stated that they were regularly asked about alternative products. With the emphasis on preventative care through the Affordable Care Act, cost-effective alternatives should be examined and tested for therapeutic efficacy. Also, considering that a majority of our patient population is moving more towards the use of alternative therapies, it is imperative that we keep up with the demand to ensure their health and safety. So why not give alternatives a try? When we can adequately address the safety and effectiveness of CAM modalities, the health of the public will be enhanced.

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