CAM in the United States Military

Too Little of a Good Thing?

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Complementary and Alternative Medicine (CAM) covers a heterogeneous spectrum of ancient to new-age approaches that purport to prevent or treat disease. By definition, CAM practices are not part of conventional western-style medicine because there is a perception of insufficient proof that they are safe and effective or because they are not taught in conventional medical and nursing schools. Complementary interventions are typically used together with conventional western-style treatments, whereas alternative interventions are used instead of conventional approaches. When combined with conventional practices they are often labeled Integrative Medicine (IM).

Many people in the United States (US) use CAM and IM modalities[1–7] and its use is increasing.[2] In 1990, a national survey estimated that 33.8% of US adults used CAM modalities in the previous year,[7] which increased to 42.1% in 1997[3] and 62% in the 2002 National Health Interview Survey (NHIS).[1] These surveys included spiritual healing and "folk" medicine (remedies common, ethnically derived remedies used at home), in the CAM modality definition. Recently published results of the 2007 NHIS used a different CAM modality taxonomy and excluded these practices.[2,8,9] When prayer specifically for health reasons was excluded, the 2002 and 2007 NHIS found 36% and 38.3%, respectively, of US adults reported using some form of CAM modality in the last 12 months.[1,2]

These national surveys only include civilian, noninstitutionalized individuals; they do not include our 1.8 million active duty military personnel and families.

In the last 10 years, there has been an increase in interest and use of CAM modalities and IM in the military.[9] This important segment of the US population receives health care from both military and civilian practitioners; and is subject to similar health risks as civilians plus additional physical, emotional, and cognitive stress of deployment with associated family separations for both the active duty member and families, and the consequences of combat.[10,11] It would not be unexpected for military personnel to seek to improve their health through complementary practitioners, potentially at a greater extent due to health and performance expectations,[10] and for the same reasons reported by civilians.[1,2,11,12]

This interest in CAM has been accelerated by the surge of chronic pain, chronic stress, and chronic symptoms associated with trauma and injuries from over a decade of wars in Iraq and Afghanistan.[13] However, until recently there were little data to determine which CAM modalities are being used, how often, by whom, and for what purposes. Recently, these informational gaps are being filled in and the current picture is summarized below.

USE OF CAM IN THE MILITARY

The use of CAM in the military is higher than in the civilian population. Samueli Institute and Research Triangle International conducted the largest and most comprehensive survey of CAM use in over 16,000 active duty service members in all branches stationed both in the United States and overseas.[14] Data were drawn from the 2005 Department of Defense (DoD) Survey of Health Related Behaviors among Active Duty Military Personnel, which draws on a worldwide, random sample of over 40,000 service members from all branches, sexes, races, and ranks.[15] It asked about overall CAM use and 19 specific CAM therapies using a methodology that closely matched the NHIS used by the National Center for Complementary and Alternative Medicine.[16]

This military survey showed that approximately 45% of active duty military personnel reported using at least 1 CAM type in the previous 12 months. CAM use when not counting self-prayer was approximately 36%. The 8 most frequently reported CAM approaches included 4 *mind body therapies* (prayer for your own health: 24.4%; relaxation techniques: 10.8%; art/music therapy: 7.7%; exercise/movement therapy: 6.8%), 2 *biologically based therapies* (herbal medicine: 8.9%; high-dose megavitamins: 8.4%), and 2 *manipulative and body-based methods* (massage therapy: 14.1%; chiropractic: 5.2%). Eleven CAM types were used by < 5.0% of respondents and 6 types were used

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by < 1% of personnel. When both surveys were adjusted for the 2000 census bureau demographics, CAM use by military personnel was significantly higher than that of the general population (44.5% vs. 36.0% and 38.3% in the 2 NHIS surveys, respectively, $P < 0.001$). Significantly more military personnel reported use of energy healing, guided imagery therapy, massage therapy, hypnosis, and relaxation techniques than civilians in both NHIS surveys ($P < 0.001$) with more reported use of "folk" remedies, high-dose megavitamins, and spiritual healing by others than the 2002 NHIS survey ($P < 0.001$) and more frequent use of biofeedback than the 2002 NHIS and 2007 NHIS surveys ($P < 0.001$ and $P < 0.01$, respectively). There were no statistical differences in reported use of acupuncture and homeopathy.

Overall, the prevalence of CAM use in this study was consistent with smaller military surveys where 49.6% CAM use was reported by military veterans in the Southwestern United States,[17] and with 37.2% use of 12 CAM modalities (excluding prayer) in US Navy and Marine Corps personnel.[18] The vast majority of CAM health care occurs outside the military health system, some of it provided by TRICARE, the military's health insurance program. However, as in the civilian population, most CAM is paid for out of pocket by military personnel as TRICARE covers very few CAM modalities. Massage therapy, used by 14% or an estimated 137,000 personnel, is not a covered benefit, whereas biofeedback (for certain conditions) is covered. Chiropractic is the only CAM modality that is currently included in a systematic manner in the military health system; however, access to chiropractic practitioners is limited. In 2005, 54% of active duty personnel resided in areas served by chiropractic clinics, and the remaining 46% were not served by clinics because of living overseas (14%), in remote areas (5%), or in US installations without chiropractic clinics (28%).[19] Herbal medicines and high-dose vitamins also are not covered by military health care. However, many military installations include a General Nutrition Center store on the premises where these products readily are available.

Three CAM modalities (yoga, massage, and imagery), which are commonly used for stress management were used by military populations at an estimated 2.5–7 times the rate of civilians. The fact that military members and their families are seeking and personally paying for these therapies outside both direct military care system and the TRICARE System may reflect access problems in Military Treatment Facilities (MTF), a preference for CAM/IM over traditional modalities (ie, not turning away from traditional medicine but rather turning toward and preferring CAM/IM), growing concern about the results of traditional pharmacologically based treatments, and an increasing interest in and need for appropriate access to CAM modalities within the military health system to decrease symptoms and improve function for military members suffering from the "wounds of war." Unmonitored and uninformed use of CAM modalities in the military may have negative consequences on health and military performance. A number of large randomized, placebo controlled trials of herbal treatments[20–22] and acupuncture[7,23,24] have been negative, making the substitution of these CAM modalities for proven therapies risky. In addition, some CAM therapies, particularly herbal supplements, have been associated with potential harm through toxicity and herb/pharmaceutical interactions.[25,26] Herbal medicines and nutrients in doses well above the Dietary Reference Intakes[27] are 2 of the CAM modalities most commonly used by military personnel. With 45% of the over 1million active duty personnel reportedly using CAM modalities, and a steady increase globally, it is important to understand why military personnel are using CAM, the role these therapies should play in their health care, and for military health care providers to recognize, monitor, and integrate CAM modalities into their health care practices.

OFFERINGS OF CAM IN MTF

Two recent surveys have assessed the use of CAM across DoD medical facilities and evaluated their reported effects and attitudes by health care leaders in military MTFs. The first is in a report entitled "Integrative medicine in the military health system report to congress" by the DoD Undersecretary of Personnel and Readiness (P&R).[28] In this survey, 29% (120) of 421 MTFs reported offering a total of 275 CAM programs including 213,515 CAM patient visits in calendar year 2012 for active duty members. The most visits were for chiropractic care (73%) and acupuncture therapy (11%). The report states that, of those doing evaluation of CAM they have found: (1) patients reporting a reduction in anxiety levels and improved sleep with meditation; (2) breath-based practices reportedly helped patients to remain sober and reduced overall stress levels; (3) patients using massage therapy noted 75% improvement of symptoms, including pain; and, (4) overall positive outcomes were reported by 50%–90% of patients using massage therapy. The Report also states that patients practicing yoga had declines in psychological symptoms and improvement in overall health. Over 30 research projects have been funded by DoD and have reported improvements in symptoms and sleep, reduction in anxiety and psychological symptoms across a number of CAM practices being used. The Report concluded that: "There is wide-spread use of CAM therapies across the [Military Health System] MHS. Providers and patients were interested in using CAM therapies even though many are not evidence-based. Some providers have added CAM therapies as an adjunct to conventional therapies for a holistic approach to patient management."

The second survey, completed by Samueli Institute did a more in-depth survey of CAM availability across a more limited sample of both MTFs and morale, welfare, and recreation (MWRs) centers. The study examined the CAM services offered during the year 2013 in 47 DoD MTFs, and MWRs locations across all military service branches.[29] Information was collected on the prevalence of CAM modalities provided; the attitudes and beliefs towards CAM among the leadership in the different facilities; the obstacles and barriers to access in military facilities; the funding sources for CAM offered at military facilities; and, whether CAM is part of the strategic plan for the future of health care delivery. In addition, information was collected on the provision of CAM treatments for highly prevalent conditions in military personnel (pain, combat-related stress, and rehabilitation), how beneficial

medical leaders thought CAM was, and how practitioners were accredited to practice CAM modalities.

The results of this survey showed that 30 (70%) of the 47 facilities surveyed provided some type of CAM service with most being provided for active duty service members (70%), followed by family members (43%) and retirees (36%). Less than 9% of the participants reported providing CAM services to federal employees, contractors, or members in the community. Overall, acupuncture and chiropractic were among the top 3 most prevalent practices followed by yoga and massage. For pain management the primary CAM modalities were acupuncture (36.2%), chiropractic or osteopathic medicine (27.7%), and breathing exercises (25.5%). For stress and stress-related conditions, the top modalities were acupuncture (25.5%), breathing exercises (21.3%), and biofeedback (17%). For wellness and fitness, offerings included weight management, diet-based therapies, and movement practices.

In this Samueli Institute survey, 57% of medical leaders felt that CAM practices were either beneficial (40%) or highly beneficial (17%) with 40% being neutral on the benefit and 3.3% feeling CAM practices were not beneficial. Despite this generally favorable response, over 75% had no provision or guidelines for CAM use in their strategic plans. Still, 46% funded CAM services out of their general budget, with 12% receiving money from the Office of the Army Surgeon General, 8% receiving congressional money, and 4% private money for CAM. Only 10% reported any research or evaluation of CAM going on in their facility.

This survey also examined the challenges to improving access to these practices. Although the majority of leadership responses (57%) rated CAM modalities as highly favorable or favorable, the identified obstacles and barriers for access to CAM in military facilities included (in order of frequency): (1) inadequate space to provide services; (2) patients do not know to ask for CAM; (3) CAM costs too much; (4) CAM is too time consuming; and (5) CAM does not contribute to workload coverage. The prevalence of CAM practices provided by MTFs and MWR across DoD shows 75% availability within MTFs, and 33% within MWR facilities and programs. There were no appreciable differences in availability of CAM across military branches.

MINDING THE GAP: ALIGNING PATIENTS, PRACTICE, AND POLICY

In the report to Congress by DoD P&R, it was recommended to evaluate CAM programs for safety and effectiveness, as well as cost-effectiveness and consider widespread implementation in the military health system if cost-effective. The criteria for how to do this are specified. Part 199 of Title 32, CFR, governs TRICARE benefits and restricts services to those medically necessary drugs, devices, treatments, or procedures for which safety and efficacy have been proven to be comparable or superior to established therapies. Established criteria state that unproven drugs, devices, treatments, or procedures may not be covered: (1) unless reliable evidence shows that any medical treatment or procedure has undergone well-controlled clinical studies that show maximum tolerated dose, toxicity, safety, or efficacy compared with standard treatment or diagnosis; (2) if the available reliable evidence is considered inadequate by experts who recommend further studies or clinical trials are needed. The criteria for making a determination of proven safe and effective to nationally accepted medical standards are evidence that comes from: (1) well-controlled studies of clinically meaningful endpoints published in referred medical literature; (2) published formal technology assessments; (3) published reports of national professional medical associations; and (4) published reports of national expert opinion organizations.

However, these guidelines and criteria and not being applied appropriately to CAM modalities. Biofeedback is the only CAM practice currently covered under TRICARE guidelines, and TRICARE only covers biofeedback therapy for nerve injury, not stress management. The 2 most widely used CAM modalities (chiropractic and acupuncture) are excluded in Title 32 CFR section 199.4 (g) even though neither has been evaluated using TRICARE guidelines. In other words, none of the CAM modalities (with the possible exception of biofeedback) have been evaluated by the DoD or TRICARE using their own guidelines for determining which practices should be covered. Despite this, TRICARE declines to pay for acupuncture but will pay for biofeedback. Chiropractic (which also has not been evaluated by TRICARE guidelines) is provided to DoD beneficiates through MTFs but not through TRICARE. Chiropractic is currently being implemented across DoD even though research on the effectiveness of chiropractic in the DoD is only recently underway because of a Congressional mandate and special appropriation.[30] Acupuncture is both widely accepted and used in the DoD and currently the Defense and Veteran's Pain Task Force is training medical practitioners in "Battlefield Acupuncture" (BA). BA is a specific auricular acupuncture protocol developed by Col (Ret) Richard Niemtzow, an Air Force physician, seeking to add a simple nonpharmacological pain management technique that could be used by a broad array of first responders and primary care providers to help reduce pain, reduce medication load, and improve function.[31] Acupuncture has been shown to be superior to conventional therapy for several chronic conditions prevalent in the military, and has also been shown not to be due only to placebo effects.[32] Samueli Institute has performed a comprehensive systematic review of acupuncture for the Trauma Spectrum Response, an important collection of comorbidities often experienced by service members after deployment.[33] Recently, a comprehensive review of self-care CAM modalities for pain has been published in a special issue of *Pain Medicine* in which reasonable evidence for use of yoga, tai chi, and music were found for the treatment of pain.[34] These areas are ripe for evaluation by the military and TRICARE Systems for possible inclusion into the array of services provided.

CONCLUSIONS

Over a decade of war has left hundreds of thousands of our service members and their families suffering from a

range of psychological and physical injuries, many leading to or exacerbating chronic pain. They and their health care providers have surged ahead in seeking out drug-free and self-care healing practices to help them recover and return to wholeness in peacetime. The availability of efficacious CAM modalities adds needed access to a cadre of promising services and practices that promote healing and improved function with less medication and fewer unwanted side effects. However, DoD policy and priorities have not kept up with this surge, leaving the majority of active duty service members, veterans, and their families to fend for themselves, to pay for or go without the beneficial effects of CAM and IM practices. As stated in the DoD P&R report to Congress, "At this time, there are insufficient internal evaluations and reported results to determine whether the CAM programs being provided in the MTFs meet these [TRICARE] criteria." It is time for the DoD to step up their efforts to complete these evaluations and ensure that "sufficient evaluation" occurs in a more timely manner. Our long-suffering heroes deserve nothing less!

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