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Use of Complementary and Alternative Medicine in a Large Sample of Anxiety Patients

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Abstract

Objective—To examine a large sample of patients with anxiety and the association between types of complementary and alternative treatments that were used, demographic variables, diagnostic categories, and treatment outcomes.

Method—Cross-sectional and longitudinal survey during the Coordinated Anxiety Learning and Management (CALM) study that assessed this intervention against the Usual Care in a sample of patients with anxiety recruited from primary care. Interviewer-administered questionnaires via a centralized telephone survey by blinded assessment raters. The interviews were done at baseline, 6, 12, and 18 months of the study. A total of 1004 adults ages 18–75 who met DSM-IV criteria for Generalized Anxiety Disorder (GAD), Panic Disorder, Social Anxiety Disorder, or Post-Traumatic Stress Disorder. We assessed medication/herbal use, the use of any alternative therapies, and combined Complementary and Alternative Medicine (CAM) use.

Results—We found an extensive (43%) use of a variety of CAM treatments that is consistent with previous study results in populations with anxiety. Only a few significant demographic or interventional characteristics of CAM users were found. Users most often had a diagnosis of GAD, were older, more educated, and had two or more chronic medical conditions. CAM users who had a 50% or more drop in anxiety scores over 18 months were less likely to report continued use of alternative therapies.

Conclusions—The study confirms the importance of awareness of CAM use in this population for possible interference with traditional first-line treatments of these disorders, but also for finding the best integrative use for patients who require multiple treatment modalities.

Conventional medicine has been successful in the treatment of anxiety disorders for many patients, yet so many others feel the need to seek the use of Complementary and Alternative Medicine (CAM) for supplemental relief. To examine the prevalence and patterns of use of CAM in patients with anxiety, we utilized a sample of 1004 patients who previously participated in the Coordinated Anxiety Learning and Management (CALM) study.¹

CAM is defined by The National Center for Complementary and Alternative Medicine as “a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine... Complementary medicine refers to the use of CAM together with conventional medicine [and] alternative medicine refers to the use of CAM in place of conventional medicine...”² There are five categories of CAM: alternative medical systems (Ayurveda, naturopathy, homeopathy, acupuncture, Chinese/Oriental medicine), biologically-based therapies (vitamins, herbs, special diets), mind-body therapies (meditation, biofeedback, hypnosis, imagery, prayer), energy healing (Reiki, electromagnetic-based therapies), and manipulative and body-based therapies (chiropractic, massage).²⁻⁴

The use of alternative medical systems and biologically-based therapies may have been potentially driven by mistrust of current pharmacological agents as well as patients’ possible belief that natural and herbal medicine is safer, and possibly more efficacious. Combined with increased awareness, changing health practices, fear of addiction to conventional medications, and possible dissatisfaction with conventional care,⁵⁻⁷ the prevalence of CAM has been increasing for decades both worldwide⁸ and in the United States, specifically,⁹ with a substantial 8.3% increase in usage from 1990 to 1997,¹⁰ and only a modest drop between 2002 and 2007.¹¹ The drop could have been a result of the St. John’s Wort studies that emerged during that time period and several reports of toxicity of certain agents, all inciting some element of fear. Regardless, CAM use has remained in the range of 25%–50%.^{8,11-13} In 2002, the Center for Disease Control (CDC) found that over 50% of adults over the age of 18 years used some type of CAM, with female usage greater than male.¹² In 2007, it was reported that 38% of adults over the age of 18 years used some form of CAM, with women remaining to be greater consumers (43%) compared with men (34%).¹⁴

Those with psychiatric disorders are highly prone to using CAM. This is particularly true for the patients with anxiety who have marked impairment in daily functioning, use an extensive amount of health care resources, and yet continue to have difficulty in achieving full remission of their condition.^{4,15-17}

The evidence for efficacy of herbs and supplements as anxiolytics is mixed. Two meta-analyses on several randomized controlled trials (RCTs) found that kava appears to be effective in treating the symptoms of anxiety and claims that it is superior to placebo.^{18,19} However, in a pooled study of three placebo-controlled trials, none of which were included in the meta-analysis just described, findings do not support the use of kava for the specific

diagnosis of GAD.²⁰ Meditation and progressive muscle relaxation have shown benefit in the treatment of anxiety in large double-blind RCTs.^{21,22} Homeopathy has not been shown to be superior to placebo in an adequately powered, placebo-controlled, double-blinded RCT.^{22,23} Most studies show there is no difference between acupuncture and sham-acupuncture,^{23,24} while a few studies report small benefit.^{25,26} There is good evidence that exercise is beneficial in the treatment of anxiety, though none of the studies is sufficiently powered, and as can be imagined—not placebo controlled.^{27,28}

The purpose of our study was to analyze a large sample of a diverse group of patients with different anxiety disorders collected during the CALM study to examine the association between types of alternative treatments and demographic variables, diagnostic categories, and treatment outcomes.¹

METHODS

This study was conducted as a part of the randomized controlled effectiveness trial of Coordinated Anxiety Learning and Management (CALM) compared with Usual Care in 17 primary care clinics in four US cities between June 2006 and April 2008; each location with the approval of the Office of Human Research Protection Program. One thousand four patients with anxiety disorders (with or without major depression) were enrolled. Patients were English- or Spanish-speakers, ages 18–75 years, and met DSM-IV criteria for one or more of the following: Panic Disorder (PD) with or without agoraphobia, Generalized Anxiety Disorder (GAD), Social Anxiety Disorder (SAD), or Post-Traumatic Stress Disorder (PTSD). Patients were diagnosed using the Mini-International Neuropsychiatric Interview (MINI) and scored at least 8 (moderate and clinically significant anxiety symptoms on a scale ranging from 0–20) on the Overall Anxiety Severity and Impairment Scale (OASIS). All rating scales were fully described in our previous paper.¹ Excluded were patients with unstable or life-threatening medical conditions, marked cognitive impairment, active suicidal intent or plan, psychosis, or Bipolar I Disorder. All patients completed a baseline questionnaire and were randomized to receive either the CALM intervention or Usual Care for 3 to 12 months. The CALM intervention participants received a treatment involving pharmacotherapy, computer-assisted, clinician-administered cognitive behavioral therapy (CBT), or both, depending on their preference. Blinded follow-up assessments were done at 6, 12, and 18 months after baseline was completed, and found that the CALM study resulted in greater improvement in anxiety symptoms, depression symptoms, functional disability, and quality of care compared with usual care during 18 months of follow-up.^{1,29,30} It was not clear if the primary care providers knew if their patients were using any CAM modalities.

Measures

The data were collected from interviewer-administered questionnaires at baseline and at 6, 12, and 18 months *via* a centralized telephone survey by the RAND survey research group, blinded to group assignment. For this paper, we used baseline and 18 months data where CAM was assessed. Outcome measures included: “Any Med/Herbal Use” where participants were asked “In the past 6 months, have you taken any non-prescription medications or

herbal remedies to help with your mood or energy?” Our second outcome measure was “Any Therapies” where participants were asked “In the past 6 months, have you used any therapies or healing practices (such as acupuncture, meditation/relaxation, biofeedback, going to a chiropractor, massage, prayer, or spiritual practices) for problems with your mood or energy?” We also examined any CAM use (“Any Med/Herbal” and/or “Any Therapies”).

We examined a number of baseline variables for potential covariates of CAM use at 18 months. These variables included intervention assignment (CALM vs. Usual Care), demographics (age, gender, education, ethnicity, insurance status), type of anxiety disorder (GAD, PD, SAD, PTSD), number of co-morbid anxiety disorders, co-morbid depression (using the PHQ-8), number of chronic medical conditions, physical and mental functioning (using the SF-12 ver. 2), response (50% reduction on the Brief Symptom Inventory), single item measures of satisfaction with healthcare for personal problems (reported for 6 months prior to the 18-month interview), belief that medications are an important part of the treatment of anxiety, belief that medication for anxiety does not help a person cope better, belief that therapy can help an individual learn new ways of coping with problems, belief that therapy patients are wasting money, and indicators of use of psychotropic medications using progressively more stringent definitions of quality of care.

Statistical Analysis

We compared demographic and other baseline characteristics between users of CAM and non-users utilizing *t*-tests for continuous variables and χ^2 tests for categorical variables. To examine what factors related to use of CAM at 18 months, we conducted logistic regressions of baseline covariates of “Any CAM use,” “Any Meds/Herbal use,” and “Any Therapies” at 18 months past baseline (controlling for baseline CAM use). First, we examined bivariate relationships between individual variables and CAM use at 18 months. Those significant at $P < 0.20$ were included in multivariate logistic regressions. Stripped down models with those significant at $P < 0.05$ are presented. Attrition weights were used to account for participants who missed the 18-month follow-up. The statistical software used was SAS ver. 9 (SAS Institute Inc., Cary, NC).

RESULTS

Baseline Use

Forty-three percent (430/1004) of patients reported the use of CAM at baseline. Twenty-one percent of subjects in our sample used supplemental or herbal medicine (206/1004). Most frequently used were chamomile (6.47%), valerian root (3.88%), St. John’s Wort (2.89%), lavender (2.29%), and kava (1.79%).

Thirty-two percent (319/1004) of patients used therapies (massage, relaxation, acupuncture, etc.). There were no significant differences between CAM and non-CAM users in demographic characteristics (see Table 1). Users of CAM tended to have two or more chronic medical conditions.

Highest CAM use occurred in patients with GAD as opposed to other diagnoses (33.5% vs. 26.6%). GAD patients used more massage therapy than the other anxiety disorder patients.

Patients diagnosed with PTSD as their principal diagnosis used more prayer/healing techniques than patients with other principal diagnoses. Seventy-five percent of those who used imagery techniques were Whites.

Table 2 summarizes the regression analysis of covariates of the use of the CAM at 18 months. Patients using CAM at baseline were four times more likely to be using CAM at 18 months than baseline non-users. Among all study patients, those who achieved a 50% reduction in their symptoms according to the Brief Symptom Inventory (BSI) were 47% less likely to be using CAM at 18 months relative to those who did not achieve the reduction.

Patients with one chronic medical condition were 2.29 times more likely to be using CAM relative to those without any medical conditions. Patients with two or more chronic medical conditions were 1.94 times more likely to be using CAM relative to those without medical conditions. Patients who believed medications are an important part of the treatment of anxiety were less likely to be using CAM (e.g., for a one unit increase in agreement with this statement, we expect to see an 18% decrease in the odds of using CAM). Similar relationships were observed separately for “Herbal/Meds” and “Any Therapies.”

In addition, older patients were less likely to be using “Any Herbals/Meds.” Patients who believed in the efficacy of medications for anxiety were less likely to use “Any Therapies” (20% less likely for a one unit increase in agreement with the belief). Patients with a high school education or less were 42% less likely to be using any therapies. The intervention was not related to CAM use.

DISCUSSION

Our patients were taken from a sample of primary care patients who were referred for the treatment of their anxiety disorder. We discovered a high prevalence of use of CAM treatments in this group, which is in accordance with previous research data for this population. It is unknown to us if the primary care physicians knew of their patients’ use of CAM therapy. We found that patients using CAM were more likely to have chronic medical illness, a finding also present in other recent studies.^{9,31} Slightly more females than males used CAM but the difference was not statistically significant in our study, though similar statistically-significant results have been shown in other studies.^{9,31,32} National surveys indicate CAM use is greater in younger than older ages,³² but several studies have shown the use to be quite prevalent in older adults as well.^{10,33-35}

The highest CAM use was found to be in patients with GAD, which is historically the group that uses the most resources of health-care within all the anxiety disorders.

The CALM intervention was more effective than Usual Care in reducing anxiety symptoms, depression symptoms, and functional disability during 18 months of follow-up.²⁹ It was also more effective than Usual Care for principal anxiety disorders and to a lesser extent, co-morbid anxiety disorders that present in a primary care setting.³⁰

Interestingly, while 50% or more improvement on the BSI was associated with a decrease in use of CAM, the CALM intervention was not. This suggests that patients' whose condition improves, regardless of how this is achieved, feel less of a need to use CAM.

A high percentage of the patients referred for the treatment of anxiety who use CAM is especially significant in this population. St. John's Wort has the potential for drug interactions with pharmacologic treatments for anxiety, as it induces the cytochrome P450 enzymes CYP3A4, a substrate for many benzodiazepines.³⁶ Furthermore, it is a strong inhibitor of CYP2D6, a substrate for most of the selective serotonin reuptake inhibitors (SSRIs) used as first-line treatment for anxiety (and the first-line treatment used in the CALM study) and depression.^{36,37} Its interactions are also widespread outside mental health, and include reduced efficacy of birth control pills, antivirals, and many cardiovascular medications.³⁸ Kava's potential for hepatotoxicity has limited practitioners' recommendation, and has even caused the entire European Union and Canada to completely withdraw it from the market.³⁹ Furthermore, kava and valerian root can potentiate the sedative effect of benzodiazepines.⁴⁰ Also, while providing rapid temporary relief of anxiety, these supplements could potentially confound with CBT in as much the same way as benzodiazepines interfere with the learning and attribution of treatment effects.^{41,42} In addition, surreptitious use of these herbals could become a self-treatment coping strategy that interferes with the exposure component of therapy essential for improvement.⁴²

The simultaneous use of additional CAM therapies, such as relaxation, prayers, meditations, and biofeedback, that are not a part of a patient's CBT treatment could also be potentially problematic.⁴³ Patients could be given conflicting messages and explanations of their symptoms and how to handle them (e.g., a suggestion to relax while exposed to a phobic situation), which could interfere with CBT. Relaxation techniques and meditation could be extremely useful for patients, and using CAM could be potentially useful during CBT homework.

The limitations of our study are based on respondents' willingness to report their personal use of CAM accurately, as well as the dependence on their memory. Also, this study is not specifically designed to study patterns of CAM use in anxious patients, and represent a secondary analysis of the CALM data. We are not intending to show any causative relationships, but rather illuminate an association that we believe is exceedingly important. Furthermore, the use of CAM therapies in this study was not aimed at treating anxiety, and the questions that were asked of the patients were aimed at use of CAM for "help with mood or energy," not as a specific treatment for anxiety. The BSI was used as an overall mental health measure, less so an anxiety measure, meaning that improvements in symptoms reported herein could have been due to changes in symptoms unrelated to anxiety (e.g., depression). However, these findings are interesting and provide incremental knowledge of CAM use in primary care. Since our data confirm a large prevalence (43%) of CAM use in this population, both clinicians and researchers should pay further attention to this matter.

The issues of rational combining of traditional and alternative treatments deserve further study. Mindfulness Based Cognitive Therapy (MBCT) has gained popularity and theoretically can be quite important.⁴⁴⁻⁴⁶ The coordination between different providers

(primary care physicians and traditional therapists) could help significantly improve outcomes for patients. For these reasons, it is crucial that there is excellent CAM awareness and education, and that patients realize the importance of openly discussing these therapies with all their healthcare providers.

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TABLE 1

Baseline Patient Characteristics^a

	All (n = 1004)	Any CAM Med/Herbal (n = 206)	Any CAM Therapy (n = 319)	Any CAM (n = 430)	No CAM (n = 574)	F or P Value CAM vs. No CAM
Age, mean (SD), year	43.47 (13.44)	42.99 (13.64)	44.92 (12.99)	44.37 (13.36)	42.80 (13.48)	0.0662
Women	714 (71.12)	152 (73.79)	234 (73.35)	312 (72.56)	402 (70.04)	0.3828
Education						0.8929
<High school	55 (5.49)	16 (7.77)	12 (3.76)	25 (5.81)	30 (5.25)	
12 years	165 (16.47)	32 (15.53)	50 (15.67)	69 (16.05)	96 (16.78)	
>12 years	782 (78.04)	158 (76.70)	257 (80.56)	336 (78.14)	446 (77.97)	
Ethnicity						0.6034
Hispanic	196 (19.52)	46 (22.33)	62 (19.44)	89 (20.70)	107 (18.64)	
African American	116 (11.55)	21 (10.19)	47 (14.73)	53 (12.33)	63 (10.98)	
White	568 (56.57)	112 (54.37)	175 (54.86)	240 (55.81)	328 (57.14)	
Other	124 (12.35)	27 (13.11)	35 (10.97)	48 (11.16)	76 (13.24)	
Number of chronic medical conditions						0.0330
0	203 (20.22)	51 (24.76)	64 (20.06)	89 (20.70)	114 (19.86)	
1	219 (21.81)	37 (17.96)	51 (15.99)	77 (17.91)	142 (24.74)	
2	582 (57.97)	118 (57.28)	204 (63.95)	264 (61.40)	318 (55.40)	
Anxiety disorder ^b						
Panic	475 (47.31)	98 (47.57)	146 (45.77)	201 (46.74)	274 (47.74)	0.7557
Generalized anxiety	756 (75.30)	158 (76.70)	253 (79.31)	338 (78.61)	418 (72.82)	0.0359
Social phobia	405 (40.34)	81 (39.32)	121 (37.93)	168 (39.07)	237 (41.29)	0.4782
Post-traumatic stress	181 (18.03)	41 (19.90)	65 (20.38)	86 (20.00)	95 (16.55)	0.1600
Major depressive Disorder	648 (64.54)	132 (64.08)	198 (62.07)	273 (63.49)	375 (65.33)	0.5459
Type of health insurance ^b						
Medicaid	101 (10.08)	21 (10.19)	33 (10.35)	46 (10.70)	55 (9.62)	0.5734
Medicare	124 (12.38)	26 (12.62)	42 (13.17)	60 (13.95)	64 (11.19)	0.1892
Other government insurance ^c	35 (3.49)	5 (2.43)	11 (3.45)	13 (3.02)	22 (3.85)	0.4836
Private insurance	749 (74.75)	149 (72.33)	237 (74.30)	316 (73.49)	433 (75.70)	0.4254
No insurance	141 (14.07)	33 (16.02)	44 (13.79)	62 (14.42)	79 (13.81)	0.7843

	All (n = 1004)	Any CAM Med/Herbal (n = 206)	Any CAM Therapy (n = 319)	Any CAM (n = 430)	No CAM (n = 574)	F or P Value CAM vs. No CAM
Intervention	503 (50.10)	99 (48.06)	155 (48.59)	214 (49.77)	289 (50.35)	0.8554

^aData are reported as number (%) unless otherwise indicated.

^bPatients could have more than one; therefore Ns may total more than 1004.

^cIncludes Veterans' Administration benefits, TRICARE, county programs, or other government insurance not otherwise specified.

TABLE 2

Predictors of Use of CAM at 18 Months

	Any CAM		Any CAM Med/Herbal		Any CAM Therapy ^a	
	Odds Ratio	CI _s	Odds Ratio	CI _s	Odds Ratio	CI _s
50% Reduction in Symptoms	0.53	0.38–0.73	0.50	0.33–0.78	0.44	0.31–0.63
Belief in efficacy of medications for anxiety	0.83	0.70–0.97	—	—	0.80	0.66–0.95
Number of chronic medical conditions						
0	0		0		0	
1	2.29	1.38–3.82	1.34	0.65–2.76	2.66	1.52–4.66
2+	1.95	1.26–3.02	2.18	1.16–4.08	2.09	1.27–3.42
Any baseline use	3.92	2.86–5.40	5.02	3.24–7.78	5.00	3.48–7.04
Age	—	—	0.98	0.96–0.99	—	—
Education						
Less than high school	—	—	—	—	0.59	0.38–0.92
High school or more	—	—	—	—	0	
Satisfaction with care for emotional problems	—	—	—	—	1.20	1.02–1.40

^a Site differences, any use of any therapies were also significant.