Published in final edited form as:
Psychiatr Serv. 2009 October ; 60(10): 1342–1349. doi:10.1176/appi.ps.60.10.1342.

Use of complementary and alternative medicines for mental and substance use disorders: A comparison of African Americans, black Caribbeans, and non-Hispanic whites

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Abstract

Objectives—This study examined racial and ethnic differences in the use of complementary and alternative medicine (CAM) for the treatment of mental and substance use disorders.

Methods—This study used data from the National Survey of American Life (NSAL) and the National Comorbidity Survey-Replication (NCS-R). The analytic sample included 631 African Americans and 245 black Caribbeans from the NSAL and 1,393 non-Hispanic whites from the NCS-R who met criteria for a mood, anxiety, or substance disorder in the past 12 months. Logistic regression was used to examine racial and ethnic differences in the use of any CAM as well as the use of CAM only compared to CAM use with services in another treatment sector.

Results—Thirty-five percent of respondents used some form of CAM. Whites were more likely than blacks to use any CAM although there was no racial or ethnic difference in CAM use only vs. CAM use with traditional services. A higher proportion of blacks used prayer and other spiritual practices compared to whites. Among those with a mood disorder, black Caribbeans were less likely to use any CAM than African Americans.

Conclusions—Patterns of CAM use for treatment of mental disorders are similar to those found in relation to physical illness. The use of prayer is a major factor in racial differences in CAM use, however there are differences among black Americans that warrant further research.

According to the National Center for Complementary and Alternative Medicine, complementary and alternative medicine (CAM) “is a group of diverse medical and health care systems, practices, and products that are not presently considered part of conventional medicine”(1). The mainstream health care system has become increasingly interested in understanding who uses CAM, in what circumstances, and the relationship between alternative and conventional therapies. Previous research has found that 34–45% of the U.S. population uses some form of CAM(2-6) and roughly 9% has visited a CAM practitioner (7-9). These studies encompassed a range of alternative therapies and practices such as chiropractic, massage, acupuncture, megavitamins, herbal remedies, biofeedback, and hypnosis.

Adults suffering from mental and substance use disorders are often heavy users of medical services and yet there is substantial evidence that many of these individuals do not use mental health services or receive inadequate treatment (10,11). In addition, there is continuing evidence that members of racial and ethnic minority groups underutilize mental health services compared to non-Hispanic whites (10,12). These studies have focused largely on traditional services in the general and mental health sectors. Only a handful of the studies on CAM use have focused explicitly on those with a mental disorder (13-18) and

Disclosures: None for any author.

even fewer have examined racial and ethnic differences in CAM use among this vulnerable group (15,16).

This study uses a nationally representative sample to examine the use of CAM among African Americans, black Caribbeans, and non-Hispanic whites who meet diagnostic criteria for a mood, anxiety, or substance disorder. Given the lack of existing research in this area, this study takes an exploratory approach. However, it builds on previous research in several ways. First, it looks in-depth at the use of CAM specifically for the treatment of a mental disorder. Second, the presence of mental disorders is assessed using a fully structured diagnostic interview administered to a nationally representative community-based sample. This allows for an examination of CAM use among those who may or may not have been previously diagnosed or received traditional mental health services. Finally, this is the first study to examine differences in CAM use among American blacks by comparing African Americans and black Caribbeans.

Methods

Sample

This study uses data from the National Survey of American Life: Coping with Stress in the 21st Century (NSAL) (19) and the National Comorbidity Survey-Replication (NCS-R) (20). The NCS-R and NSAL are both part of the Collaborative Psychiatric Epidemiology Studies (CPES) funded by the National Institute of Mental Health and are designed to be complementary data sets. Each of the CPES studies shares a common set of objectives and survey instrumentation. Both studies were collected by the Survey Research Center at the University of Michigan, were in the field at the same time, and shared the multi-stage area probability sample designs common to the national surveys conducted by the Survey Research Center (21,22). In addition, the CPES studies were designed to allow integration of design-based analysis weights to combine data sets as though they were a single, nationally representative study (23).

At the same time, however, each survey has unique features in their national area probability samples that complement one another. The NCS-R, for example, is designed to be representative of the U.S. population in general and includes face-to-face interviews with 9,282 residents of English-speaking households who are18 years of age and older. The NSAL, however, was designed to be representative of blacks in the U.S. and is based upon a national household probability sample of 6,082 African Americans, non-Hispanic whites and blacks of Caribbean descent.

This study builds on the strengths of each survey by using a pooled sample of 631 African Americans and 245 black Caribbeans from the NSAL and 1,393 non-Hispanic whites from the NCS-R who met criteria for a mood, anxiety, or substance disorder in the past 12 months (n=2,269).

After complete description of the study to participants, informed consent was obtained. Both studies were approved by the University of Michigan Institutional Review Board. The NCS-R was also approved by the Human Subjects Committee of Harvard Medical School.

Measures

Respondents in both the NCS-R and the NSAL were given a list of commonly used alternative therapies and asked “Did you use any of these therapies in the past 12 months for problems with your emotions or nerves or your use of alcohol or drugs?” The list of therapies included: acupuncture, biofeedback, chiropractic, energy healing, exercise or movement therapy, herbal therapy (e.g., St. John's Wort, chamomile), high dose mega-

vitamins, homeopathy, hypnosis, imagery techniques, massage therapy, prayer or other spiritual practices, relaxation or meditation techniques, self-help and internet support groups, special diets, spiritual healing by others, and any other non-traditional remedy or therapy. Dichotomous variables were created for use of any CAM and the use of CAM only compared to using CAM with traditional professional services. The use of traditional service providers was assessed in the same way as the use of alternative services and includes professionals from the mental health sector (psychiatrists, mental health hotlines, psychologists, and other mental health professionals), the general medical care sector (family doctors, nurses, occupational therapists, and other health professionals), and the non-health care sector (religious advisors, counselors, and social workers) (11).

Sixty-four percent of respondents indicated using “prayer or other spiritual practices” and over 50% indicated that was the only alternative therapy used. Consistent with previous research in this area (3,24,25) we exclude those who reported using*only* “prayer or other spiritual practices” as CAM users in the multivariate analyses. Bivariate analyses are presented both with and without this category.

Past 12-month mood, anxiety, and substance use disorders for all respondents were assessed using the Diagnostic and Statistical Manual (DSM-IV) World Mental Health Composite International Diagnostic Interview (WMH-CIDI) (26). Mood disorders included major depression, dysthymia, bi-polar I & II; anxiety disorders included panic, social phobia, agoraphobia without panic, generalized anxiety, post-traumatic stress; and substance use disorders included alcohol abuse and dependence, and drug abuse and dependence. A three-level rating of overall mental illness severity was determined for the 12 months prior to the interview (mild, moderate, severe) (27) as well as a measure of disorder persistence (less than 1 year, 1-5 years, 5-15 years, 15 or more).

The main predictor of interest is race/ethnicity defined as African American, black Caribbean, and non-Hispanic white. Analyses control for other sociodemographic variables that have consistently been found to be related to service use. These include gender, age (18-29, 30-44, 55 and older), and marital status (married, never married, previously married); socioeconomic status measured by education (0-11, 12, 13-15, 16 or more), employment status (working, not working), and the ratio of family income to the census poverty threshold for 2001 (less than 1.5 times the poverty threshold, 1.5-3 times, 3-6 times, greater than 6 times); and a dichotomous variable indicating whether the respondent reported having health insurance at the time of the interview.

Analysis

Rao-Scott chi-square tests were used to examine differences in rates of CAM use. First, sociodemographic and mental health characteristics of respondents meeting criteria for a 12-month mood, anxiety, or substance disorder are examined by CAM use. Then, racial and ethnic differences across specific CAM therapies as well as differences in the use of traditional professional services among CAM users are examined for respondents who meet criteria for any 12-month DSM-IV disorder. Finally, logistic regression models were used to test the association between use of CAM and race/ethnicity while controlling for other sociodemographic variables. First, separate models were examined for any CAM use, CAM use only vs. CAM use with traditional professional services for the full sample, and CAM use only among the subset of respondents who were CAM users. Then three models predicted any 12-month CAM use among respondents with a mood disorder, an anxiety disorder, and a substance disorder. All analyses were conducted using SAS 9.1.3 with the Taylor expansion approximation technique for calculating the complex design-based estimates of variance (28). Reporting and interpretation of results focus on effect size with

an α-level of .05 as the cutoff for statistical significance. All analyses were weighted to yield nationally representative estimates for the groups and subgroups of interest.

Results

Among adults with a 12-month mood, anxiety, or substance disorder, 35% reported using CAM in the past 12 months. A higher proportion of non-Hispanic whites (39%) used CAM for a mental or substance use disorder than either African Americans (24%) or black Caribbeans (12%) (Table 1). This pattern occurs both when those who use “prayer and other spiritual practices” only are omitted and when they are included, as well as when examining the use of CAM only (Table 2). In the latter two instances, however, the magnitude of difference among the three groups declines. In contrast, when different CAM modalities were examined among CAM users, a smaller proportion of whites reported using “prayer and other spiritual practices” (47%) compared to African Americans (63%) and black Caribbeans (68%).

In terms of other specific CAM domains (Table 2), a higher proportion of African Americans (9%) and black Caribbeans (4%) reported using acupuncture compared to whites (5%), although these differences were small. The use of herbal therapy was highest among black Caribbeans (31%), followed by whites (28%) and then African Americans (15%). More African Americans reported using spiritual healing by others (18%) compared to either black Caribbeans (13%) or whites (9%). There were no significant racial or ethnic differences in the use of other specific CAM domains or in the use of specific traditional treatment sectors among CAM users.

Other sociodemographic characteristics were significantly related to CAM use as well (Table 1). A higher proportion of adults aged 30-54 (38%) used CAM compared to younger (32%) and older (28%) adults and more females than males used CAM (39% vs. 28%). The proportion using CAM increased with education from 19% of those with less than a high school education to 52% of those with a college degree or higher and slightly more of those who were working at the time of the interview used CAM (37%) than those who were not working (30%). CAM use also increased with income from 27% of those in the lowest income group to 47% of those in the highest. In addition, a somewhat higher proportion of those with insurance coverage reported using CAM (35%) compared to those without insurance (28%). In terms of disorder-related variables, a higher proportion of those with a mood disorder used CAM (40%) compared to those without a mood disorder (30%). The presence of an anxiety or substance disorder was not significantly related to CAM use, however, more of those with both a mood and anxiety disorder used CAM (41%) compared to those without comorbid disorders (33%). The proportion that used CAM increased somewhat with overall disorder severity from 30% among those with a mild disorder to 38% of those with a severe disorder, but was not related to the persistence of the disorder.

Table 3 summarizes the logistic regression models. Using an alpha of .001 for these analyses, in Model 1, whites were almost two times more likely to report any CAM use compared to African Americans (OR=1.9; 95% CI=1.5-2.5). The outcome for Model 2 is CAM use among the full sample while Model 3 is CAM use only among CAM users. There were no racial or ethnic differences in either of these models and no differences were observed between black Caribbeans and African Americans across any of the first three models.

Among respondents with a 12-month mood disorder (Model 4), whites were two times more likely than African Americans to use CAM (OR=2.27; 95% CI=1.6-3.2) and black Caribbeans were less likely than African Americans to use any CAM (OR=.21; 95% CI=.

07-.62). Among respondents with an anxiety disorder (Model 5), whites were about one and a half times more likely to report any CAM use compared to African Americans (OR=1.7; 95% CI=1.3-2.4), but there was no significant difference between African Americans and black Caribbeans. In Model 6, race/ethnicity was not significantly related to CAM use among respondents with substance use disorders.

Discussion

Thirty-five percent of respondents with a mood, anxiety, or substance disorder used CAM in response to their mental health problems. This is consistent with previous estimates of CAM use among the general population (2-6). Similarly, a study of psychiatric outpatients found that 44% used CAM to treat psychiatric symptoms (18) while a study by Unutzer and colleagues found that 16–32% of respondents with a mental disorder used CAM(14). These results suggest that, although CAM use is a substantial source of care for adults with a mental disorder, they are not relying on CAM any more or any less than those seeking treatment for physical ailments.

Over half of those who used CAM for a mental disorder also received treatment from a traditional service provider, while 15% of the sample used CAM only. This also seems to be consistent with previous literature. Looking at use of practitioner-based CAM only, Druss and Rosenheck found that a higher proportion used both CAM and conventional therapies (7%) compared to those who relied on CAM alone (2%) (8). Other studies have found that the majority of CAM users relied on both CAM and conventional mental health services (14,16). A previous study of psychiatric patients, however, found that only half of those using CAM therapies for psychiatric symptoms informed their doctors that they were doing so (18). Given the potential for interactions between CAM and conventional treatments understanding how much patients reveal about CAM use to traditional service providers is an important area for further study.

Non-Hispanic whites were more likely to use CAM than both African Americans and black Caribbeans. This is consistent with previous research comparing whites and African Americans (3,5,9,15,25,29) and was true for overall CAM and use of CAM only among the whole sample. The greater reliance of whites on CAM use only raises some concern about the overall adequacy of treatment received by whites who appear to be more likely to miss the opportunity for traditional treatment. Additional analyses (not shown), however, also found that a higher proportion of CAM users (55%) used traditional services compared to non-CAM users (30%). This was true for African Americans and whites, but not for Caribbean blacks. African Americans and whites who use CAM, therefore, appear to be more likely to receive traditional treatment than those who do not use CAM. In addition, there were no racial or ethnic differences in the use of CAM only compared to using CAM with other treatment providers. Taken together these findings suggest that CAM users tend to be service users in general and that there is no racial or ethnic difference in the tendency to substitute CAM for more conventional services.

There was no racial/ethnic difference in CAM use among those with a substance disorder. This may be due to different overall help-seeking patterns among individuals with substance disorders or perceptions that CAM therapies are less effective for treating substance disorders. In addition, although overall there were few differences between African Americans and black Caribbeans, among those with a mood disorder, black Caribbeans were less likely to use CAM than African Americans. At the same time, a higher proportion of black Caribbeans reported using herbal therapies compared to African Americans. The higher use of herbal therapy among black Caribbeans is consistent with research indicating the long history of traditional use of medicinal herbs among Caribbeans (30-33).

Both African Americans and black Caribbeans were more likely than non-Hispanic whites to utilize prayer and other spiritual practices, as well as spiritual healing by others. Previous research on CAM has also found that African Americans used higher rates of prayer than whites (3,24,25). This finding is also consistent with recent research using the NSAL that found that African Americans and black Caribbeans are more religious (34) and more likely to utilize religious coping in general than non-Hispanic whites (35).

Overall these findings suggest that although there are black-white differences in CAM use, there are also differences among black Americans that should be considered and may be rooted in ethnic cultural differences. Given that CAM therapies emerge from a variety of different cultures it is particularly important to understand the ways in which various cultural groups incorporate CAM into more traditional treatment systems. Although this study focuses specifically on black Americans, further examination of the use of CAM across Hispanic, Asian, and American Indian/Alaska Native groups is important for future studies.

There are several limitations to this study that should be noted. First, the WHO-CIDI questions used to assess alcohol and drug dependence were modified such that respondents who did not report lifetime abuse symptoms were not administered questions assessing dependence. Thus, individuals who have a history of dependence without abuse were excluded, resulting in the overall rates of substance dependence to be underestimated (36). As suggested by Cottler (2007), cases most likely excluded from the data are most likely to be minorities (37). Therefore, similar to other studies involving the WHO-CIDI with this skip pattern, the results of this study should be interpreted in the context of this diagnostic issue.

Second, the number of cases are too small for multivariate analyses related to the use of specific CAM domains. This limits our ability to tease out racial and ethnic differences in this area. In addition, given the variety across CAM modalities it may be more advantageous for future research to examine individual or smaller homogenous groups of treatments rather than grouping all types of alternative treatments under one construct. Finally, although this study characterized results in terms of effect size, it is important to note that some of the statistically significant findings may be a result of multiple comparisons.

Conclusion

This initial study of CAM use for mental and substance use disorders among African Americans, black Caribbeans and non-Hispanic whites identified the prevalence and types of CAM use and found both commonalities and differences across race and ethnicity in the use and types of CAM. These findings point to the need for continued study of the use of CAM for mental and substance use disorders among these groups. Given the paucity of information on African Americans and black Caribbeans on these topics, the findings further indicate the importance of investigating ethnic differences in CAM use overall and in conjunction with physical and mental health service utilization patterns within the black population.

Acknowledgments

Funding for this study is from the National Institute of Mental Health (U01-MH57716) with supplemental support from the Office of Behavioral and Social Science Research at the National Institutes of Health (NIH) and the University of Michigan, the National Institute on Aging (R01-AG18782 and P30-AG15281) and the Robert Wood Johnson Foundation.

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Table 1

Sociodemographic and Mental Health Characteristics of Respondents Meeting Criteria for a 12-Month Mood, Anxiety, or Substance Disorder by CAM Use

	Used CAM n = 696	Didn't use CAM n = 1,412	SE	χ^2	df	p-value
	%	%				
Sociodemographic variables						
Race/ethnicity						
African American	24	76	2.00	67.74	2	<.001
Caribbean Black	12	88	2.69			
White	39	61	1.51			
Age						
18-29	32	68	2.38	11.41	2	0.003
30-54	38	62	1.67			
55+	28	72	2.57			
Gender						
Male	28	72	2.18	16.14	1	<.001
Female	39	61	1.53			
Marital status						
Currently married	37	63	2.11	3.18	2	0.204
Previously married	33	67	2.38			
Never married	34	68	2.36			
Education						
Less than HS	19	81	2.24	92.56	3	<.001
HS	28	72	1.98			
Some college	40	60	1.92			
College degree or higher	52	48	3.22			
Employment status						
Working	37	70	2.39	4.44	1	0.035
Not working	30	63	1.62			
Poverty index						
<1.5 times poverty threshold	27	73	2.02	32.78	3	<.001

	Used CAM n = 696	Didn't use CAM n = 1,412	SE	χ^2	df	p-value
	%	%				
1.5 - 3 times	31	69	2.61			
3 - 6 times	35	65	2.23			
> 6 times	47	53	2.76			
Insurance coverage						
Yes	35	65	2.66	6.18	1	0.013
No	28	72	1.34			
Mental disorder variables						
Type of disorder						
Mood						
Yes	40	60	1.98	16.17	1	<.001
No	30	70	1.63			
Anxiety						
Yes	35	65	1.98	0.003	1	0.96
No	35	65	1.63			
Substance						
Yes	32	68	3.26	0.33	1	0.567
No	34	66	1.27			
Severity						
Mild	30	70	1.80	8.16	3	0.043
Moderate	36	64	1.99			
Severe	38	62	3.47			
Persistence						
Less than 1 year	34	66	3.18	1.09	3	0.779
1-5 years	33	67	2.27			
5-15 years	34	66	2.54			
15 or more	36	64	2.16			
Comorbidity						
Mood and Anxiety Only						
Yes	41	59	3.67	4.29	1	0.039

Psychiatr Serv. Author manuscript; available in PMC 2011 March 16.

	Used CAM n = 696	Didn't use CAM n = 1,412	SE	χ^2	df	p-value
	%	%				
No	33	67	1.36			
Mood and Substance Only						
Yes	45	55	6.87	2.51	1	0.113
No	34	66	1.25			
Anxiety and Substance Only						
Yes	38	62	7.32	0.28	1	0.594
No	34	66	1.19			
Mood, Anxiety, and Substance						
Yes	44	56	8.84	1.45	1	0.229
No	34	66	1.17			

Note: Reported sample sizes are unweighted, while reported percentages are weighted estimates.

Table 2

12-Month CAM Therapy Use by Race/Ethnicity Among Respondents Meeting Criteria for any 12-Month DSM-IV Diagnoses and Other 12-Month Service Utilization Among 12-Month CAM Users

CAM Treatment Used	Total n = 2269		AA n = 631		CB n = 245		W n = 1393		χ^{2a}	p-value
	%	SE	%	SE	%	SE	%	SE		
CAM Therapy Use (use of prayer and other spiritual practices only omitted)	34	1.2	23	1.9	15	4.0	38	1.5	59.71	<.001
CAM Therapy Use (use of prayer and other spiritual practices only included)	45	1.3	36	2.3	31	8.6	48	1.6	19.29	<.001
CAM Use Only (other treatment sector use omitted)	15	0.9	11	1.3	9	2.3	17	1.1	23.28	<.001
Treatment Used among CAM users	Total n = 696		AA n = 124		CB n = 47		W n = 525		χ^{2a}	p-value
	%	SE	%	SE	%	SE	%	SE		
Use of specific CAM domains										
Acupuncture	6	0.9	9	2.4	4	2.5	5	1.0	6.51	0.04
Biofeedback	3	0.7	1	1.0	.	.	3	0.8	*	*
Chiropractic	12	1.4	10	3.7	6	2.3	13	1.5	1.02	0.601
Energy healing	5	1.1	4	1.6	1	0.8	5	1.2	0.67	0.714
Exercise or movement therapy	43	2.6	46	5.5	66	10.6	42	3.0	2.25	0.325
Herbal therapy	26	1.9	15	2.9	31	13.8	28	2.2	10.84	0.004
High dose mega-vitamins	13	1.5	13	2.7	3	0.9	13	1.7	1.79	0.409
Homeopathy	4	0.8	3	1.9	.	.	4	0.9	*	*
Hypnosis	2	0.6	1	0.6	.	.	2	0.7	*	*
Imagery techniques	5	0.8	.	.	3	0.4	6	1.0	*	*
Massage therapy	17	1.5	18	4.1	18	4.2	17	1.6	0.20	0.904
Prayer or other spiritual practices	50	2.5	63	6.3	68	10.4	47	2.7	9.64	0.008
Relaxation or meditation techniques	39	2.5	38	5.7	59	14.2	39	2.8	1.23	0.54
Self-help & Internet support groups	17	1.6	16	3.9	4	2.1	17	1.8	1.19	0.551
Special diets	10	1.2	10	3.1	12	4.4	10	1.3	0.07	0.965
Spiritual healing by others	11	1.1	18	3.0	13	8.0	9	1.2	14.12	<.001

CAM Treatment Used	Total n = 2269		AA n = 631		CB n = 245		W n = 1393		χ^{2a}	p-value
	%	SE	%	SE	%	SE	%	SE		
Any other	5	0.7	3	1.2	3	1.0	6	0.9	4.23	0.121
Other Treatment Sector Use										
Health Service Provider	49	2.0	49	4.9	42	16.2	49	2.1	0.16	0.922
General Medical	32	1.8	30	4.0	8	4.7	33	2.1	3.61	0.165
Mental Health Specialty	36	1.9	42	5.4	38	16.4	34	2.0	2.23	0.328
Psychiatrist	21	1.5	27	4.0	27	17.6	19	1.5	3.62	0.164
Non-Psychiatrist	28	1.9	36	5.7	33	16.8	27	2.0	3.20	0.202
Human Service provider	17	1.6	21	4.5	2	0.9	16	1.7	3.58	0.167

[a] df=2

[*] Not computed due to insufficient data

Note: Reported sample sizes are unweighted, while reported percentages are weighted estimates.

Table 3

CAM use by Caribbean Blacks and non-Hispanic Whites compared to African Americans

	Caribbean Black			non-Hispanic White		
	OR	**95% CI**	**p**	**OR**	**95% CI**	**p**
Model 1: Any CAM use, among those with any 12-month disorder (n=2,024)[1]	0.58	.31 - 1.1	0.094	1.95	1.5 - 2.5	<.001
Model 2: CAM use only, among those with any 12-month disorder (n=2,024)[1]	0.78	.40 - 1.5	0.461	1.55	1.1 - 2.2	0.015
Model 3: CAM use only, among CAM users with any 12-month disorder (n=681)[1]	1.33	.39 - 4.6	0.645	0.76	.48 - 1.2	0.256
Model 4: Any CAM use among those with a 12-month mood disorder (n=969)[2]	0.21	.07 - .62	0.004	2.27	1.6 - 3.2	<.001
Model 5: Any CAM use among those with a 12-month anxiety disorder (n=1,201)[2]	0.39	.14 - 1.1	0.072	1.70	1.3 - 2.4	0.002
Model 6: Any CAM use among those with a 12-month substance disorder (n=319)[2]	0.58	.04 - 8.1	0.685	1.48	.75 - 2.9	0.261

[1]Models control for sex, age cohort, marital status, education, employment status, poverty index, insurance coverage, as well as severity, persistence, and type of disorder.

[2]Models control for sex, age cohort, marital status, education, employment status, poverty index, insurance coverage, as well as severity and persistence of disorder.

Psychiatr Serv. Author manuscript; available in PMC 2011 March 16.