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Population-Based Survey of Complementary and Alternative Medicine Usage, Patient Satisfaction, and Physician Involvement

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Population-Based Survey of Complementary and Alternative Medicine Usage, Patient Satisfaction, and Physician Involvement

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ABSTRACT

Background. With an increasing proportion of Americans using complementary or alternative medicine (CAM), physicians need to know which patients are using CAM to effectively manage care.

Methods. In this cross-sectional study, telephone interviews were conducted with 1,584 South Carolina adults (ages 18 and older); 66% responded to the survey of demographics, general health, frequency of CAM use, perceived CAM effectiveness, and physician knowledge of CAM use.

Results. A total of 44% had used a CAM during the past year. Increasing age and higher education were significantly associated with CAM use. More than 60% perceived CAM therapy as very effective, and 89% said they would recommend CAM to others. Physicians were unaware of CAM use in 57% of their patients using CAM.

Conclusion. Complementary or alternative medicine use in this rural Southern state is similar to national usage. Users view CAM as effective. Physicians are frequently unaware of patients' CAM use. More research is needed to establish CAM effectiveness and how CAM affects medical care, training, and public health.

MORE THAN 40% of Americans are using complementary or alternative medicine (CAM) to treat a range of health conditions or to stay healthy,^{1,3} and this usage increased during the 1990s.¹ Eisenberg et al¹ reported that 42.1% of American adults had used at least one CAM

therapy within the past year (1997), and a commercial study by Landmark Healthcare Inc² reported the same figure (42% in 1997). Nearly 1 in 10 Americans surveyed as part of the 1994 Robert Wood Johnson Foundation's National Access to Care Study⁴ saw a professional for one of the following four therapies: chiropractic, relaxation techniques, therapeutic massage, or acupuncture. The annual out-of-pocket expenditures in 1997 relating to alternative therapies are estimated at more than \$27 billion.¹ Comparable studies of national populations of Canada⁵ and Australia⁶ indicate the trend is not limited to the United States. Further showing the rising prevalence of CAM are such indicators as the increasing demand for and provision of insurance coverage for complementary and alternative care^{7,8} and the large percentage of US medical schools (64%) currently offering courses that address CAM.⁹

Physicians and patients need to know more about the effectiveness of CAM for specific medical conditions and whether such thera-

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pies interact adversely with prescribed treatments. To manage their patients' care effectively, physicians also need to know which of their patients are using specific CAM therapies.

Although several recent studies have examined CAM use at the national level,^{14,10} there have been few state-based investigations.¹¹ This study examines CAM use in a state with a large black minority, rural, and low-income population. We report on the lifetime use and past 12 months' frequency of CAM use for 23 therapies that are generally considered to be "complementary" or "alternative." These findings are based on a telephone survey of 1,584 South Carolina adults. We also present demographic correlates of CAM use, user satisfaction with CAM therapies, and involvement of physicians in the use of CAM.

METHODS

Definition

Alternative, complementary, or unconventional health care interventions are difficult to define.^{10,12-15} The classification as "alternative" is defined in relation to a "mainstream." Neither alternative nor mainstream is static in terms of what it encompasses. We adopted a version of the operational definition used by Eisenberg et al⁵ and the National Center for Complementary and Alternative Medicine of the National Institutes of Health¹⁵: medical interventions not taught widely at US medical schools nor generally available at US hospitals. This definition permits the inclusion of a wide range of therapies and, given our initial focus on the use of "alternative" therapies among the public, enables us to identify those treatments that

the general population considers to be outside the traditional mainstream.

Survey

For this cross-sectional study, telephone interviews were conducted with 1,584 South Carolina adults (aged 18 and older) selected by random-digit dial techniques. The response rate for this survey was 66.2%. The questionnaire included items on respondents' general health, specific health conditions, use of alternative therapies (lifetime and in the past 12 months), the perceived effectiveness of the CAM therapy, whether a doctor or other health care professional had recommended the CAM therapy, and, if not, whether they had informed their doctor of the therapy use. All CAM users were also asked (1) whether they would recommend the therapy to a friend or family member, and (2) whether they had ever had a bad experience with the therapy. The term "complementary or alternative medicine" was not used in the questionnaire; rather, respondents were asked about their experience with specific therapies as well as an open-ended item on "any other" types of treatment.

Statistical Analysis

The data were weighted so that the characteristics of the sample reflect those of the South Carolina adult population on the basis of age, race, and sex. All analyses were conducted using SPSS.¹⁶ We calculated 95% confidence intervals for the frequency of CAM use by type.¹⁷ Statistical differences in CAM use by demographic attributes were identified using chi-square tests at an α level of .05.¹⁸

TABLE 1. Frequency of Complementary or Alternative Medicine (CAM) Use Among 1,584 Residents Responding to the Random-Digit Dial Survey

CAM Therapy	Any CAM Use (During Lifetime)			CAM Use in the Past 12 Months		
	No.	%	(95% CI for %)	No.	%	(95% CI for %)
Any use of complementary or alternative medicine	801	51.7%	(49.2-54.2%)	677	43.7%	(41.2-46.2%)
Personal therapies (including home remedies, herbal medicine, homeopathy, or vitamin therapy)	427	27.5%	(25.3-29.9%)	388	25.0%	(22.9-27.3%)
Relaxation techniques (including massage therapy, imagery, or visualization)	399	25.7%	(23.6-28.0%)	348	22.5%	(20.4-24.6%)
Chiropractors	317	20.5%	(18.5-22.6%)	135	8.7%	(7.4-10.2%)
Healing (including healers, spiritual healing, Native American healers, or energy healing)	73	4.6%	(3.7-5.9%)	66	4.2%	(3.3-5.4%)
Commercial weight loss programs	69	4.5%	(3.5-5.6%)	38	2.5%	(1.7-3.4%)
Life-style diets	67	4.3%	(3.4-5.5%)	60	3.9%	(3.0-5.0%)
Self-help groups	41	2.6%	(1.9-3.6%)	33	2.1%	(1.5-3.0%)
Hypnosis or biofeedback	30	1.9%	(1.3-2.8%)	10	0.6%	(0.3-1.2%)

TABLE 2. Reasons Respondents Gave for Using Specific CAM Therapies

Type of CAM Therapy	No. CAM Users	Why CAM Therapy Was Used							
		To Treat a Specific Health Problem							
		To Stay Healthy	Musculoskeletal or Neurologic	Psychosocial	Cardiovascular/ Hormonal/Metabolic	OB-GYN/ Urogenital	Gastrointestinal	Allergy/ Respiratory	Other
Personal therapies	622	48.4%	10.9%	1.4%	3.5%	5.6%	2.9%	17.7%	9.6%
Relaxation	478	55.9%	22.0%	13.0%	1.3%	1.0%	0.6%	1.0%	5.2%
Chiropractors	332	12.3%	82.6%	1.2%	0.3%	0.3%	1.2%	1.8%	0.3%
Healing	87	59.8%	8.0%	5.7%	3.4%	3.4%	3.4%	2.3%	14.0%
Commercial weight loss programs	82	75.6%	1.2%	1.2%	20.8%	0.0%	0.0%	0.0%	1.2%
Life-style diet	67	85.1%	3.0%	0.0%	10.4%	0.0%	1.5%	0.0%	0.0%
Self-help	44	40.9%	9.1%	2.3%	2.3%	0.0%	0.0%	2.3%	34.1%
Hypnosis or biofeedback	41	41.5%	4.9%	12.2%	12.2%	0.0%	4.9%	0.0%	14.6%
All other CAM therapies	78	23.1%	26.9%	1.3%	9.0%	10.3%	13.9%	8.9%	6.3%

RESULTS

Use of Complementary and Alternative Medicine

Table 1 provides the number and proportion of respondents who reported lifetime and recent CAM use by specific therapy groupings. Complementary or alternative medicine therapies were grouped according to similarity of the therapies and presented by prevalence of use. In this population, almost 52% reported use of at least one CAM therapy in their lifetime, and 44% reported use of at least one of the listed CAM therapies during the past 12 months. The most commonly reported CAM therapy grouping, classified as personal therapies, included home remedies, herbal therapy, vitamins, or homeopathy (27.5% reported use during their lifetime). This grouping was followed closely by relaxation therapies (25.7% reported lifetime use of massage therapy, imagery, or visualization). One in every 5 surveyed had used a chiropractor in their lifetime, while 1 in 12 had used a chiropractor in the past 12 months. A much smaller proportion (4.6% lifetime use) reported using healing therapies (including healers, spiritual healing, Native American healers, or energy healing), commercial weight loss programs (4.5%) or life-style diets (4.3%), self-help or support groups (2.6%), and hypnosis or biofeedback (1.9%). Less than 1% of those interviewed reported any use of other types of CAM therapies (data not shown).

Reasons for CAM Use

Respondents who reported using a CAM therapy were asked whether they used this treatment primarily to stay healthy or to treat some health problem. Overall, 47% of reported CAM use was to maintain health rather than as treatment for a specific health condi-

tion, though as the data in Table 2 indicate, there was significant variation by type of CAM treatment. A large majority of those who used life-style diets (85.1%) and commercial weight loss programs (75.6%) did so primarily to stay healthy, and a majority of the use of healing therapies (59.8%) and relaxation therapies (55.9%) was to maintain health. Slightly less than half of the use of personal therapies was to maintain health, and a relatively high percentage of such use was for treatment of allergies or other respiratory problems (17.7%). Those using chiropractors were disproportionately using this therapy to treat a specific health condition (87.7%), most of which involved a musculoskeletal or neurologic problem. The relatively high percentage of those who used a self-help group to treat "other" health problems represents participants in cancer survivor groups.

Demographics of CAM Use

Table 3 provides demographic characteristics of those ever using or recently using any CAM therapy. Women were significantly more likely than men to use CAM therapies. White respondents were more likely to report at least one CAM use than were black respondents; however, there were not significant differences in recent CAM use by race. Middle-aged and older respondents were significantly more likely to use a CAM therapy than those younger than 30. Almost 50% of those with some college education were recent CAM users, compared with approximately a 40% CAM use rate among those with a high school education or less. Divorced or separated respondents were significantly more likely to report CAM use than were married, widowed, or single respondents. Living in an urban or rural

TABLE 3. Demographic Characteristics of Respondents Using Complementary or Alternative Medicine (CAM)

Demographic Characteristics	No. of Respondents in Demographic Strata	Any CAM Use		CAM Use in the Past 12 Months	
		No.	Weighted %	No.	Weighted %
All respondents	1,556	801	51.7%	677	43.7%
Sex		*		†	
Male	591	357	49.0%	294	40.3%
Female	965	435	54.8%	378	47.5%
Race		†			
Black	345	178	45.9%	158	40.7%
White	1,142	582	54.5%	486	45.5%
Other (Asian, Hispanic, Native American)	21	NE		NE	
Not stated	76				
Age		†		†	
18-29	290	164	40.1%	146	35.7%
30-45	470	294	58.4%	261	51.0%
46-64	442	206	59.4%	170	48.9%
65 or older	312	114	50.7%	85	37.8%
Not stated	70				
Education		†		†	
Less than high school	274	115	48.7%	95	40.3%
High school diploma	459	217	46.6%	178	38.2%
Some college	401	250	59.2%	210	49.5%
College graduate	376	195	54.6%	177	49.4%
Not stated	74				
Family income				*	
Less than \$15,000	252	107	52.2%	97	47.3%
\$15,000-\$29,999	319	176	52.5%	151	45.1%
\$30,000-\$49,999	330	173	51.2%	140	41.5%
\$50,000 and over	328	211	60.1%	187	53.1%
Not stated	355	NE		NE	
Marital status		†		†	
Married or living as married	850	469	55.2%	392	46.2%
Widowed	201	107	53.2%	86	42.8%
Divorced or separated	215	146	67.9%	129	60.0%
Never married	240	116	48.3%	108	45.0%
Missing	78				
Urban or rural county of residence					
Urban counties	565	287	51.5%	248	44.4%
Rural counties	991	506	51.8%	423	43.4%

*P value = .01-.05 for chi-square test.

†P value < .01 for chi-square test.

NE = Proportion not estimated.

area was not significantly associated with CAM use.

Using these background characteristics as independent variables in logistic regression models of lifetime and past 12 month use of CAM therapies shows age to be the most important predictor of CAM use at some point during a lifetime, while higher education is the best predictor of CAM use during the past 12 months. Race, income, and sex were not significant correlates of CAM use after adjusting for age and education.

Satisfaction With Alternative Therapies

Table 4 provides the results of respondents' assessment of CAM effectiveness (extremely, very, somewhat, not too, or not at all effective), whether they reported a bad experience with any CAM therapy, and whether they would recommend the treatment to a friend or family member. As the figure for any CAM

use indicates, 63.3% of users perceived their therapy to be very or extremely effective, though there was some variation among types of CAM therapies. Those 68 using commercial weight loss programs were least likely to report this therapy as extremely or very effective (44.9%), whereas the 73 respondents using a range of healing therapies were most likely to rate these therapies as effective (79.3%). About 10% of those using commercial weight loss programs and 10% of those using hypnosis or biofeedback reported a bad experience with these therapies. Those using healing therapies were significantly more likely to perceive this therapy to be effective relative to all other therapies, while those using commercial weight loss programs were significantly less likely to report this therapy as effective. Less than 5% of CAM users reported a bad experience with the CAM therapy. Those using hypnosis or biofeedback and those using commer-

TABLE 4. Measures of Satisfaction With Complementary and Alternative Medicine Therapies

Type of CAM Therapy	No. of CAM Users	% Reporting CAM as Extremely or Very Effective	% Having "Bad Experience" With CAM Therapy	% Who Would Recommend CAM to Friends/Family
Personal therapies (including home remedies, herbal medicine, homeopathy, or vitamin therapy)	425	62.0%	4.0%	87.8%
Relaxation techniques (including massage therapy, imagery, or visualization)	399	64.1%	2.4%	92.0%
Chiropractors	314	63.1%	7.7%	86.3%
Healing (including healers, spiritual, healing, Native American healers, or energy healing)	73	79.3%	3.2%	89.2%
Commercial weight loss programs	68	44.9%	10.5%	69.4%
Life-style diets	65	72.0%	7.4%	82.3%
Self-help groups	41	73.7%	7.5%	88.2%
Hypnosis or biofeedback	29	59.8%	10.9%	80.7%
Any CAM use	801	63.3%	4.7%	87.7%

cial weight loss programs were most likely to report a bad experience. More than 85% of CAM users said they would recommend these therapies to friends or family members. Those using commercial weight loss programs were least likely to recommend this therapy (69.4%), while those using relaxation techniques (92%) were most likely to recommend the therapy.

Physician Involvement With Alternative Therapies

Table 5 presents the proportion of CAM users whose physician or other health care professional recommended the CAM therapy. Those whose health care professional did not recommend the CAM therapy were also asked whether they had informed their physician about their CAM use. We combined this information to provide the proportion of CAM use of which doctors were unaware. These data show distinctions in the types of alternative therapies that physicians recommend and, consequently, in the percentage of physicians who are aware of the use of these complementary treatments. Physicians recommended biofeedback for 39.3% of users of this therapy and for one third of those using life-style diets, self-help groups, and relaxation techniques. Physicians were least likely to recommend healing therapies (7.4%), and thus physicians were least likely to be informed of their patients' use of healing therapies (72.9%). Physicians were most likely to be aware of self-help or support group participation and life-style diets.

Users of CAM therapies received information about these treatments from a number of different sources. While about 1 in 5 users identified a medical doctor as the primary

source of their information about CAM therapies, a similar percentage (20.1%) cited a spouse or other relative as their source of information. Smaller percentages mentioned magazines (16.4%), a friend or neighbor (9.2%), their own experience (8.8%), television (6.0%), books (5.3%), newspapers (4.2%), or other health care professionals (4.1%).

DISCUSSION

Our survey in South Carolina, a rural state with a large minority population, found that consumers' use of complementary and alternative therapies is similar to that found in contemporary national studies.¹⁻³ The unique characteristics of the state and region do not seem to translate into differences in CAM use, either in terms of overall prevalence or in the use of specific treatments. Recent national surveys by Eisenberg et al¹ and Landmark Healthcare Inc² showed that 42% of the American adult public had used at least one CAM therapy during the past 12 months (1997). The comparable figure for the state of South Carolina approximately 1 year later is 44%, and use of therapies such as herbal medicine, life-style diets, and vitamin therapy during the past 12 months was virtually identical to that reported by Eisenberg et al.¹ Personal therapies (such as home remedies and herbal medicine) and relaxation therapies were found to be the most prevalent, and about half of the users of these specific treatments used them to maintain health rather than to treat ailments. Middle-aged health care consumers were most likely to report using CAM at least once during their lifetime, and advanced education was the best predictor of use within the past year. With some differences across

TABLE 5. Physician Involvement in Their Patients' Use of Complementary or Alternative Medical Therapy

Type of CAM Therapy	No. of CAM Users	% Physicians Who Recommended CAM Use	% Patients Who Told Provider of CAM Use	% Physicians Unaware of Patient's CAM Use
Personal therapies (including home remedies, herbal medicine, homeopathy, or vitamin therapy)	425	15.2%	25.8%	62.9%
Relaxation techniques (including massage therapy, imagery, or visualization)	399	31.4%	18.1%	56.2%
Chiropractors	314	24.7%	34.1%	49.6%
Healing (including healers, spiritual, healing, Native American healers, or energy healing)	73	7.4%	21.3%	72.9%
Commercial weight loss programs	68	16.6%	33.2%	55.7%
Life-style diets	65	33.2%	35.2%	43.3%
Self-help groups	41	33.4%	42.7%	38.2%
Hypnosis or biofeedback	29	39.3%	12.1%	53.4%
Any CAM use	801	23.7%	25.7%	56.8%

CAM type, users generally reported positive experiences with these treatments, indicating they would recommend the treatments to family or friends. Judgments of the treatments' effectiveness varied correspondingly: about three quarters of those using healing therapies, life-style diets, and self-help groups reported them extremely or very effective, compared with less than one half of users of commercial weight loss programs.

As noted earlier, searching for consensus in defining CAM and its components may obscure more fluid and dynamic social, cultural, and economic realities.¹⁹ Although antiscientific, non-Western, religious, and counter-cultural concepts and therapies are likely to rise and fall in public popularity, well-designed trials using the methods of modern medical research increasingly are being undertaken to determine the effectiveness of various treatments currently being classified as CAM.²⁰ Therapeutic or preventive approaches and interventions, whether they originate inside mainstream medicine or without, can be found more or less effective by these means. Such evidence may factor into whether a treatment will be widely adopted in alternative provider practice or in self-care, or integrated within mainstream medical practice. Effectiveness is rarely the sole or even predominant determinant of the use and advocacy of particular treatments when health-care beliefs, practices, values, and interests conflict. This is shown even within mainstream medicine in the well-documented problems of aligning professional practice with evidence of effectiveness. At the same time, the relatively affluent, well-educated health care consumers (those we find most likely to use CAM now) may feel competent to judge and feel empow-

ered to demand evidence of effectiveness for preventive or therapeutic interventions. The high level of consumer interest, use, and investment in CAM presage more boundary shifting in the modern medical paradigm and continuing struggles for professional and regulatory control.

Our research suggests that in South Carolina, there is not currently a high level of physician involvement in the use of the defined complementary and alternative treatments, though this varies considerably across treatment types. Overall, physicians are aware of CAM use for about 45% of their patients who are users. Those treatments with higher physician recommendation rates conceptually appear to be "complementary" rather than truly "alternative." These more complementary therapies may provide a snapshot of the frontline territory in the integration of CAM with mainstream medical care. Associating CAM therapies with medical practice may increase acceptability and use of certain therapies. About one third of our respondents indicated that a physician's recommendation would make them more likely to try a CAM therapy. Future research is needed to determine the impact of the growing use of CAM on public health, medical training, and medical practice in South Carolina and nationally.

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