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Medical Pluralism among American Women: Results of a National Survey

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ABSTRACT

Background: **Medical pluralism can be defined as the employment of more than one medical system or the use of both conventional and complementary and alternative medicine (CAM) for health and illness. American women use a variety of health services and practices for women's health conditions, yet no national study has specifically characterized women's medical pluralism. Our objective was to describe medical pluralism among American women.**

Methods: **A nationally representative telephone survey of 808 women ≥18 years of age was conducted in 2001. Cross-sectional observations of the use of 11 CAM domains and the use of an additional domain—spirituality, religion, or prayer for health—during the past year are reported. Women's health conditions, treatments used, reasons for use, and disclosure to conventional physicians are described, along with predictors of CAM use.**

Results: **Over half (53%) of respondents used CAM for health conditions, especially for those involving chronic pain. The majority of women disclosed such practices at clinical encounters with conventional providers. Biologically based CAM therapies, such as nutritional supplements and herbs, were commonly used with prescription and over-the-counter (OTC) pharmaceuticals for health conditions.**

Conclusions: **Medical pluralism is common among women and should be accepted as a cultural norm. Although disclosure rates of CAM use to conventional providers were higher than in previous population-based studies, disclosure should be increased, especially for women who are pregnant and those with heart disease and cancer. The health risks and benefits of polypharmacy should be addressed at multiple levels of the public health system.**

INTRODUCTION

MEDICAL PLURALISM CAN BE DEFINED as the use of more than one medical system or the use of both conventional and complementary and alternative (CAM) therapies, now known to be commonplace in America. The use of CAM by the general population in the United States has been well documented during the last decade, with past-year timeframe prevalence rates ranging

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from 29% to 42% when spirituality, religion, and prayer were excluded from the measure of CAM[1–6] and up to 62% when spirituality religion, and prayer were included.[2] A commonly used definition of CAM is that it includes heterogeneous therapies not taught in medical schools or typically prescribed by conventional medical doctors,[7] yet CAM users do not commonly forsake conventional medicine, usually taking a pluralistic approach to illness and wellness behaviors.[8,9]

National studies have also described CAM use among special populations, such as racial/ethnic groups,[1,10] minority elders,[11,12] and women.[13,14] One national study was specifically designed to sample minority women, including the largest immigrant groups in the United States, Chinese Americans and Mexican Americans.[15–19] These national studies have shown that, even while definitions of CAM may shift and populations age or are changed by immigration patterns, medical pluralism is an American cultural norm.

Women use medical services of all kinds more than men do,[20] including CAM.[1–6,21] Women are often the caretakers, health educators, and decision makers for their families and spend 2 out of 3 healthcare dollars.[22] Estimates of CAM use among women range from 36% to 52%,[13–16] and CAM use is particularly notable (52%–76%) among women at midlife.[23–25]

National studies of minority women,[15–18,26] female elders,[27] rural women,[28] and women at midlife[23–25] have contributed to our understanding of women's pursuit of a variety of healthcare options over their life cycle, and more and more studies of those with specific disease conditions, such as cancer patients, have demonstrated that medical service use increases and is pluralistic as we live longer with chronic disease and serious illnesses.[29–32]

Previous studies have characterized the predictors of CAM use and generally described reasons for use, disclosure to doctors, and estimated expenditures. One national longitudinal study of women at midlife reported on the medical pluralism of women with menopausal symptoms,[23,26] but no national study has focused on women's health conditions over their life-cycle and women's pluralistic approach to healthcare. Our study was designed to examine health condition-specific use of medical services and practices both CAM and conventional, reasons for CAM use in the context of wellness and illness, visits to healthcare providers for each condition, and disclosure of CAM use directly related to the medical encounter with conventional providers.

MATERIALS AND METHODS

Study design

This cross-sectional study of women ≥18 years of age living in the United States was designed to provide nationally representative data on women's use of CAM during the year prior to the survey, as well as estimates and predictors of use among four racial/ethnic groups. Here, we report on the nationally representative sample. Studies using the samples of women in four racial/ethnic groups were reported previously.[15–19] This study was approved by the Columbia University Medical Center Institutional Review Board.

Sample

This sample was drawn through a random generation of telephone numbers and an elimination of known business and nonworking numbers by a nationally recognized survey research firm. GENESYS, a random-digit dialing sampling system (GENESYS Telecommunications Laboratories, Daly City, CA), was employed to generate a sample of English-speaking women in households with telephones. A net total of 24,372 numbers were drawn across 48 states. Each household called was screened for eligible respondents. For those households with more than one eligible participant, the woman who most recently had a birthday was selected for the interview.

Pilot studies and field testing

Preparation for the study included four focus groups[33] and a cross-sectional telephone survey of women in New York City.[34] This pilot work contributed to the selection of conditions, wording of questions, and conceptual frameworks as well as two pretests of the survey instrument.

Interviews

All interviewers participated in training sessions and were provided with an extensive field guide and supplementary instructions. Interviewers were monitored by investigators and senior staff at the survey research firm for quality control. Interviews were conducted using computer-assisted telephone interviewing. Of num-

bers called and answered, 11% terminated during the screening process, 10% refused to participate after the study had been introduced, and another 5% spoke languages other than English. During April and May 2001, 808 interviews were completed. The average length of the interviews was 14 minutes.

Measures

Women were asked about their use of 11 CAM domains for health reasons, including vitamins and nutritional supplements (excluding daily multiple vitamins or standard doses of vitamins A, B, C, E, or calcium); a special diet, such as whole foods, macrobiotic, or other vegetarian diet (excluding diets to lose weight, such as Weight Watchers or Jenny Craig); medicinal herbs or teas; remedies or practices associated with a particular culture, such as Chinese medicine, Ayurveda, Native American healing, Curanderismo; homeopathic remedies; yoga/meditation/tai ji; chiropractic treatments; manual therapies, such as massage or acupressure; energy therapies, such as Reiki or therapeutic touch; acupuncture; or any other remedy or treatment not typically prescribed by a medical doctor. We also captured the use of spirituality, religion, or prayer for health reasons. Based on these data, we created three summary measures to assess overall use of CAM in the past year. The first measure included use of any one of 12 modes or therapies, including spirituality, religion, or prayer for health reasons. The second measure excluded the use of spirituality, religion, or prayer and consisted of the use of one or more of 11 CAM modes within the past year. A third measure was created to count the number of CAM domains used in the previous year.

The survey also included questions on seeing a medical doctor in the past year, seeing CAM practitioners in the past year, and various sociodemographic factors. Women were asked about 16 health conditions over the life cycle, such as menstrual-related disorders, symptoms associated with pregnancy and menopause, such gender-specific illnesses as uterine fibroids or vaginal or urinary tract infections, or conditions of great concern to women as they age, such as osteoporosis and breast cancer. Those who had health conditions were asked if they treated the condition, used CAM, saw a doctor, disclosed CAM use to conventional providers, and used prescription or over-the-counter (OTC) drugs for the condition.

Analyses

Data of sample respondents were weighted to reflect U.S. Census demographics with regard to age, income, and ethnicity within U.S. Census regions. Data were also weighted for the probability of selection within the household based on the number of females ≥18 years in the household. All analyses, including prevalence estimates and multiple variable logistic regression, were performed in SPSS version 11.0 (SPSS, Chicago, IL).

RESULTS

Sample characteristics

The weighted sample of women aged ≥18 years (Table 1) is comparable to estimates in the U.S. Census with regard to age, income, and race/ethnicity and consisted of 71% white women, 12% African American women, 10% Hispanic women, 4% Asian American women, 1% American Indian women, and 2% who defined themselves as other. Women in our sample were an average age of 46 years (range 18–93) and had a median income of $40–60,000.

Prevalence of CAM use

Table 2 shows two estimates of any CAM use, with 67% prevalence when spirituality, religion, or prayer for health was included and 53% when spirituality, religion, or prayer for health was excluded from the measure. After spirituality, religion, or prayer (39%), vitamins (26%) and herbs (18%) were most commonly used.

Among those who reported CAM use, we analyzed the number of types of CAM employed, type of CAM practitioners visited, and use of specific CAM domains. The average number of modalities used in the previous year was 2.2, with most respondents (46%) reporting use of a sole domain. Among CAM users, the most commonly used CAM were vitamins and nutritional supplements, herbs and teas. After excluding daily multivitamin use and calcium supplementation, the majority of respondents who used vitamins or supplements in the past year reported using one (77%); only 5% reported the use of three or more vitamins or supplements. Glucosamine

Table 1. Sample Demographics

Demographics	*Study sample*	*U.S. women based on 2000 Census data*
Race/ethnicity		
White	71.4%	69.8%
African American	12.0%	11.5%
Hispanic	9.9%	10.0%
Asian American	3.6%	3.8%
American Indian	0.8%	0.7%
Other	2.3%	4.2%
Age (mean)	45.73	
≥56	35.8%	30.6%
37–55	36.0%	38.7%
18–36	28.2%	30.7%
Income (median)		$40,000–$60,000
<$20,000	20.9%	22.6%
$20,000–$40,000	23.8%	24.9%
$40,000–$60,000	18.7%	18.3%
$60,000–$80,000	13.7%	13.1%
>$80,000	22.9%	21.0%
Education		
<High school	11.7%	18.6%
High school or trade school	28.8%	30.5%
Some college or 2-year college	31.4%	39.1%
College graduate or more	28.1%	21.8%
Census regions		
Northeast	19.8%	19.0%[a]
Midwest	22.9%	22.9%[a]
South	35.7%	35.6%[a]
West	21.7%	22.5%[a]

[a]Census data are for men and women.

(12%), iron (11%), and zinc (7%) were the most commonly used nutritional supplements. A similar pattern existed among those who used herbs and teas, with 75% reporting the use of one and only 12% reporting the use of three or more herbs and teas. The three most commonly used herbs were chamomile (16%), echinacea (13%), and ginseng (9%) (data not shown).

Predictors of CAM use

In bivariate analyses, predictors of CAM use included living in the west, being younger and more educated, having higher income, insurance, and poor health status. We assessed predictors of CAM use in two models of multiple variable logistic regression analyses, one including and one excluding spirituality, religion, or prayer for health reasons. Higher education and lower health status were associated with higher levels of CAM use in both models, when adjusted for age, income, insurance status, and race/ethnicity. Additionally, income was a significant predictor of CAM use when excluding religion/spirituality (data not shown).

Medical pluralism by condition

Most respondents (90%) had experienced 1 or more of the 16 health conditions we asked about (Table 3). The most commonly cited health conditions were pain conditions. For back pain, joint pain, and headaches, women were likely to use some type of medicine, remedy, or treatment. In contrast, over half of women who wanted to lose weight or had uterine fibroids or insomnia did not treat these conditions. For 6 conditions we asked about (back pain, headaches, insomnia, weight loss, pregnancy-related conditions, and menstrual symptoms), the majority of women who used CAM for the condition did not see a medical doctor for that condition. Use of CAM without seeing a medical doctor was not a common pattern among women with serious ill-

Table 2. Prevalence and Patterns of Complementary and Alternative Medicine (CAM) Use among Women in the United States

	All respondents	*CAM[a] users only[b]*
Any CAM use excluding spirituality, religion, or prayer	53.4%	
Any CAM use including spirituality, religion, or prayer	67.2%	
Specific CAM domains		
Vitamins/nutritional supplements	26.2%	39.1%
Special diets	4.9%	7.4%
Medicinal herbs/teas	17.6%	26.3%
Health practices associated with a particular culture	3.2%	4.6%
Homeopathic remedies	8.6%	12.8%
Yoga/meditation, tai ji	13.8%	20.5%
Chiropractic	15.7%	23.4%
Massage/manual therapies	15.4%	23.1%
Energy therapies	2.3%	3.5%
Acupuncture	3.1%	4.7%
Any other	5.8%	8.6%
Spirituality, religion, or prayer	38.6%	57.7%
Number of CAM domains		
Mean		2.18
1		43.5%
2		24.4%
3+		32.2%
Saw a CAM practitioner		53.8%

[a]CAM, complementary and alternative medicine.
[b]CAM users defined as those who used 1 or more of 11 CAM domains, not including spirituality, religion, or prayer.

nesses, such as heart disease, medically diagnosed depression, or cancer.

For all health conditions for which women both used CAM and saw a medical doctor, the majority of women told their physicians about their CAM use for the condition, with a range of 52%–96% by condition. Women who had used CAM for pregnancy-related symptoms, menopausal symptoms, insomnia, high blood pressure, and cancer were least likely to disclose their CAM use to physicians. The lowest disclosure rate (52%) was for pregnancy-related conditions.

Concurrent use of prescription or OTC treatments with biologically-based CAM therapies

As shown in Table 4, the majority of women with health conditions who used vitamins, herbs, and homeopathic remedies used them at the same time as prescription drugs and OTC medications. It was especially common for women to take vitamins or nutritional supplements along with blood pressure medication, antidepressants, or antiestrogens prescribed after breast cancer—medications commonly used daily. The majority of women who used vitamins or nutritional supplements for pregnancy-related conditions (86%) or menstrual cycle symptoms (82%) used them concurrently with prescription or OTC medications, as did two fifths of women with menopausal symptoms (41%). All women with cancer who used CAM reported that they took herbs at the same time they took prescription medicine for cancer.

Health insurance

Eighty-five percent of our sample had some kind of health insurance. Insurance status was a significant predictor of CAM use, with more than half (55%) of those who had private or public insurance using CAM compared with 44% of those who did not have insurance. Further analyses indicate that the effect of insurance on CAM use is primarily with regard to seeing a CAM practitioner. More specifically, those with some insurance were twice as likely to have seen a CAM practitioner as those who had no insurance (31%

Table 3. Health Conditions in Past Year: Prevalence, Treatments Used, and Disclosure to Medical Doctor

Health condition	% with condition	No treatment[a] %	Treatment, no CAM[a,b] %	Used CAM, no MD[a] %	Used CAM, saw MD[a] %	Disclosed CAM use to MD[c] %	Most popular CAM domains
Back pain	41.3	35.4	30.9	20.5	13.3	80.6	Chiropractic, manual therapies, yoga/ meditation/tai ji
Joint pain or arthritis	37.7	28.2	42.7	11.7	17.4	82.4	Vitamins/nutritional supplements, manual therapies, yoga/ meditation/tai ji
Headaches	32.8	12.6	56.7	16.5	14.2	84.3	Chiropractic, yoga/ meditation/tai ji, manual therapies
Insomnia	27.8	54.8	27.3	10.7	7.2	70.5	Herbs/teas, vitamins/ nutritional supplements, yoga/meditation/tai ji
Weight loss	20.9	68.9	14.3	9.9	6.9	89.9	Vitamins/nutritional supplements, yoga/ meditation/tai ji
High blood pressure	19.6	15.5	69.5	2.4	12.7	67.7	Special diets, herbs, yoga/ meditation/tai ji
High cholesterol	15.3	51.3	39.2	1.9	7.6	95.6	Chiropractic, special diets
Urinary tract/vaginal infections	14.4	7.3	82.9	4.3	5.5	79.7	Vitamins/nutritional supplements, herbs, special diets
Depression	11.0	11.0	66.2	5.4	17.5	85.3	Herbs/teas, vitamins/ nutritional supplements, yoga/meditation/tai ji
Osteoporosis	7.3	18.7	58.3	4.8	18.2	100.0	Vitamins/nutritional supplements, yoga/ meditation/tai ji, acupuncture
Heart disease	4.6	23.0	67.2	0	9.8	100.0	Yoga/meditation/tai ji, vitamins/nutritional supplements, special diets
Uterine fibroids	3.9	76.5	14.1	2.5	6.9	84.6	Homeopathy, yoga/ meditation/tai ji
Cancer[d]	3.8	25.3	59.8	0	15.0	73.5	Vitamins/nutritional supplements, special diets, homeopathy
Pregnancy-related conditions[e]	49.1	42.2	15.7	23.7	18.4	52.0	Herbs/teas, vitamins/ nutritional supplements, yoga/meditation/tai ji
Menopausal symptoms[e]	32.8	50.8	16.5	14.0	18.7	63.8	Soy, vitamin E, calcium, vitamins/nutritional supplements
Menstrual symptoms[e]	50.7	35.3	43.7	16.1	4.9	91.0	Herbs/teas, homeopathy, vitamins/nutritional supplements

[a]Percents based on women with health condition.

[b]CAM, complementary and alternative medicine; CAM use defined as use of any one of 11 domains (religion, spirituality, or prayer excluded) in the past year.

[c]Percents based on women who used CAM and saw an MD for the health condition.

[d]Women with cancer diagnosed up to 5 years prior to the study were asked about health practices used during the year prior to the survey.

[e]Percents based on those eligible for the condition (i.e., women under 45 who reported being pregnant in the past year for pregnancy-related conditions; women over 40 who were not pregnant in the past year for menopausal symptoms; and women 55 or under for menstrual symptoms).

Table 4. Concurrent Use of Prescription or OTC Remedies with Biologically Based Complementary and Alternative Medicine in Past Year

Health condition	*Used Rx[a] or OTC at same time as vitamins, herbs or homeopathy[b]* %	*Vitamins/nutritional supplements at same time as Rx or OTC* %	*Medicinal herbs or teas at same time as Rx or OTC* %
Back pain	55.6	73.5	67.5
Joint pain or arthritis	60.3	64.0	51.6
Headaches	41.0	33.6	51.3
Insomnia	30.3	26.0	29.7
High blood pressure	58.1	100.0	23.2
High cholesterol	18.4	23.7	21.7
Urinary tract/vaginal infections	65.3	73.6	31.1
Depression	46.0	89.4	25.6
Osteoporosis	73.9	76.8	49.9
Heart disease	49.0	49.0	0.0
Uterine fibroids	68.3	0.0	0.0
Cancer	100.0	100.0	100.0
Weight loss	51.7	48.3	55.4
Pregnancy-related conditions	41.5	86.1	22.3
Menopausal symptoms	37.7	41.1	0.0
Menstrual symptoms	47.6	81.8	58.8

[a]Rx, prescription drug.
[b]Among women who used vitamins, herbs, or homeopathy for condition.

vs. 15%). Three quarters of the women who used chiropractic and almost half of women who used acupuncture received at least partial insurance coverage for the care. Manual therapies and energy therapies were reimbursed at the rate of 16% and 22%, respectively (data not shown).

Reasons for using CAM

Personal beliefs were the most commonly cited reasons for women's CAM use. A majority of respondents (60%) cited that using CAM was consistent with their beliefs, and 62% wanted a natural approach to treatment. Social influences were cited by about one third of respondents; these included being influenced by friends and family members (35%) and reading or hearing about these types of treatments in the media (33%) (data not shown).

Purpose of CAM use

Table 5 reports women's purpose of CAM use by each domain: to treat a particular health problem/condition; just to stay healthy or well, or both. Although there was variation in the purpose of use for each domain, some patterns emerged: vitamins/nutritional supplements, herbs or teas, diets, spirituality, and yoga were rarely used only as treatment for specific conditions. For all five of these domains, at least three quarters of respondents reported that they used the domain to stay healthy or that they used it both to stay healthy and to treat a specific health condition. A few modalities were much more commonly used to treat a health problem. For instance, 84% of those who used acupuncture in the past year used it to treat a health condition, whereas only 15% reported using it both for a particular health condition and to stay healthy. Those who used chiropractic or homeopathy were also unlikely to report that they used them only to stay healthy. Most used chiropractic to treat a particular health problem (54%) and homeopathy to both treat a health problem and stay healthy (52%). Respondents used manual therapies, remedies associated with a particular culture, and energy therapies in the past year to treat specific health conditions, to stay healthy, or both in equal proportions. Women who employed mind/body techniques, such as yoga, tai ji, and meditation used them most often to stay healthy (62%).

Table 5. Purpose of Complementary and Alternative Medicine (CAM) Use among Women who Used Specific CAM Domains

	To treat health problem %	*To stay healthy* %	*Both* %
Vitamins/nutritional supplements	15.0	36.3	48.7
Special diets	15.5	41.5	42.9
Medicinal herbs/teas	14.2	42.1	43.7
Practices associated with particular culture	43.4	23.2	33.3
Homeopathic remedies	41.4	7.4	51.2
Yoga/meditation/tai ji	8.1	61.8	30.1
Chiropractic	54.0	4.0	42.0
Massage/manual techniques	31.6	33.4	35.0
Energy therapy	40.5	20.6	38.9
Acupuncture	83.9	0.6	15.5
Spirituality/religion/prayer	6.9	28.6	64.5

DISCUSSION

We found that medical pluralism, the use of both CAM and conventional therapies, is common among women and that they engage in a variety of health practices for common health conditions over the life cycle. We found a higher prevalence of use (53%–67%) among women than has been previously reported, except among a sample of women at midlife.[23,26] The higher rate reported here in comparison to a study conducted with the National Health Interview Survey (NHIS) dataset,[14] which reported 40%–62% prevalence of CAM use among women, may be indicative of sampling and interviewing differences. The NHIS CAM supplement in 2002 was a face-to-face interview and included more minority women than our sample did. Minorities report less CAM use than non-Hispanic whites and may be less likely to disclose healthcare practices during face-to-face interviews, as compared with interviews over the telephone. Education levels in our sample, which are higher than in the U.S. Census, may account either for more CAM use or more disclosure about such use.

Higher education and poor health status continue to predict use of these approaches to healthcare in national studies that include both genders[1–6] and also in studies of women,[13,14] as they did in our sample. Higher levels of education probably indicate a greater ability to navigate available resources, openness to a variety of approaches to health, and empowered information seeking and decision making, factors that may be independent of income. Income was a predictor for CAM use only when spirituality, religion, or prayer was excluded from the CAM measure. Religion, spirituality, and prayer for health are widely used across income strata, and these practices are not usually associated with specific treatments or healthcare costs. The influence of spirituality, religion, and prayer on health behaviors within cultural contexts should be further studied.[18]

Although having insurance predicts CAM use, the relationship of insurance status to CAM use is complex, as many CAM treatments are not reimbursable. As insurance status is likely to influence treatment patterns, more research is needed in the context of medical pluralism. The population of the uninsured is diverse and includes those who have limited access to health services of any kind and those who are young and healthy and may not often use health services.

Women reported using herbs and vitamins more than any other CAM, which confirms findings from a study based on the 2002 NHIS CAM supplement.[14] The use of biologically based therapies, most likely used without clinical supervision (given the low rates of visits to CAM practitioners who prescribe herbs and the small proportion of doctors who advise about the use of nutritional supplements and herbs), is a public health concern. Information about herbs and dietary supplements from vitamin and health food store personnel, magazines, the internet, product labels, and advertisements is unreliable. Product quality is variable and not easily deter-

mined, which is also a major public health concern.[35]

The majority of women who used biologically based therapies used them concurrently with prescription or OTC pharmaceuticals for all the conditions we asked about. Women often used biologically based CAM concurrently with OTC and prescription medications for symptoms relating to pregnancy and menstruation. This approach was less common among women at menopause, perhaps because women who use CAM at menopause may be avoiding hormone replacement therapy. Studies of how patients, especially those on daily medications for chronic conditions, make decisions and communicate with their providers are needed. A better understanding of how to manage the risks of polypharmacy, whether CAM or conventional, is essential to the health of Americans.

A majority of women in our sample disclosed CAM use to their doctors when consulting them about the same condition for which they used CAM. We report higher rates of CAM disclosure than other studies.[3,5,8,36] Many people may use herbal treatments or vitamin supplements to treat colds and flu, for example, but if they do not see a doctor for the condition and it does not have sequelae, they are unlikely to report this use to their doctor during a subsequent medical encounter for another reason. We asked women whether they had told their doctor about their CAM use for the specific condition for which they visited the doctor. Women see doctors more often,[20] ask more questions, and have longer medical encounters when compared with men,[22] and these factors may lead to higher disclosure rates for women. Another possible reason for the higher rates of our study is that our data were collected in 2001, whereas previous reports of disclosure were from earlier time frames. The demographic research of the 1990s may have stimulated healthcare providers not previously oriented to asking about CAM use to do so, and women responsive to information about CAM from a variety of popular sources may have reported more often.

Although the majority of women disclosed CAM use, many did not. Obvious public health concerns arise, given that biologically based therapies are most commonly used, leading to considerable risk of herb/drug interactions, improper dosing, and use that is not concordant with traditional knowledge. Of special concern is the number of women who used biologically based therapies while on blood pressure medication or pregnant or with a diagnosis of cancer, for example, and who did not disclose to their doctors. This is a wakeup call to cardiologists, obstetricians, and oncologists, who need to ask patients about their health practices more effectively.

Social networks among women and family relationships have been reported as the most common reasons for CAM use.[17] Negative factors related to conventional care (high costs, side effects, and limited efficacy) are not so commonly reported.[14,15,17,18] The majority of women in this sample (61% of CAM users) cited wanting "natural treatments." Although it is unclear what exactly women mean by this, it is often reported as a desired approach to treatment and may refer to practices that are perceived to work with the natural processes of the body, to be nontechnological, to have minimal side effects, and to come from natural sources, such as plants. Women in this sample sought care and used treatments pragmatically for their conditions (i.e., chiropractic, manual therapies, and yoga/meditation and tai ji for back pain), using a variety of modalities to treat problems or to stay healthy and well.

As this and other studies have shown, [8,17,18] pragmatism seems to motivate medical pluralism, especially among those with more education, as people seek to solve their health problems with a variety of approaches. Whether the discussion of medical pluralism is anchored to the economics of healthcare, consumer choices, and markets or the discussion is driven by provider-patient relations and clinical concerns, the healthcare system must incorporate an assumption of medical pluralism as a normative, pragmatic approach among Americans in all sectors. The majority of American populations engage in a variety of practices for health maintenance or try them when ill. The distinction between CAM and conventional medicine is often an artifact of the research and clinical professions and may no longer be useful for many. The interplay of professional care and self-care, communications within and around encounters between patients and providers, medical charting, referral systems, and professional and patient education trump the usefulness of characterization of modalities as CAM or conventional.

Study limitations

The results of our study are limited in generalizability to English-speaking women who live in households with telephones. Cross-sectional studies serve to describe populations and outline associations between predictors and outcomes. Health behaviors are complex and have temporal dimensions that are not addressed by cross-sectional data. Our sample, when weighted, was representative of the U.S. population as characterized by the U.S. Census decennial reports for 2001 on most qualifiers. Education demographics were not included in the configuration of sample weights; therefore, our sample differed from U.S. census estimates by level of education (60% vs. 50% reporting more than a high school education). To explore the effect of this potential bias, we assessed overall prevalence of CAM use employing a weight for education. Estimates differed by <1% when the weight was employed.

These data were collected in 2001 and, therefore, do not describe most current use by women in the United States. Given recent findings about decreases in hormone therapy use as a result of findings from the Women's Health Initiative,[37] CAM use, particularly among perimenopausal and menopausal women, is likely to have increased since this study was conducted. Although our study cannot provide estimates of current CAM use, the data serve as a valuable baseline for future studies. Sampling for this study was designed to provide a nationally representative snapshot of CAM use among women. As a consequence, this study does not address CAM use among certain subpopulations of women, such as racial/ethnic minorities and non-English-speaking immigrants. Other studies using the same survey instrument and targeted sampling for minority women report on the medical pluralism of diverse populations of women living in the United States, including the two largest immigrant populations.[15–19]

Using a random sample of the U.S. population of women resulted in small samples and unstable estimates of CAM domains and disease conditions that are not highly prevalent. Small sample size, low prevalence of CAM use for some conditions, and the skip patterns in our questionnaire sometimes resulted in low cell numbers in Tables 3, 4, and 5 for less common conditions (such as cancer, heart disease, osteoporosis, and uterine fibroids), and inferences drawn from these data should be cautious.

PUBLIC HEALTH IMPLICATIONS AND FUTURE DIRECTIONS

An estimated 56.5 million women used some form of CAM, and over 30 million women saw at least one CAM practitioner in the year prior to the survey, which was conducted in 2001. Medical pluralism has now been well described in American women, and the characteristics of such use have been confirmed by several population-based studies focusing exclusively on women.[13–19,23–26] CAM use is common and will likely increase as babyboomers age, and as the current younger cohort, who have come of age for medical decision making with medical pluralism a cultural norm, attend to ailments of aging with a variety of health practices.[11,12,38,39] A growing emphasis on patient-centered medical care is congruent with increased research on diverse health practices. Medical pluralism should be explored with longitudinal studies to inform health (wellness and illness) behavior models. Such models should be developed and tested in a variety of populations to adequately characterize health behaviors among diverse Americans.

Medical pluralism among women should be accepted as a cultural norm. Communication at medical encounters should be enhanced. Specifically, disclosure rates of CAM use to conventional medical providers should be increased, especially for women who are pregnant and those with heart disease and cancer. Because many women use nutritional supplements and herbs in conjunction with conventional medications, it is necessary to address the risks and benefits of polypharmacy at multiple levels of the public health system.

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