

PRACTICE INSIGHTS

Use of Herbal Medicine by Elderly Hispanic and Non-Hispanic White Patients

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Study Objectives. To determine the types and prevalence of herbal medicines used by Hispanic and non-Hispanic white individuals aged 65 years and older. Secondary objectives were to compare herbal medicine use according to ethnicity, sex, age, socioeconomic status, and education level, and to determine patients' beliefs about herbal medicines. Use of nonphysician health care providers such as acupuncturists and chiropractors also was assessed.

Methods. Data for a cross-sectional, interviewer-administered survey were collected at the University of New Mexico Senior Health Center, an ambulatory health care clinic, in Albuquerque, New Mexico, from February 1996–January 1997. To participate in the study, patients had to be at least 65 years of age, established patients at the clinic, and live independently in a community dwelling. They were excluded if they had dementia, lived in an institution, or belonged to any ethnic group other than Hispanic or non-Hispanic white. Ethnicity was determined by asking the patients in which ethnic group they identified themselves.

Results. A total of 186 patients were surveyed: 84 Hispanic (34 men, 50 women) and 102 non-Hispanic white (47 men, 55 women). Of the 186 patients, 91 (49%) admitted to having taken herbal medicines in the previous year. The most common were spearmint, chamomile, aloe vera, garlic, brook-mint, osha, lavender, ginger, ginseng, and camphor. Most of the patients who used herbal medicines were 65–74 years of age and took them primarily for health care maintenance or self-perceived problems.

Conclusion. As approximately half of the elderly patients stated that they used herbal medicines, health care providers should be knowledgeable about herbal remedies and provide reliable information to their patients about them in a nonjudgmental manner.

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Unconventional, unorthodox, complementary, and alternative are all terms used interchangeably to describe the nontraditional practice of medicine. Examples of such therapies are chiropractic, acupuncture, homeopathy, Chinese medicine, Native-American medicine, relaxation therapy, and herbalism. The National Institutes of Health officially calls such therapies complementary and alternative medicine (CAM). These therapies often are classified as CAM because

they consider illness in the body as a whole, not limited to a disease or symptom.¹ As patients become dissatisfied with the traditional health care system and begin to take control of their own health care, this holistic concept of health care is gaining popularity.² Many managed care organizations now cover visits to practitioners of selected CAM, and a recent Washington State law mandates insurance coverage for licensed CAM practitioners.¹

Several research groups have attempted to determine the extent of CAM use in the United States. One study was a random telephone survey of 1539 adults in the United States in 1990.² Thirty-four percent of respondents had used unconventional therapy in the preceding year; one third of these patients had consulted alternative medicine practitioners. The most popular therapies reported were relaxation techniques (13%), chiropractic (10%), massage (7%), imagery (4%), and spiritual healing (4%). Only 3% of the respondents had taken an herbal medicine in the preceding year.

This study was repeated in 1997 by the same investigators.³ It, too, was a random telephone survey, this time of 2055 adults in the United States. Forty-two percent of respondents had used unconventional therapy in the preceding year, and nearly half of these patients had consulted alternative medicine practitioners. The most popular therapies were relaxation techniques (16%), herbal medicine (12%), massage (11%), chiropractic (11%), and spiritual healing (7%). Those taking herbal medicine jumped from 3% to 12% in the 5 years between the two studies.

Few demographic studies in the literature specifically address herbal medicine use, and, to our knowledge, no study has investigated this issue strictly in elderly Hispanic and non-Hispanic white patients. Some, but not all, previous studies have shown that use of herbs or other home remedies is less common among older than younger patients.⁴⁻⁷

We attempted to determine the types and prevalence of herbal medicines used by Hispanic and non-Hispanic white patients at an ambulatory health care clinic for patients aged 65 and older. Secondary objectives were to compare herbal medicine use according to ethnicity, sex, age, socioeconomic status, and education level, and to determine patients' beliefs about herbal medicine. We also assessed use of nontraditional practitioners.

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Methods

The study was a cross-sectional, interviewer-administered survey of elderly patients seeking care at the University of New Mexico Senior Health Center in Albuquerque, New Mexico, from February 1996-January 1997. The clinic's patient population is approximately 66% non-Hispanic white, 33% Hispanic, and 1% other ethnicities. At the time of the study, the clinic had over 650 patient visits/month.

Study Patients

To be included in the study, patients had to be at least 65 years of age, established at the clinic, and live independently in a community dwelling. Patients were excluded if they had a diagnosis of dementia, lived in an institution, or belonged to an ethnic group other than Hispanic or non-Hispanic white. Patients with dementia were excluded because their memory about herbal medicine use may have been incomplete or inaccurate. Those living in an institution were excluded because their access to herbal remedies may have been limited. Ethnicity was determined by asking the patients in which ethnic group they identified themselves.

Patient charts were screened for eligibility, and while those eligible were waiting at the clinic to see their physician, they were invited to participate in the study. Over 95% of eligible patients agreed to participate; each was individually administered the questionnaire in a private room after informed consent was obtained. The interviewers were trained by observing three interviews and then being monitored while they conducted three interviews. Each interview required approximately 15 minutes. Patients were informed that a Spanish-speaking interpreter was available if needed. They were asked about their experience with prescription and nonprescription drugs, herbal remedies, and nontraditional healers. They also were asked about their beliefs regarding herbal remedies and allopathic healers.

Patients were asked to review a list of common herbal remedies available in the southwestern United States. This list was based on the knowledge of herb use in that region and on a previous survey by one of the authors, who was a medical resident and local herbalist. For each herbal remedy used, patients were asked to list the perceived health problems for which they had used the herb. Any herbal medicines used that were not on the list were to be written down at

Table 1. Demographics of All Study Patients

	No. (%) of Patients				Total (N=186)
	Hispanic Men (n=34)	Hispanic Women (n=50)	Non-Hispanic White Men (n=47)	Non-Hispanic White Women (n=55)	
Age (yrs)					
65–74	21 (61.7)	30 (60.0)	24 (51.1)	27 (49.0)	102 (54.8)
75–84	10 (29.4)	19 (38.0)	18 (38.3)	17 (30.9)	64 (34.4)
≥ 85	3 (8.8)	1 (2.0)	5 (10.6)	11 (20.0)	20 (10.8)
Education					
Grades 0–8	18 (52.9)	30 (60.0)	4 (8.5)	5 (9.1)	57 (30.6)
Grades 9–11	7 (20.6)	10 (20.0)	5 (38.3)	3 (5.5)	25 (13.4)
High school	3 (8.8)	5 (10.0)	5 (38.3)	14 (25.5)	25 (13.4)
> High school	6 (17.6)	5 (10.0)	33 (70.2)	33 (60.0)	77 (41.4)
Income (\$/month)					
0–500	7 (20.6)	24 (48)	0	5 (9.1)	36 (19.4)
501–1000	17 (50.0)	21 (42)	14 (29.8)	22 (40.0)	74 (40.0)
1001–1500	4 (11.8)	2 (4)	7 (14.9)	15 (27.3)	28 (15.1)
> 1500	5 (14.7)	2 (4)	23 (48.9)	12 (21.8)	42 (22.6)
Unknown	1 (2.9)	1 (2)	3 (6.4)	1 (1.9)	6 (3.2)
Used herbal medicines in the past year					
No	12 (35.3)	21 (42.0)	31 (66.0)	31 (56.4)	95 (51.0)
Yes	22 (64.7)	29 (58.0)	16 (34.0)	24 (43.6)	91 (49.0)

the end of the list.

For this study, herbal remedy was defined as a plant-derived product used for treatment or prevention of a disease. Excluded from the list were herbs used only for cooking or other reasons not related to health (e.g., the patient likes the taste of spearmint tea, or always drinks chamomile tea with breakfast). Oregano or garlic used to season food did not qualify as an herbal remedy, nor did melatonin or glucosamine, which are not strictly plant derived. Spearmint and brook-mint were listed as separate remedies, although they are closely related and often are used for the same indication.

Prescribed drugs and medical diagnoses were obtained by reviewing the patients' clinical charts after each interview. Drugs were coded using the *American Hospital Formulary Service* six-digit codes; medical problems were coded using the *International Classification of Diseases, ninth revision* (ICD-9).

Statistical Analysis

Power analysis to compare the dichotomous variables with α and β set at 0.05 and 0.20, respectively, with an expected difference of 25% between groups, indicated that 46 patients were needed in each of the four groups (Hispanic and non-Hispanic white men and women) for a total of 184 patients. Data collection was stopped at 1 year because the total reached 186 even though

the Hispanic male group did not reach the goal of 46. The female groups were filled easily, but the male groups were difficult to fill because men—especially Hispanic men—use services less than women.

An SAS database (SAS Institute, Cary, NC) was constructed from the coded variables and used to analyze the results; 100% of data entry was checked and errors corrected. Univariate analysis was performed using χ^2 analysis for frequency data. Multivariate analysis was performed using logistic regression to control for income, education level, and age in analyzing the ethnicity variable for its association with the outcome dichotomous variable of herbal medicine use.

Results

One hundred eighty-six patients were surveyed (Table 1). More than half (55%) were aged 65–74 years, had either less than 8 years of education (31%) or more than a high school education (41%), and earned \$500–1000/month (40%). No significant differences were noted between Hispanic and non-Hispanic white patients with regard to sex, but the non-Hispanic white patients were significantly older, had more years of education, and earned more income than the Hispanic patients. Two Hispanic and four non-Hispanic white patients declined to answer the question regarding income.

Table 2. Demographics of Patients Who Used Herbal Remedies

	No. (%) of Patients				Total (N=186)
	Hispanic Men (n=34)	Hispanic Women (n=50)	Non-Hispanic White Men (n=47)	Non-Hispanic White Women (n=55)	
Age (yrs)					
65–74	12 (54.5)	19 (65.5)	12 (75.0)	13 (54.2)	56 (61.5)
75–84	8 (36.3)	9 (31.0)	3 (18.8)	9 (37.5)	29 (31.9)
≥ 85	2 (9.1)	1 (3.4)	1 (6.25)	2 (8.3)	6 (6.6)
Education					
Grades 0–8	11 (50.0)	22 (75.9)	3 (18.8)	1 (4.2)	37 (40.7)
Grades 9–11	5 (22.7)	4 (13.8)	2 (12.5)	2 (8.3)	13 (14.3)
High school	1 (4.5)	1 (3.4)	3 (18.8)	3 (12.5)	8 (8.8)
> High school	5 (22.7)	2 (6.9)	8 (50.0)	18 (75)	33 (36.3)
Income (\$/month)					
0–500	4 (18.2)	18 (62.1)	0	0	22 (24.2)
501–1000	11 (50.0)	9 (31.0)	5 (31.3)	9 (37.5)	34 (37.4)
1001–1500	3 (14.5)	1 (3.4)	3 (18.8)	6 (25.0)	13 (14.3)
> 1500	4 (18.2)	0	6 (37.5)	8 (33.3)	18 (19.8)
Unknown	0	1 (3.4)	2 (12.5)	1 (4.2)	4 (4.4)

Table 3. The 10 Most Common Herbal Remedies Used in the Past Year

Herb	% of Patients Using Remedy		Most Common Reasons for Use (% of patients using remedy)
	Hispanic Patients (n=51)	Non-Hispanic White Patients (n=40)	
Spearmint	65 ^a	8	Dyspepsia (58) Health care maintenance (22)
Chamomile	45 ^b	15	Anxiety, insomnia (38) Dyspepsia (31)
Aloe vera	22	45 ^c	Skin problem (79) Health care maintenance (21)
Garlic	25	28	Health care maintenance (75) Hypertension (21)
Brook-mint	31 ^c	10	Dyspepsia (35) Cold symptoms (25)
Osha	18	8	Cold symptoms (33) Dyspepsia (17) Bladder infection (17) Skin problem (17)
Lavender	18	5	Cough (28) Health care maintenance (18) Anxiety, insomnia (18)
Ginger	6	18	Health care maintenance (27) Cold symptoms (18) Dyspepsia (18)
Ginseng	8	15	Health care maintenance (90)
Camphor	16	5	Cold symptoms (14) Skin problem (14)

^ap<0.001.

^bp<0.01.

^cp<0.025.

Our chart review indicated that the 10 most common medical diagnoses were hypertension (40%), degenerative arthritis (32%), depression (18%), hypothyroidism (18%), diabetes (17%),

dyspepsia (13%), high cholesterol (11%), coronary artery disease (10%), chronic heart failure (10%), and chronic pulmonary disease (9%).

Table 4. The 10 Most Common Reasons for Using Herbal Remedies in the Past Year

	% of Patients Using Remedy	
	Hispanic Patients (n=51)	Non-Hispanic White Patients (n=40)
Health care maintenance	51	63
Dyspepsia	55 ^a	13
Skin problem	20	50 ^b
Cold symptoms	33	25
Anxiety, insomnia	29	13
Arthritis	14	5
Cough	16 ^b	0
Nausea or vomiting	14	3
Bladder infection	10	8
Gastroenteritis	8	10

^ap<0.001.^bp<0.01.

Of the 186 patients, 91 (49%) had used herbal remedies in the previous year; Table 2 lists the demographics of these patients. Table 3 lists the most common herbal remedies used and Table 4 the most common reasons for using them. Except for health care maintenance, the reasons can be classified as self-perceived conditions or symptoms not requiring a physician for diagnosis. Patients rarely used herbal therapies for treating serious or life-threatening disorders.

The 91 patients who used herbs received information about them from family, friends, or the media. Patients were allowed to provide more than one answer to the question regarding their sources of information. Of the Hispanic and non-Hispanic white patients, 84% and 60%, respectively, learned from family members (p=0.009); 29% and 48%, respectively, from friends (NS); 20% and 38%, respectively, from magazines or books (NS), and 8% and 13%, respectively, from television or radio (NS).

Less than 10% of patients learned about herbal remedies from their physician, nurse practitioner,

folk healer, herbalist, or acupuncturist. No patients reported a pharmacist as the source of their herbal knowledge. Although not specifically addressed in the survey, we believe that communication about herbal remedies is not initiated by either patients or pharmacists. Patients may assume that pharmacists do not know how to use herbal medicines, and therefore they do not consult a pharmacist about them. Conversely, pharmacists may not ask patients if they use herbal medicines, thus missing opportunities to counsel patients.

Hispanic and non-Hispanic white patients were equally likely to obtain herbal products from a grocery or drug store (52%), a health food store (41%), or a family member or friend (19%). Only 7% of patients purchased herbs from an herbalist. Hispanic patients were more likely than non-Hispanic white patients (47% vs 18%, respectively, p=0.003) to gather or grow herbs. Hispanic and non-Hispanic white patients were equally likely to take herbal medicines in tablet or capsule form (37%) or apply them topically (35%). However, more Hispanic patients preferred to consume herbs as a tea (92% vs 40%, p=0.001), and more non-Hispanic white patients preferred to use them in a tincture or elixir (18% vs 2%, p=0.009). Patients could have provided more than one answer for both of these questions regarding where they obtained herbal medicines and how they used them.

Answers to questions about patients' beliefs regarding herbal remedies are listed in Table 5. Patients also were asked how they thought their doctor felt about herbal products; 27% stated that their doctor would not approve, 17% that their doctor may approve of using them for some conditions, and 11% that their doctor would approve; 45% didn't know or didn't answer.

Only 23% of all study patients paid for their own prescription drugs, whereas 45% paid for their own herbal products. For most (76%)

Table 5. Answers to Questions About Herbal Remedy Use

Survey Questions	% of Patients Responding Yes	
	Hispanic Patients (n=51)	Non-Hispanic White Patients (n=40)
Do you tell your doctor you use herbs?	28	23
Would you prefer a prescribed herb to a prescribed drug?	70	79
Are herbs safer than prescribed drugs?	37	34
Are herbs cheaper than prescribed drugs?	65	52
Are herbs more effective than prescribed drugs?	20	12
Do you think pharmacists should be educated about herb use?	90	94
Do you think doctors should be educated about herb use?	82	90

Table 6. Percentage of Patients Who Consulted a CAM Practitioner in the Past Year: Comparison of Our Study Results with Those of Two Previous National Studies

CAM Practitioner	Our Study	1990 ²	1997 ³
Chiropractor	9	7	10
Massage therapist	4	3	7
Acupuncturist	3	< 1	1
Herbalist	2	< 1	2
Folk healer (<i>curandera</i>)	2	NA	NA
Homeopath	1	< 1	< 1

CAM = complementary and alternative medicine; NA = not available.

patients, prescriptions were covered by insurance or indigent care with little or no copayment. Herbal products were not covered by insurance or indigent care, thus 10% of patients gathered or grew their own herbs. This may explain the unexpected finding that 65% of Hispanic and 52% of non-Hispanic white patients felt that prescription drugs were less expensive than herbal remedies.

Patients were asked if they had seen a chiropractor, homeopath, acupuncturist, massage therapist, herbalist, or folk healer (*curandera* in Spanish) in the past year (Table 6). A *curandera* is a type of Mexican folk healer who uses herbal medicines and rituals to drive out bad spirits; this practitioner has no American equivalent.

Of interest, our findings are comparable with those of both previous studies discussed earlier^{2,3} regarding use of chiropractors, massage therapists, acupuncturists, herbalists, and homeopathy practitioners. The most common alternative practice in both studies was relaxation techniques; our survey did not ask patients about these.

Discussion

All 186 study participants were patients at the Senior Health Center, which emphasizes a complementary rather than an alternative use of herbal medicines. Approximately half (61% of Hispanic, 40% of non-Hispanic white) of the patients had used herbal remedies in the previous year ($p \leq 0.01$). Most of these patients, in both ethnic groups, were 65–74 years of age. Hispanic patients were more likely to have less than a high school education and a low monthly income than non-Hispanic white patients, most of whom had more than a high school education and a higher monthly income. Patients were more likely to use herbal remedies for minor, self-perceived ailments rather than serious or life-threatening

illnesses. Hispanic patients were more likely to use these remedies for dyspepsia or cough, and non-Hispanic white patients were more likely to use them to treat skin disorders. Spearmint, chamomile, and brook-mint were used more by Hispanic patients, aloe vera more by non-Hispanic white patients.

This was a cross-sectional study, which is a limitation. The potential exists for recall bias in our patient population, especially because we surveyed elderly patients, whose memories may not always be accurate. Our study reflects the use of herbal remedies by elderly Hispanic and non-Hispanic white patients only in New Mexico, and our results may not be representative of Hispanic and non-Hispanic white patients in the general United States population.

Ironically, this study cannot be generalized for exactly the same reason that we conducted it: to study a local population, which is more enlightening than studying a heterogeneous nation. Even with this limitation, our results showed that 49% of patients had used herbal products in the preceding year. These findings are similar to those of previous studies showing that 42–73% of patients had used herbal products or folk remedies. In the studies that obtained information from older patients, 62–67% used herbs or folk remedies.

One study reported the use of home remedies in 1235 Hispanic patients living in four counties in Texas near the U.S.-Mexico border.⁴ The top 10 remedies reported were chamomile, aloe vera, rue, anise, spearmint, wormwood, orange leaves, sweet basil, oregano, and garlic. The most common symptoms treated were stomachache, cough, *nervios* (Spanish for a general condition of nervousness with no English equivalent), colic, and fever.

Another study reported the use of folk medicine by patients in urban and rural primary care clinics in West Virginia.⁵ Folk medicine was defined as “the use of nonprescription, nonproprietary herbs, plants, minerals, and animal substances in the treatment of common ailments.” Of 170 patients surveyed, 73% had used one or more folk remedies during the preceding year (mean 4.46 remedies/person). No statistically significant differences were noted between urban and rural patients or between sexes in use of folk medicine. However, folk medicine use was inversely proportional to age; only 67% of patients older than 50 years used folk medicine versus 96% of patients younger than 35 years.

The 10 most common remedies mentioned were salt, baking soda, aloe vera, sweet oil, honey, horehound, peppermint, alcoholic beverages, lemon, and vinegar. The most common symptoms treated were ear, nose, and throat problems; skin conditions; gastrointestinal disorders; respiratory problems; and cold or flu symptoms.

A random survey of residents in rural Mississippi found that 71% of 251 patients had used at least one plant-derived remedy in the preceding year.⁶ Use was higher among patients aged 45–64 years than those younger or older than this age-group; 62% of those aged 65 years and older used plant-derived remedies. African-American patients were more likely than non-Hispanic white patients to use plant-derived remedies. The most common remedies reported were lemon, aloe, castor oil, turpentine, tobacco, garlic, poke, and sassafras. The most common reasons for using the remedies were respiratory symptoms, skin problems, insect bites or parasite infestations, cardiovascular symptoms, and gastrointestinal problems.

In a random survey of residents in Iowa, 42% of respondents had used herbal medicines.⁷ Use was highest among non-Hispanic white women educated beyond high school who were taking several prescription drugs. The most common herbs reported were aloe, garlic, ginseng, Echinacea, and St. John's wort.

More recently, a study in the El Paso, Texas, region identified that 59% of 547 Hispanic and non-Hispanic white participants, aged 18–82, were using herbal or home remedies, most commonly chamomile, aloe vera, peppermint, lime, garlic, and oregano.⁸ Information about the effect of age on herb use was not provided, but 64% of the 435 Hispanic patients used herbal or home remedies. The most common CAM providers used by this population were massage therapists (19%), herbalists (12%), chiropractors (12%), and acupuncturists (7%). Eight percent made lifestyle changes, 4% used homeopathy, and 3% visited curanderas or folk healers.

Health care providers may be uncomfortable with their patients' use of nontraditional medical practices, such as herbal remedies. This may be reflected by our finding that only about 25% of patients surveyed told their doctor that they use herbal medicines. However, most of these patients felt that physicians and pharmacists need to be educated about herbs. The need for physicians is perceived as slightly lower than for pharmacists because, as one patient stated,

“Doctors have to learn too much already.”

In spite of the truth in that comment, all health care professionals should be able to provide basic knowledge to patients who want information about herbal products, and to provide it in a nonjudgmental manner. One of the most interesting findings of our study was that no patient received information about herbal products from a pharmacist, even though 52% of patients purchased these products in a drugstore or grocery where a pharmacist was likely to be available. If patients do not obtain their herbal information from a health care professional, it most likely will be furnished by a family member, friend, magazine, book, television, or radio.^{8,9}

Conclusion

All health care professionals have the responsibility to provide their patients with reliable information about herbal products, as many studies have confirmed their use in many different patient populations. Schools for health care professionals should add CAM to their curriculum to reflect the needs of their students' future patients.

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