

## Herbal Remedies Used by Selected Migrant Farmworkers in El Paso, Texas

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**ABSTRACT:** *Context:* Little is known about the use of complementary and alternative medicine among the approximately 1.6 million migrant farmworkers in the United States. *Purpose:* To evaluate the use of medicinal plants and natural remedies among a convenience sample of 100 migrant farmworkers living temporarily in a migrant worker center in El Paso, Texas. *Methods:* A structured interview instrument was designed to elicit information about reasons for medicinal herb use, form in which herbs were ingested, serious side effects experienced, location of purchase, effectiveness of treatment, and use of allopathic medications. *Findings:* The majority of workers used herbal remedies or other natural products because they believed them to be more effective than pharmaceuticals and because of tradition. Most learned about herbal remedies from a relative, primarily from their mother, and the majority who used herbal remedies believed them to be very helpful in treating specific illnesses. No adverse reactions to any herbal remedy were reported. The majority of participants did not inform their physician about their use of herbal remedies. According to the literature, potential adverse interactions between herbal remedies used and allopathic medications included gastrointestinal irritation, renal toxicity, and hypoglycemia. *Conclusions:* Health care providers must be knowledgeable about the use of herbal remedies among migrant farmworkers. By showing an understanding of and sensitivity to the use of these remedies, health care providers will be able to conduct more comprehensive health assessments of migrant workers and their families and provide them with more culturally competent care.

A commonly cited estimate of the number of migrant and seasonal farmworkers in the United States is 4.2 million. These workers live in every state of this nation, and about 1.6 million are classified as migrants.<sup>1</sup> Migrant farmworkers lack dependable access to health care services, and they have more health problems than the general population.<sup>2-6</sup>

The Office of Migrant Health, Department of Health and Human Services, defines a migrant as "an individual whose principal employment is in agriculture on a seasonal basis, who has been so employed within the last 24 months, and who establishes for the purpose of such employment, a temporary abode."<sup>7</sup> A seasonal worker is defined by the same criteria, but does not change residence.

Although the National Agricultural Workers Survey (NAWS) includes data on both migrant and nonmigrant agricultural workers, the survey findings

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are helpful in understanding certain characteristics of migrant farmworkers.<sup>8</sup> A recent NAWS revealed that 81% of the US farm labor force was born in a foreign country, and of these 95% were Mexican nationals. The average age of agricultural workers was 31, and 80% were male. About 84% spoke Spanish, and less than 5% of the Mexican-born farmworkers could read and speak English well. Over half (52%) lacked work authorization.<sup>8</sup>

In the NAWS, the median highest grade of schooling completed was sixth grade, with most completing this schooling in their country of origin. About 45% of farmworkers had children and, of those who were parents, half were not accompanied by their children. Three fifths of the workers and their families lived below the poverty level.

In the US, studies estimate that some form of complementary and alternative medicine (CAM) is used by about 42% of the population.<sup>9</sup> CAM is defined by the National Center for Complementary and Alternative Medicine as "a group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine."<sup>10</sup> Persons with certain chronic diseases and disabilities may be even more likely to use CAM. In a recent nationally representative sample of the US population, subjects with diabetes were found to be 1.6 times more likely to use CAM than subjects without diabetes.<sup>11</sup>

The literature indicates that CAM use is high among Hispanics with diabetes. A study of Hispanics in the United States, Mexico, and Guatemala revealed that the Mexican participants used a variety of folk remedies to treat diabetes.<sup>12</sup> Eid and Kraemer<sup>13</sup> found that many Hispanic patients combined conventional medical treatment plans with their own folk remedies, including herbal teas and nopal (prickly pear cactus—*Opuntia* spp). A study of Mexican Americans residing in a Texas/Mexico border community revealed that one third of those studied used home remedies in conjunction with their prescribed diabetes therapy.<sup>14</sup>

In a study of the use of alternative therapies among Mexican Americans living in south Texas, Keegan<sup>15</sup> found that 44% of her subjects had consulted with an alternative practitioner and had used herbal medicines at least once during the previous year. About 66% of the subjects in this study reported that they did not inform their established primary health care provider about visits to alternative practitioners.

A study of 245 Hispanic patients living in West Texas revealed that about 53% of subjects used folk remedies and healing rituals in addition to conventional medicine.<sup>16</sup> Another Texas-based study of a randomly selected sample of 40 Mexican-American families

revealed that decisions to use conventional medicine, folk medicine, or both were based primarily on the characteristics of their symptoms.<sup>17</sup>

Two studies conducted in El Paso, Texas, examined Hispanic patients' use of herbal remedies. In a survey of 905 El Paso residents, researchers found that Hispanics were more likely than non-Hispanic whites to use folk remedies to maintain good bowel function and less likely to seek health care for bowel complaints.<sup>18</sup> Rivera, Ortiz, Lawson, and Verma<sup>19</sup> studied 547 El Paso residents and found that 64% of the Hispanic subjects used herbal or home remedies. Of those using herbal remedies, 69% did not inform their health care provider. About 94% of the subjects in this study reported that they learned about herbal therapies from friends and family members. A literature search of multiple databases revealed no studies examining the use of CAM among migrant farmworkers.

The purpose of the present study was to evaluate the use of medicinal plants and natural remedies among a convenience sample of migrant farmworkers living temporarily in an urban migrant worker center in El Paso, Texas. The study goals were to identify specific herbs used and to describe how these herbs were obtained and prepared, indications for which herbs were taken, sources of information about herbs, and users' ratings of both the effectiveness and possible side effects of these herbal therapies.

## Methods

**Instruments and Translation.** Translation/back-translation methods were employed in the development of the Spanish version of the informed consent document and the interview instrument. Both documents were first written in English and then translated into equivalent Spanish by a qualified translator. The Spanish version was back-translated into English by a second qualified translator, and the results were compared with the original English version. In order to ensure the clarity of both the English and Spanish versions, modifications were made to the instruments with the assistance of the translators, following recommendations for decentering in the development of dual-language instruments.<sup>20-22</sup>

The structured interview instrument was designed to elicit the following information about a list of 50 specific medicinal herbs: reasons for and duration of use, form in which herbs were administered, serious side effects experienced, location of purchase, participants' ratings of the effectiveness of treatment, and whether participants informed their physician about use of this herb. Participants also provided information about additional herbs used that did not

appear on the survey list, and a listing of any allopathic medications used was created for each participant. Demographic characteristics of the participants were also obtained as well as information about their use of health care and pharmaceutical services in the US and Mexico during the previous 12 months.

**Sample.** After obtaining the approval of the Institutional Review Board at the University of Texas at El Paso, a convenience sample of 100 migrant farmworkers was selected from individuals residing at the Centro de los Trabajadores Agrícolas Fronterizos (CTAF [Migrant Farmworker Center]) in downtown El Paso. During a period of 8 weeks, the investigators approached migrant workers in the evening after they returned from work and asked them to participate in the study. The study inclusion criteria were (1) being a migrant farmworker (a person who has worked in agriculture during the preceding 2 years who has changed residence in order to obtain work), (2) age 18 or older, and (3) residing temporarily at the CTAF. Participants were informed of the voluntary nature of participation in the study and their ability to withdraw from the study at any time, and they were assured that their ability to reside at the CTAF in the future would not be compromised whether they participated or not.

The project director (second author) and her administrative assistant (third author), who are both bilingual (English/Spanish), conducted the interviews in Spanish between October 2002 and February 2003. Because many participants had minimal formal education or were functionally illiterate, the statement of informed consent was read aloud to them. Participants who wished to take part in the study then signed the informed consent form.

## Findings

A total of 100 migrant farmworkers were interviewed; of these, 90% were born in Mexico. The Mexican states of origin included Durango (22%), Chihuahua (21%), Coahuila (18%), and Zacatecas (7%). Although they migrated for work, participants had lived in El Paso County at least part of the year for a mean of 11 years (range 1 to 50 years). The mean age of the participants was 53 years (range 19 to 79), and the annual income was less than \$10,000 for 99% of the sample. The participants included 92 men and 8 women, and the majority (83%) had a sixth-grade education or less. Self-reported ethnicity for the participants was Mexican, 82%; Mexican American, 12%; and Hispanic/Other, 6%.

When questioned about their health status, most of the farmworkers perceived it to be excellent (5%) or good (75%), whereas 20% reported that their health was fair or poor. The majority had not consulted a medical doctor in the US or Mexico during the previous year. Most of the participants lacked health insurance, and 14% reported having some type of health coverage, mainly Medicare (10%) and Medicaid (2%).

The majority of workers interviewed (98%) reported that they used herbal remedies or other natural products. Of those who used herbs, the principal reasons given for choosing herbal remedies was that they were more effective than pharmaceuticals (33%) and because of tradition (28%). About 10% of the participants used herbs primarily because they were less expensive than allopathic medications. The majority (82%) purchased medicinal herbs in the US or in Mexico, but some participants (16%) obtained their herbs by direct harvest in Mexico. When questioned about the sources of their knowledge about herbal remedies, 75% responded that they had learned about herbs and their therapeutic uses from a relative, primarily from their mother. Most participants (60%) reported using herbs throughout their lives and planned to continue using them.

The majority (98%) of participants who used herbs believed that the herbal remedies they used were helpful in treating their illnesses. None of the participants reported an adverse reaction to any herbal remedy. When asked if they had informed their physician about the use of herbal remedies, 82% of the participants responded that they had not.

Table 1 provides a summary of the herbal remedies used most commonly. Most participants used herbal remedies as topical agents or as a tea. Lime and garlic were used by 61% of the participants, whereas more than 50% used chamomile and mint for therapeutic purposes.

The 3 principal uses for the top 10 herbal remedies used are detailed in Table 2. Lime was the most common remedy taken and was primarily used to treat sore throats and other symptoms of upper respiratory infections, but it also was used to prevent indigestion and bacterial infection from contaminated food, to prevent asthma, to lower elevated cholesterol levels, and to maintain overall good health. A number of remedies, including chamomile, mint, wormwood, oregano, mullein plant, and cinnamon, were reported to be helpful in treating gastrointestinal complaints such as stomachache and diarrhea.

Because 24% of the participants reported using allopathic medications (either prescription or over-the-counter), the literature on potential drug-herb interactions was examined. Of those taking allopathic

**Table 1. Herbal and Home Remedies Used by Participants (N = 100)**

Remedy (English Name)	Remedy (Spanish Name)	Percent Using
Garlic	Ajo	61
Lime	Limón	61
Chamomille	Manzanilla	60
Peppermint	Yerba buena, Hierbabuena	57
Eucalyptus	Eucalipto	52
Aloe vera	Sábila, Zábila	51
Wormwood	Estafiate	50
Mullein plant, everlasting*	Gordolobo	44
Cinnamon	Canela	42
Oregano	Orégano	38
Cactus	Nopal	36
Chaparral	Gobernadora, Guamis	30
Tomato poultice	Cataplasma (emplasto) de tomate	28
Rue	Ruda	28
Orange tree flower	Flor de azahar	24
Sage	Salvia	23
Camphor	Alcanfor	21
Cooking oil	Aceite de cocinar	17
Oak	Encino	10
Cat's claw	Uña de gato	8
Peyote	Peyote	7
Ginseng	Ginseng	6
Damiana	Damiana, Pastorcita	5
Linden tree flower	Flor de tila	5
Ginger	Jengibre	3
Pumpkin seed	Semilla de calabaza	3
Sarsaparilla	Zarzaparrilla	2
Saw palmetto	Palma sabal	2
Ginkgo biloba	Ginkgo	1
Jimson weed	Toloache	1
Noni	Noni, Morinda	1
Valerian	Valeriana	1

\* Mullein, in this case, refers to *Gnaphalium spp* (Asteraceae), known as "gordolobo" in Mexican traditional medicine, which should not be confused with an unrelated plant, also known as mullein (*Verbascum thapsus*), which is of European origin.

medications, the majority purchased the drugs in Mexico, principally because of lower cost. Table 3 shows the various combinations of medications and herbal remedies taken by participants and outlines potential herb-medication interactions.

### Discussion

Herbal remedies and natural products were used by 98% of migrant farmworkers in this study. This percentage is higher than reported in previous studies of herbal medicine use among Hispanics. Because the use of herbal medicine and alternative healers is deeply

**Table 2. Three Principal Uses Reported for 10 Most Commonly Used Herbs**

Herb	Principal Use	Second Use	Third Use
Garlic	Maintain good health	Arthritis	Rheumatism
Lime	Sore throat	Cough & cold	Stomachache, prevent food contamination
Chamomile	Stomachache	Cough & cold	Eye irritation
Peppermint	Stomachache	Cough & cold	Maintain good health
Eucalyptus	Cough & cold	Throat irritation	Bronchitis
Aloe vera	Skin irritations/ wounds	Ulcers	Arthritis
Wormwood	Stomachache	Cough & cold	Diarrhea
Mullein plant	Cough & cold	Flu	Stomachache
Cinnamon	Cough & cold	Maintain good health	Stomachache
Oregano	Cough & cold	Indigestion, nausea, stomachache	Throat irritation

entrenched in Mexican culture, the fact that 90% of the sample was Mexican likely contributed to this high rate.

An accumulating body of literature indicates that many Hispanics in the US do not inform their health care providers about the use of herbal remedies.<sup>15,19,26</sup> In the present study, 82% of the participants did not tell their physician that they were taking herbal remedies. Because migrant workers in this study did not inform their health care providers, they likely did not receive expert guidance about using combinations of allopathic and herbal medications despite potential drug-herb interactions.

This was a convenience sample of workers, mostly of Mexican origin, who were living temporarily in an urban setting and whose average age was older than other agricultural workers in the US. The results, therefore, cannot necessarily be generalized to other migrants working on the US/Mexico border or elsewhere in the nation. Nevertheless, the results of this study may be helpful to clinicians and researchers as they work with migrant farmworkers and design more rigorous studies of herbal medicine use based on more representative samples.

Health care providers must be knowledgeable about the use of herbal remedies among migrant farmworkers in order to provide appropriate health care. By displaying an understanding of and sensitivity to the use of these remedies, health care providers will be able to conduct a more comprehensive health assessment of migrant workers and their families and, therefore, offer more culturally appropriate medical

**Table 3. Selected Potential Adverse Interactions Between Allopathic Medications and Herbal Products (Based on Review of Relevant Literature\*)**

Medication	Herbal Products Used With Listed Medication	Potential Adverse Interactions of This Combination
Aspirin	Garlic (oral)	Increased bleeding
	Aloe vera (topical)	Increased gastrointestinal tract irritation
	Chaparral (tea)	Increased gastrointestinal tract irritation
	Rue (tea)	Increased gastrointestinal tract irritation
	Saw palmetto (topical)	Increased gastrointestinal tract irritation
	Cactus (oral)	Decrease bioavailability of medication
Ibuprofen	Garlic (oral)	Increased bleeding
	Cactus (oral)	Could alter bioavailability of medication
	Aloe vera (oral) Cat's claw	Increased renal toxicity Increased gastrointestinal tract irritation
Imodium	Cooking oil (oral)	Increased diarrhea
	Cat's claw (oral)	Increased gastrointestinal tract irritation
Metformin	Eucalyptus (tea)	Hypoglycemia
	Aloe vera (oral)	Hypoglycemia
Metoprolol	Garlic (oral)	Could lower blood pressure
	Cactus (tea)	Could alter bioavailability of medication
Naproxen	Garlic (oral)	Increased bleeding
	Cinnamon (tea)	Increased gastrointestinal tract irritation
Thera Flu	Chaparral (tea)	Increased nephrotoxicity
	Orange tree flower (tea)	Increased drowsiness with antihistamine
	Ginseng (tea & oral)	Increased heart rate and blood pressure

\* Brinker, 2001;<sup>23</sup> Herr et al, 2002;<sup>24</sup> Jellin, 2003.<sup>25</sup>

care. Knowledge of traditional herbal usage in migrant families will allow health care providers to exercise caution when prescribing medications and treatments in order to avoid potential adverse herbal-medication interactions.

## References

- US Department of Health and Human Services, Public Health Service, Health Resources and Services Administration. *An Atlas of State Profiles Which Estimate Number of Migrant and Seasonal Farm Workers and Members of Their Families*. Rockville, Md: US Dept of Health and Human Services; 1990.
- Dever GEA. *Migrant Health Status: Profile of a Population With Complex Health Problems*. Austin, Tex: National Migrant Resource Program; 1991.
- Goldsmith MF. As farmworkers help keep America healthy, illness may be their harvest. *JAMA*, 1989;261:3207-3213.
- Rust GS. Health status of migrant farmworkers: a literature review and commentary. *Am J Public Health*. 1990;80:1213-1217.
- Slesinger DP, Christenson BA, Cautley E. Health and mortality of migrant farm children. *Soc Sci Med*. 1986;23:65-74.
- Wilk VA. *The Occupational Health of Migrant and Seasonal Farmworkers in the United States*. 2nd ed. Washington, DC: Farmworker Justice Fund Inc; 1986.
- Public Health Service Act, 42 USC §329; 1983.
- US Department of Labor. *Findings from the National Agricultural Worker Survey (NAWS) 1997-1998: A Demographic and Employment Profile of United State Farmworkers*. Washington, DC: US Dept of Labor; 2000. Research Report No. 8.
- Eisenberg DM, Davis RB, Ettner SL, et al. Trends in alternative medicine use in the United States, 1990-1997. *JAMA*. 1998;280:1569-1575.
- National Center for Complementary and Alternative Medicine. What is complementary and alternative medicine? 2002. Available at: <http://nccam.nih.gov/health/whatiscam/#sup2>. Accessed April 14, 2003.
- Egede LE, Ye X, Zheng D, Silverstein MD. The prevalence and pattern of complementary and alternative medicine use in individuals with diabetes. *Diabetes Care*. 2002;25:324-329.
- Weller SC, Baer RD, Pachter LM, et al. Latino beliefs about diabetes. *Diabetes Care*. 1999;22:722-728.
- Eid J, Kraemer H. Mexican American experience with diabetes. *J Nurs Scholarsh*. 1998;30:393.
- Brown SA, Hanis CL. Culturally competent diabetes education for Mexican Americans: the Starr County study. *Diabetes Educ*. 1999;25:226-236.
- Keegan L. Use of alternative therapies among Mexican Americans in the Texas Rio Grande Valley. *J Holistic Nurs*. 1996;14:277-294.
- Marsh WW, Hentges K. Mexican folk remedies and conventional medical care. *Am Fam Physician*. 1988;37:257-262.
- Chesney AP, Thompson BL, Guevara A, Vela A, Schottstaedt MF. Mexican-American folk medicine: implications for the family physician. *J Fam Pract*. 1980;11:567-574.
- Zuckerman MJ, Guerra LG, Drossman DA, Foland JA, Gregory GG. Health-care-seeking behaviors related to bowel complaints: Hispanics versus non-Hispanic Whites. *Dig Dis Sci*. 1996;41:77-82.
- Rivera JO, Ortiz M, Lawson ME, Verma KM. Evaluation of the use of complementary and alternative medicine in the largest United States-Mexico border city. *Pharmacotherapy*. 2002;22:256-264.
- Brislin RW, Lonner WJ, Thorndike EM. *Cross-Cultural Research Methods*. New York, NY: Wiley; 1973.
- Lange JW. Methodological concerns for non-Hispanic investigators conducting research with Hispanic Americans. *Res Nurs Health*. 2002;25:411-419.
- Marin G, Marin BV. *Research With Hispanic Populations*. Newbury Park, Calif: Sage Publications; 1991.
- Brinker FJ. *Herb Contraindications and Drug Interactions*. Sandy, Ore: Eclectic Medical Publications; 2001.
- Herr S, Edzard ME, Young VSL, eds. *Herb-Drug Interaction Handbook*. New York, NY: Church Street Books; 2002.
- Jellin JM, ed. *Natural medicines comprehensive database*. Stockton, Calif: Therapeutic Research Facility. Available at: <http://www.naturaldatabase.com>. Accessed May 22, 2003.
- Poss J, Jezewski MA. The role and meaning of *susto* in Mexican Americans' explanatory model of type 2 diabetes. *Med Anthropol Q*. 2002;16:360-377.