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Cynthia M. Goody  
*University of Iowa*

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# AN ETHNOGRAPHIC APPROACH DESCRIBING USES OF MEDICINAL PLANTS BY RURAL GUATEMALAN WOMEN

Cynthia M. Goody, Ph.D., R.D., L.D.  
University of Iowa

## ABSTRACT

Much is known about the application of medicinal plants in health belief systems and in ethnopharmacological and botanical settings in Guatemala. What remains less understood is why and how rural women, the family's primary health care provider, use medicinal plants to treat family members' illnesses. Using an ethnographic approach, this work describes twenty women's responses about using medicinal plants as a traditional home remedy. Results suggest rural Guatemalan women traditionally use certain plants, because of their immediate availability at no cost, to treat psychological, gastrointestinal, and respiratory illnesses. Also discussed are the implications associated with honoring tradition, affordability, and availability that health care providers may wish to consider before offering modern day medicine to rural Guatemalan women for the purpose of treating health problems.

## INTRODUCTION

Throughout time, medicinal plants have been used as home remedies and traditional therapy for treating certain illnesses and physiological states of health. The outcome of using medicinal plants, which are mainly prepared as hot teas, for treating illnesses and promoting overall state of health and well-being in Latin America is well documented in the recent literature (Cáceres, Menéndez, Méndez et al., 1995; Cáceres, Alvarez, Ovando, & Samayoa, 1991; Desmarchelier, Gurni, Ciccía, & Giulietti, 1996; Gorter, Sánchez, Pauw, Pérez, Sanford, & Smith, 1995). These researchers noted that certain plants may be used to treat and prevent sexually transmitted diseases, bacterial respiratory infections, and sciatica. Further, these researchers indicated that certain cultural groups used specific plants as part of rituals and to invoke good omens.

Studies examining medicinal plant use in rural Guatemala occur in the context of health belief systems, ethnopharmacology, and botany (Cáceres, et al., 1995, Cáceres, Alvarez, Ovando, & Samayoa, 1991, Cáceres, Cano, Samayoa, & Aguilar, 1990, Pebley, Hurtado, & Goldman, 1999, Tedlock, 1992). The studies about health belief systems used individual interviews and focus groups rather than ethnographic fieldwork to identify plants used for medicine. The ethnopharmacological and botanical approaches used surveys, plant materials, and in vitro demonstration of antibacterial activity to illustrate the medicinal effect of plants on health. What seems to be lacking in the literature is a discussion about how and why the Guatemalan family health care provider uses medicinal plants.

Rural Guatemalan women serve as their families' primary health care provider. As a first approach, women may use medicinal plants to treat a family member's ailment, usually one of gastrointestinal or respiratory origin. In Guatemala, gastrointestinal and

respiratory illnesses are the leading causes of infant and child mortality and protein-energy malnutrition (Instituto Nacional de Estadística y Ministerio de Salud Pública, 1996, United Nations International Children's Education Fund, 1998). As a second approach, Ladino [a person of both Spanish and indigenous descent] and indigenous women [Mayan] in Guatemala may also rely on traditional providers such as midwives and injectionists to use treatments involving medicinal plants (Pebley, Goldman, & Rodríguez, 1996). As a last approach to treating illness, women may seek, depending on cost and distance from a service, assistance from biomedical providers such as physicians and nurses at public health centers, physicians in private practice, or pharmacists.

This study was part of a larger study investigating rural Guatemalan women's meaning of food. This work examined, using an ethnographic approach, women's descriptions of medicinal plant use for treating family health problems.

## METHODOLOGY

### *Sample*

Twenty women (ten Ladino and ten indigenous) participated in this research. The women were from ten villages near San Carlos Sija, Quetzaltenango, in the western, mountainous highlands of Guatemala. In order to give adequate attention and treatment to the rural Guatemalan women, equal numbers of both cultural groups, Ladino and Mayan, participated in this work. With assistance from a midwife and nurse from San Carlos Sija, participants for this study were selected using purposive convenience sampling. The participants, rather than the interviewer or researcher, are the experts in these interviews because the chosen topic for the interview is one they know well, frequently address, and have chosen attitudes, beliefs, and opinions (Krueger & Casey, 2000).

### *Data Collection*

Qualitative approaches enable the researcher to examine people's ideas, opinions, and perceptions. Understanding a phenomenon requires obtaining first-hand experience from the participant, usually in the form of a dialogue and viewing daily life events. For this research, four in-depth interviews and four participant observations were conducted in each woman's home in 1998 and 1999. Interview questions and participant observation activities were modeled after Scrimshaw and Hurtado's (1987) rapid assessment procedure. Each interview lasted from 45 minutes to an hour. Participant observation in each home lasted from two to four hours.

I conducted the interviews in Spanish. Women responded to questions about what particular medicinal plants they used as traditional, home remedies to treat specific illnesses experienced by their family members. Women's responses were hand-recorded in Spanish and later translated to English. Local officials, women who participated in the pilot study, and other host country informants advised me not to use a tape recorder for recording the women's responses for reasons of personal safety and security.

Participant observation occurred by being a part of family activities. As result, I noted the type of medicinal plants used by each family, availability of medicinal plants at the family's home or in the community, and preparation of certain home remedies and traditional therapies for certain illnesses.

### *Data Analysis*

Once interviews and participant observation concluded, interviews and observations translated and transcribed from fieldnotes, the data were analyzed for reoccurring categories and themes related to how rural Guatemalan women described home use of medicinal plants. A midwife, nurse, physician, all from San Carlos Sija, and I independently read and reread the interview transcripts written in Spanish. In the United States, three researchers from education, public health, and nursing, and I also independently reviewed the interview transcripts written in English. All the individuals who read the transcripts noted the reoccurring themes within each transcript and across all transcripts related to medicinal plants used by rural Guatemalan women.

The first reading of transcripts involved reading for general themes. The second reading, which included marking in the margins sections of similar and dissimilar segments about medicinal plants, generated themes about this topic. Morgan (1993) describes the process of reading and rereading transcripts as code mapping. Code mapping facilitated the construction of the rural Guatemalan women's discussion about medicinal plants. In addition, code mapping produced points of reference representative of all the participants in this study. Guatemalan health care professionals, researchers from the United States and I compared and discussed their results from code mapping. This comparison activity occurring within and across the interview transcripts achieved consistent, conclusive themes about rural Guatemalan women's descriptions of medicinal plant use. Discussing and reviewing the content of the transcripts clarified disagreements between researchers.

Two activities contributed to data trustworthiness. One, discussions about the data with three health professionals (one physician, one nurse, and one midwife) and two educational professionals (two elementary principals/teachers) all from San Carlos Sija validated the results from this work. Six educational and health professionals from the state and national levels in Guatemala read the transcripts and confirmed the research results.

## RESULTS

In this investigation, 20 women and their family members represent 130 people, with an average of seven members per family. Families comprised immediate and extended family members. The 20 who participated in this study had an average age of 35.1 years ( $SD = 8.5$ ; range 22 to 50 years), four years of elementary school ( $SD = 3.4$ ; range 0 to 11 years), an average of five children ( $SD = 2.1$ ; range 1 to 11 children). Although the women differed in their levels of familial social support and household wealth as well as in their cultural, ethnic, and linguistic identities, one major similarity among these women was the concern for the well-being of their families.

The Ladino and Mayan women in this study were similar in the way they described the use of medicinal plants in their homes. This phenomenon is attributed to community integration. Unlike other rural Guatemala communities that are distinctly separated by ethnicity, San Carlos Sija is a highly integrated community of Ladino and Mayan people as result of being founded as a penal colony in 1526 by Bernal Díaz del Castillo, a Spanish conquistador.

Interview excerpts from the women and my observations provide evidence to describe why and how rural Guatemalan women use medicinal plants. Observations interwoven with the participants' words enhance and support the women's statements about home applications of medicinal plants.

### *Reasons for Using Medicinal Plants*

This work confirms some previous studies from rural Guatemala that some plants are acceptable ways to treat illness in rural Guatemala (Cáceres, Alvarez, Ovando, & Samayoa, 1991, Cáceres, Cano, Samayoa, & Aguilar, 1990). Based on my observations, rural women in Guatemala use medicinal plants for various reasons.

"We use medicinal plants because they have a much stronger effect than any medicine from a pharmacy or that is prescribed by a doctor. Plus, we don't go the health center because of the long wait to see the doctor. I learned from my mother and grandmother that medicinal plants cure bronchitis and diarrhea."

### *Application of Medicinal Plants to Treat Illness*

Typically, medicinal plants are boiled with water to make a strong tea that is drunk by the person who is ill. Table 1. presents the 11 medicinal plants cited by the women in this study for treating illness, local name and English translation of the plant's name, its purpose, part of plant used, form in which the plant is used, and number of times quoted by participants. Specifically, women from this study cited using various medicinal plants to treat psychological traumas, respiratory infections, and gastrointestinal infections.

According to all participants, consuming mint acts as a calmativ agent.

"When I'm nervous or worried about having enough to eat, my children being sick, or the corn growing, I drink mint tea because it soothes my nerves. Drinking mint tea makes my tension headaches go away."

All women cited using dried *ruda*, no English translation available, to treat psychological occurrences. When fresh, *ruda* looks and smells much like dill and rosemary.

"During the winter, *ruda* is available, but during the summer, the night frost kills it, unless one has a greenhouse. During the summer, we buy it from the vendors from Almolonga in the Sunday market. It's good for treating people with *susto* (scare), when they have been frightened by something. You boil water with *ruda* to make a tea. Then take tea leaves out of the boiling water and have the frightened person drink the tea. I remember when one of our sons, who was seven-years old at the time, was chased by a rabid dog. He had nightmares and woke up various times during the night screaming and shouting. The midwife, who lives nearby, treated him with a tea made of orange leaves and *ruda*. After the drinking *ruda* tea, he wasn't scared and now is not afraid of dogs."

The women in this study also discussed using *ruda* for another application. They use *ruda*, *achiote* (no English translation), two types of pepper as well as dried chiles as an effective method to treat *ojo* (evil eye).

"We mix different types of plants together to cure *ojo*. It occurs when an adult with an aggressive or angry personality or spirit looks at newborn or a small child. When that person leaves the child, within a half an hour has fever, the child cries for no reason, has no appetite, and has green diarrhea. The treatment for *ojo* includes mixing following



together: nine *achiote* (green leafy plant), nine *pimienta gorda* (paprika/cayenne pepper), nine *ruda*, and dry chiles. This mixture is placed in a handkerchief and passed over the child's body. Then, handkerchief is thrown into the wood burning stove where it explodes as if it were a firecracker, and the child is immediately cured....no crying, no diarrhea, and is really hungry.”

Women in rural Guatemala use numerous other plants, which are growing wild, to treat respiratory infections. The leaves of plants are steeped in boiling water to make a tea or a vapor bath to lessen symptoms.

“Sage grows everywhere. We use its leaves to make a tea that cures head colds, asthma, coughs, and pulmonary infections. We also use chamomile. It grows wild next to our house. When needed, we dry the leaves and use it to prepare a tea that decreases throat inflammation. *Borraja*, no English translation, prepared as a hot sweetened tea with honey, which is drunk every two hours, alleviates congestion associated with respiratory infections.”

“Gargling with *verbena* tea, no English translation, or eucalyptus tea decreases throat inflammation, stuffiness and in doing so, lessens the effects of respiratory infections, especially those associated with bronchitis. A vapor bath made with either *verbena* or eucalyptus leaves and branches clears the nasal passages.”

Rural Guatemalan women frequently treat gastrointestinal illnesses with medicinal plants prepared as tea or parts of the plant that are consumed whole.

“When I or one of my kids has an upset stomach, we drink mint tea. I make with dried leaves and boiled water. If we do not have mint at our house, then I will use chamomile leaves to make a tea to cure a stomachache or diarrhea.”

“My mother, who is 60 years old, and many other elderly people I know have trouble with digestion, so drinking a tea made from eucalyptus, mint or sage leaves helps them with this problem.”

“Usually, the chamomile, mint, or sage teas will cure our coughs and upset stomachs. Some times, when we have bronchitis or intestinal worms, we eat whole, fresh cloves of garlic to cure these problems. Many plants that we use to cure our ailments grow around here, but we have to go to the market in town to buy garlic. We buy it because it is cheaper than antibiotics that we would get at a pharmacy, and garlic gets rid of the cough and kills the worms.

In summary, the women noted that particular plants prepared as hot teas or other forms, when consumed, decreased the symptoms associated with psychological incidents as well as respiratory and gastrointestinal illnesses. Also contributing to their use of medicinal plants was the low cost and availability.

## DISCUSSION

Women in this study described how 11 plants aided in treating psychological, gastrointestinal, and respiratory illnesses, and therefore classified them as medicinal plants. Further, women learned from their mothers and community midwives about how to use plants, as a traditional home remedy, to treat family health problems.

As noted by the women, medicinal plants, besides their low cost and immediate availability, have a stronger perceived physiological effect on the body. Further, medical

plants enable the body to heal faster compared to contemporary pharmaceutical products such as aspirin, antibiotic injections, cough syrups, and cold medicines prescribed by a physician. If the application of a medicinal plant were unsuccessful in treating an illness and the circumstances of illness were so dire, then to cure the ailment, women would obtain costly, modern-day medications from either a pharmacist or physician, who were on the average, a three-mile walk away. In some cases, using medicinal plants seemed more a question of economics rather than relative effectiveness.

While the women cited using many different plants to treat the same illness, they did not cite a preference for one medicinal plant over another. They chose particular plants not because one was better for treating an illness than another, but because of their immediate availability to treat that illness.

## CONCLUSIONS AND RECOMMENDATIONS

This work describes how and why family health care providers, specifically rural Guatemalan women, use medicinal plants adds to the current body of knowledge on this topic. One notable implication to these findings is that health care professionals should honor tradition when treating a health problem. Related to this is the women's educational level (average of four years of elementary school), noting some may not fully understand the effects of modern day medicine on the body and therefore rely on traditional methods of healing. While biomedical models have demonstrated the effectiveness of using pharmaceutical agents in the prevention and treatment of illness in Guatemala, no direct consequences exist in the use of medical plants for treating health problems.

A second implication is to ensuring the affordability and availability of a health care treatment. Found near the home, in the woods, along the road, or next to a fresh water stream, medicinal plants ensure Guatemalan families an available agent for treating health problems at no cost.

More research about the medicinal properties of plants from the vantage point of women in other parts of Guatemala is needed if widespread health-related problems are to be addressed and hopefully, eliminated. Where applicable, examining how and why other traditional and modern day health care providers such as midwives, injectionists, physicians, nurses, and pharmacists use medicinal plants would complement research findings and aid in developing future health interventions. Further probing about what other illnesses, apart from psychological, respiratory, and gastrointestinal ailments, prompt women to use medicinal plants would be a worthwhile investigation.

Although women alluded to some ritualistic applications of medicinal plants, additional contextual applications of medicinal plants outside of treating an illness would also contribute to this research area. Potential opportunities for applied projects and future research that ultimately would increase rural women's knowledge about treatment of illness via medicinal plants exist in Guatemala.

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TABLE 1. MEDICINAL PLANTS USED BY RURAL GUATEMALAN WOMEN

| Local name           | English translation          | Treatment for                                     | Part used      | Form                                       | # of women mentioning |
|----------------------|------------------------------|---|----------------|--|-----------------------|
| Achiote              | No translation               | 'Ojo'   | Leaves         | Dry & combined with other plants           | 20                    |
| Ajo                  | Garlic                       | Bronchitis, intestinal worms                      | Clove          | Whole clove consumed dry                   | 9                     |
| Borraja              | No translation               | Bronchitis, respiratory congestion                | Leaves         | Tea with honey                             | 15                    |
| Chile Seco 'de C6ban | Dry chile from C6ban         | 'Ojo'   | Whole fruit    | Ground, dry and combined with other plants | 20                    |
| Eucalipto            | Eucalyptus                   | Bronchial coughs, head colds, indigestion         | Leaves         | Tea, vapor baths                           | 20                    |
| Manzanilla           | Chamomile                    | Throat inflammations, Upset stomach               | Leaves         | Tea  | 20                    |
| Pimienta Gorda       | Cayenne & Whole Black Pepper | 'Ojo'   | No translation | Dry fruit combined with other plants       | 20                    |
| Ruda                 |                              | 'Ojo'   | Leaves         | Tea or combined with other plants          | 20                    |
| Salvia               | Sage                         | Asthma, coughs, diarrhea, head colds, indigestion | Leaves         | Tea  | 19                    |
| Verbena              | No translation               | Indigestion, throat inflammation                  | Leaves         | Tea or vapor bath                          | 10                    |
| Yerba Buena          | Mint                         | Calming nerves, indigestion                       | Leaves         | Tea  | 20                    |