

## ETHNOMEDICINE: ANCIENT WISDOM FOR CONTEMPORARY HEALING

Roberta Lee, MD, and Michael J. Balick, PhD

**Roberta Lee** is director of continuing medical education and codirector of the Integrative Medical Fellowship at The Continuum Center for Health and Healing at Beth Israel Medical Center in New York City. **Michael J. Balick** is vice president for research and training and director of the Institute of Economic Botany at The New York Botanical Garden in Bronx, NY.

The sun had just begun to peek over the eastern horizon, but its warmth had not yet touched the dark forest where we were walking. We had come to this beautiful and remote Pacific Island to study the traditional uses of plants, of which the local people have a rich but vanishing tradition. As a physician with a history of practice as a US Public Health Service internist in Micronesia and a tropical ethnobotanist specializing in the study of how traditional cultures use plants, we have been carrying out research in these islands with our local counterparts for 4 years (see note). Here, plants serve in all of the needs of life—as food, construction materials, fibers for weaving, dyes, in fishing, and in healing.

It was the latter category that was the purpose of our visit this day. As we walked along the path, our guide pointed out a small tree, with oval, spear-shaped leaves. “This is the one I was telling you about—the one that a person takes when their spouse runs away and they are sad—this helps them during that period.” He crushed the leaf in his hand and motioned for us to smell it—a mild, resinous odor, reminiscent of turpentine, was released into the air. “We chew seven of these leaves,” he continued, “and then wash them down with some water—every day, long before the sun comes up, until we don’t need it anymore, and our minds are peaceful.”

As we walked back to the house, sensing our great interest in the medicinal plants of his family’s forest, our guide became animated in his descriptions of 4 other species of plants that he learned from his father. “The leaves, bark, and roots of this plant help treat diarrheal infections, give energy to tired and sick people,” he stated. He pointed out another species that was “magic,” with powers to protect warriors and give athletes greater energy and endurance than their competition. We diligently took notes and photographed the plants, videotaping

the interview as well so we could observe every detail of the interaction. Next we cut branches from each of the plants, ensuring that they were laden with flowers or fruits so botanists who specialized in these regions could offer a positive identification of each. This vouchersing is essential to the work of the ethnobotanist—a person who studies the relationship between plants and people—whether he or she is looking at plants employed by local people for medicine or for any other purpose.

Scientific research is based on the keystone of reproducibility, and only by collecting these specimens can future investigators move our initial observations forward. Our plant samples would be placed in folded newspapers in a plant press and dried over very low heat until their water content was negligible. We would then carry them back with us for processing—in this case at our home institution, The New York Botanical Garden Herbarium, the largest facility of its kind in the Western Hemisphere. There, the plants would be mounted on rag bond paper, identified, studied, and added to the collection of plants from around the world. Plants preserved in this way and curated in a cool, dry room can last indefinitely. The New York Botanical Garden has specimens in its collection that are hundreds of years old, but look like they were collected only recently. In our project, the information on uses would also be added to the specimens, excepting knowledge that is considered secret or owned by the individual family, and thus serve as a resource for preserving, even reconstructing, traditional medical systems.

Why should we have traveled so far and spent so much time focusing on the ancient traditions of this island? After all, it is the duty of every individual’s parents to prepare him or her for adulthood, and here this has always meant learning how to fish, hunt, build traditional houses, and use age-old cures. The reason is simple: in today’s world, the young people in most areas are looking forward, seeking to integrate themselves into the modern world, into the global economy, and away from their ancestral practices—practices that often are viewed as irrelevant. But we have come to this place to pay homage to the value of this knowledge, to bear witness to its contemporary relevance, to learn some of its lessons for our own world, and, hopefully, to facilitate in some small way the preservation of the knowledge and its transfer to the next generation.



Why is traditional medicine so important to the people of this remote Pacific Island? Do they not have access to the benefits of modern medicine? Why should they retain these traditions? For those uninitiated in rural or international medicine, these questions may seem irrelevant. But looking closer at the interweaving of culture, plants, and healing reveals that much is at stake, both locally and globally, with the degradation of traditional medical knowledge.

One concern is the ability to be culturally self-sustaining. Two years ago we went to a village to interview Marie David, a well-known traditional healer in her 70s who was very proud of the fact that her nieces and nephews had become Western-trained hospital health assistants. Her nephew now worked in the village dispensary as the main healthcare provider. Yet the healer lamented that none of these young family members were learning the traditional medical uses she had learned from her mother. It was common knowledge that medical supplies were routinely lacking in the dispensary due to delayed deliveries from the field ships that irregularly ply their inter-island trade. She recalled that on one occasion during such a hiatus, the village had an epidemic of dysentery. Antibiotics and packaged electrolyte mixtures were unavailable because the field ship was delayed.

Although they were well trained, the local clinic staff was unable to provide care due to the lack of supplies—and, as a result, many suffered. Yet growing all around the healthcare facility was the very plant that the elderly traditional healer knew was effective for the treatment of diarrhea. Sadly, she died this past year, never having trained a successor—not an uncommon story among many traditional cultures around the world.

Another issue at the heart of studying traditional knowledge is the preservation of a rich repository of empirical knowledge about plants that may help drug development for pharmaceutical medicine. A case in point: studies of natural product chemistry have shown greater initial “hits” in bioassay screens from collections of plants used traditionally for curing versus those collected and screened at random.<sup>1,3</sup> Our own collaboration with traditional cultures does not revolve around this objective; nevertheless, it is a strong argument for preservation of biodiversity and the knowledge of its uses.

From the perspective of this journal’s readers, another important reason for field-based observations of traditional medicine is its potential contribution to integrative medicine.

Recently, the uses of traditional medical systems in conventional medical practice have attracted attention in relation to their potential to improve healthcare outcomes.<sup>4</sup> Much may be learned by comparing different traditional medical system “approaches” for common medical conditions such as asthma or anxiety. In Micronesia, while interviewing a local traditional medical system practitioner on the traditional use of kava (*Piper methysticum*), we learned that the plant is used for joyful ceremonial rituals as well as for settlement of deep communal conflict between parties—family or village conflicts, land disputes, even murder.

As part of this use, a traditional elder, often a chief, serves as the arbitrator for dialogue between clan members in conflict. During the ritual, a very traditional dialogue occurs along with the sharing of the sedative drink. Throughout the ritual is heard the rhythmic pounding of the kava on a sacred stone. In the end, though parties may grieve about a life lost, long after the ceremony has ended the community is able to live in peace without seeking further violent retribution.

On superficial analysis, it would be easy to ascribe the success of this situation to the purely pharmaceutical effects of the plant used at the heart of this ritualized scene. However, the chemical compounds taken out of context and applied in another setting would curiously lack the pharmaceutical muscle to settle the anxiety of something this significant. Why is this? We could speculate that perhaps the commonality of the tonal rhythm and facilitated dialogue (provided by the much-respected elders) results in the unsuspected release of innate endorphins that potentiate the strength of the botanical medicines used in the rituals for this particular deep-rooted anxiety. Indeed, the notion that “2 pills twice a day” can exert an effect similar to that found in traditional medical systems is questionable at best.

Perhaps the overriding factor in the success of the apology ritual is the longstanding cultural tradition of respect for the plant and the elders—with the biochemical response taking on a lesser but still important role. Yet in the world of integrative medicine, seizing the opportunity to invoke the mind while engaging the senses to improve outcome may be the greater (but poorly recognized) take-home message from our field observations. In this context perhaps the bigger challenge for integrative physicians is the development of new modern-day “rituals” that can enhance the power of the mind-body interface.



Marie David