This series of essays explores lessons and observations from fieldwork that might be of interest to the integrative medical community. In this context, the authors discuss “new” or less celebrated botanical medicines and unique healing practices that may contribute to the further development of contemporary integrative medical practices. Perhaps this column can facilitate an appreciation for our own roots and those of other cultures, before such ancient wisdom disappears forever.

MICRONESIAN MASSAGE AND MASSAGE OILS: ANCIENT PRACTICE AND CONTEMPORARY MEDICAL THERAPY

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The journey of exploration continues on Pohnpei, a tropical island in the Federated States of Micronesia. On this particular day, we paddled our traditional outrigger canoe through the openings in the reef, toward the rocky shore of the island. Immediately before us lay the mountain known as Sokesh Rock, one of the higher points on Pohnpei, and a key feature of its landscape. Today, instead of turning our view upward, we focused on the shoreline, at a small, simple wooden house surrounded by graceful coconut palms—a typical island setting. To one side of the house a young man grated coconut pulp on a stool using a flattened, sharpened, serrated piece of tin affixed to the seat. In ancient times this same type of stool was used to grate coconut, but with a sharpened shell as its blade. Times have certainly changed. As his older brother grated the white coconut pulp, the younger sibling carried the shavings to a cauldron of boiling water and poured them in carefully. This is the traditional way in which coconut oil is made in Pohnpei and elsewhere in the Pacific. The boiling water releases the coconut oil from the pulp, and the oil rises to the surface where it is scooped off and saved in another container.

Sitting under the welcome shade of a large tree, an elderly woman sorted blossoms of ylang ylang, known botanically as Cananga odorata. Seir en wai, as it is locally called, is an important fragrance tree in this region. As the result of this morning’s work, she had accumulated a large pile of the greenish blossoms. Carefully handling each blossom to avoid bruising the oil-rich petals, she separated the petals and put them in a second pile.

Leaving our canoe and picking our way among the rocks that led to her house, we offered a local greeting. In previous years we had spent weeks studying with Maria Raza and her late husband Ionas. As a titled elder in this part of the island, Ionas Raza was an important and knowledgeable member of the community who was kind enough to work with us in our studies of the ethnomedical uses of local flora. He had passed away, and we came to pay our respects to his family. A valued part of his legacy are his notes on uses of plants that he prepared for his family, his teachings to his children, and the plant and ethnomedical data collections undertaken as part of this project.

“Hello,” Maria said as she looked up. “You are back.” Indeed, we had come back this year for another summer of fieldwork in Pohnpei, and we wanted to fill her in on the progress of the project. We sat on the rocks, and for the next few hours, watched in silence as Maria carefully separated her petals and prepared them for extraction of the fragrant oil. When she had peeled a huge mound of petals, she gathered these up and poured a large armful into a cauldron of coconut oil, watching carefully as they sank below the surface. During that day she would stir the petals and allow the essential oil of ylang-ylang to become infused into the coconut oil. Then, toward the evening, she would take the pot off the fire and allow it to cool, scooping out the petals with a wire mesh from her kitchen. Each day another full armful of petals went in to this pot, perfumed the oil, and were scooped out. After several days, the oil was strongly, but subtly perfumed with the wonderful aroma from ylang-ylang.

Finally, using a cloth to filter the remaining petals, she made sure that the coconut oil was pure, then poured it into used glass beer bottles—a most common commodity on this island—for sale at the local market. Locally this oil is used for medicinal purposes, for skin ailments, for sunburn, and as a massage oil.

Massage is extremely important to the people of this region. Historically, floral-infused oils were used throughout the area, to perfume the royalty, for massage, and for cleansing. Many more types of flowers and plant products were used to produce the delightful aromatic coconut oils on this island chain, but most have been long forgotten. Historical records, such as the Results of the 1908-1910 South Seas Expedition, written by D. E. Sarfert...
and edited by Prof Dr G. Thilenius, contain the only remaining descriptions of the way people prepared massage and bath oils on these islands. Elders have long since died, taking their oil recipes with them, and children have found other aspects of modern life to be more interesting.

Reporting on the nearby island of Kosrae, Sarfert noted that one component of the local oil was rotten mangrove wood, a practice we confirmed during a recent trip to that island. Its fragrance is reminiscent of cinnamon, and mixed with the ylang-ylang, it is quite pleasant. In his notes on the practices of this island, he records that

... at home after bathing, one vigorously massaged oneself with the sofa [the Kosraean word for perfumed massage oil] when one had dried off, and did likewise before going to sleep. This perfumed oil has a strong odor, but is not unpleasant.

According to the chronicles of the day, the nobility was quite well bathed and adorned, and the oil was made according to specific plant-based recipes. Massage, and the use of perfumed massage oils, has always had an important place in Micronesian culture. Even today, local people use these oils for massage, for healing, and for beauty.

Several years ago we documented one form of Micronesian traditional massage, on the island of Kosrae. There, a knowledgeable woman named Rose Soriano was kind enough to show us the way massage is given using heated rocks, coconut meat, and medicinal leaves. First, she gathered dried coconuts from the grove near the sea, and took 4 of the biggest ones to the house, dropping them near her earth oven, locally known as an um. An um is a firepit, surrounded by and lined with large cooking stones, on which the coconut fiber fuel is placed. As the fire gets larger and hotter, more stones are added, and whatever is being cooked that day—fish, yams, breadfruit, meat—is put in the center of the fire, on top of another layer of stones. A final layer of stones is added to cover the food, and the cooking begins. On this day, however, Rose was not cooking food, but heating up rocks that would be used in massage. These rocks are not meant to be red hot, as for cooking, because they would burn through the cloth used in massage—but they are still heated to a high temperature.

Next, she leaned over the fire and retrieved 2 coconut shells, breaking them in half with one swipe of a thin rock and put a few banana leaves under her grinding stool—the same kind that we had seen in Pohnpei. She walked to the shoreline to collect the leaves used in this particular massage, carefully pulling off 6 young leaflets and returning to the cooking fire. While we watched her work, we spoke of ancient times, how she learned, and how she would ensure the survival of this traditional skill.

“My grandmother was from Kiribati,” she recalled, “and she taught me her medicine when I was 17 years old. She showed me where I can gather the plants to use in the medicines. I know 8 or 9 kinds of medicine—all used with this coconut oil.”

By now the rocks were hot. Carefully grasping them with wooden tongs, she placed them in the coconut shells. “You put the coconut pieces in the shell,” she explained, “and then according to the smell, you know that it is hot enough and ready for use.”

She mixed the chopped coconut and shredded medicine leaves in a large pile on the banana leaves she used as a mat. Carefully pouring the mixture into a coconut shell that held a hot rock, she held it before us as the leaves and oil began to produce steam. The next step was to place the stone and steaming leaves in the center of a towel. Holding the towel carefully, she gathered the top and twisted it gently, giving it the shape and size of a grapefruit. Rose held the towel by its top—any other part was by now steaming and sizzling.

“We always use cloth with this medicine, because the rock is so hot we can’t use leaves.”

On this day the cloth was a red towel. Perhaps in earlier times the hot rock and coconut-herb mixture were placed in a piece of woven bark from breadfruit, mulberry, or even coconut fiber. Our patient, ethnobotanical research colleague Dr Diane Ragone of the National Tropical Botanical Garden, lay down on a traditional pandanus mat, the local fiber, and Rose began to massage her with the towel containing the mix of steaming rock, shredded coconut, and healing herbs. With a rolling motion, Rose moved the towel around the patient’s body, and the hot oil, infused with herbs, began to seep though the towel and cover the patients’ body.

“This is very relaxing,” our patient noted convincingly, except for an occasional grimace of pain from the heat of the rock. For the next half hour, Rose continued her massage, and by now had gathered a small audience, curious to see what she was teaching. From the bottom of the patient’s feet, to the top of her head, the hot rock was applied in a way that had been done on this island for generations. The patient was covered with green-tinted coconut oil, which in the tropical temperature was liquid and soothing. The result? “I feel really good!” replied Diane.

“My daughter asked me to teach her weaving,” Rose noted, “she likes that, but she is not interested in learning about medicine. I will have to teach my niece.”
“How does that make you feel?” we asked. “Sad” was the only reply. To some families of this island culture, healing is an important source of income and prestige, and family recipes are carefully developed, guarded, and preserved. Rose was obligated to pass this art and technique to someone in her family. She seemed disappointed that it would not be to one of her own children.

Traditional cultures around the world have developed massage techniques and medicated, perfumed oils for relaxation and the promotion of health and healing. Why is massage such a universal activity, particularly among traditional cultures? Why does it persist today, despite our more modern ways of delivering relaxation, health, and healing? The answer probably lies in the way it is delivered—through touch. Touch allows one person to communicate to another, to express concern, compassion, and love. In this part of the world it is common for mothers to massage their children using perfumed coconut oils. Communication, the feeling of safety, bonding—all through the touch between mother and child. Touch also conveys healing, as when treating a patient, which people in these islands have long known.

Massage, simple as it seems, brings much benefit with little adverse risk to the person fortunate enough to receive this wonderful experience. As a physician, I (R. L.) often encounter patients who suffer from musculoskeletal ailments, and therapeutic massage is a modality that seems practical because it can provide not only physical but psychological relief. For many, touch can stimulate pleasant unconscious primal memories of maternal comfort received during infancy. Evoking this pleasant aspect of an individual’s past seems underused in conventional medical care but is being reintroduced as a tool in a more integrated medical approach to patient care. Furthermore, as we understand the greater connections of thought, emotion, and our bodies in the field of psychoneuroimmunology, the potential to stimulate neuropeptide responses to heal using massage seems plausible. We are beginning to see the evidence of the benefit of massage through medical studies.

At the University of Alabama, 42 preterm infants (27-37 weeks gestational age) were gently touched for 10 minutes, 3 times a daily for 10 days. There was no significant change in heart rate, but they had significantly lower levels of motor activity and behavioral stress than their controls.

In another interesting study of 24 young children with a mean age of 2.5 years who were hospitalized for severe burns, the relationship between massage and stress during dressing change was studied.

The children received either standard dressing care or massage therapy in addition to standard dressing care. The massage therapy was conducted on body parts that were not burned. According to the report, during the dressing change, the children who received massage therapy showed minimal distress behaviors and no increase in movement other than torso movement. In contrast, the children who did not receive massage therapy responded to the dressing change procedure with increased facial grimacing, torso movement, crying, leg movement, and reaching out.

Nurses also reported greater ease in completing the dressing change procedure for the children in the massage therapy group. These findings suggest that massage therapy attenuates young children’s distress responses to aversive medical procedures and facilitates dressing changes.

Another study involved 28 adult patients with burns who were randomly assigned before debridement to either a massage therapy group or a standard treatment control group. The results showed decreased anxiety and cortisol levels, with improvement after massage sessions in behavior ratings of state, activity, vocalizations, and anxiety on the first and last days of treatment. Longer-term effects were also significantly greater for the massage therapy group, including decreases in depression and anger, and decreased pain on the McGill Pain Questionnaire, Present Pain Intensity Scale, and visual analog scale. The authors felt that, though the underlying mechanisms were not known, the data suggested that debridement sessions were less painful after the massage therapy sessions due to a reduction in anxiety, and that the clinical course was probably enhanced as a result of a reduction in pain, anger, and depression.

Caregivers of patients who received autologous hematopoietic stem cell transplants—a group well known to be significantly stressed—were evaluated for general fatigue, depression, anxiety, motivational fatigue, and emotional fatigue. They were then randomized to receive massage (n=10) or Healing Touch (n=10), an energy-based form of touch that does not manipulate the skin or muscles. All caregivers completed the Beck Anxiety Inventory, the Center for Epidemiologic Studies Depression Scale, the Subjective Burden Scale, and the Multidimensional Fatigue Inventory-20 before and after treatment, which consisted of two 30-minute massages or Healing Touch sessions per week for 3 weeks. Caregivers in the control group received usual nursing care and a 10-minute supportive visit from one of the researchers. Results showed significant declines in anxiety scores, depression, general fatigue, and reduced motivational and emotional fatigue for individuals in the massage therapy group only. In the Healing Touch group, anxiety and depression scores decreased, and fatigue and subjective burden increased, but these changes were not statistically significant. The study concluded that caregivers can benefit from massage therapy in the clinical setting. I (R. L.) can speculate about another interesting interpretation of this study based on observations in my practice: those burdened with anxiety and stress often benefit from more than verbal reassurance. That is, the use of the multiple modalities that are the foundation of integrative medicine can be combined to bring an extremely therapeutic sense of comfort and control.

Another study illustrating the mood altering benefits of massage evaluated women with anorexia nervosa. They received massage twice weekly for 5 weeks combined with standard treatment or standard treatment alone. The massage arm showed lower cortisol levels and less stress and anxiety. Dissatisfaction with their bodies decreased on the Eating Disorder Inventory with increased levels of dopamine measured.
Massage therapy is frequently employed for low-back pain. Ernst published a systematic review to evaluate the evidence for or against its efficacy in this indication. Four random clinical trials were located in which massage was tested as a monotherapy for low-back pain. Each study was burdened with major methodological flaws. One study suggested that massage was superior to no treatment. Two trials implied that it was equally effective as spinal manipulation or transcutaneous electrical stimulation. And one study suggested that massage was less effective than spinal manipulation. Ernst concluded that too few trials of massage therapy existed for a reliable evaluation of its efficacy. However, massage seemed to have some potential as a therapy for low-back pain.

From our perspective as conventionally trained scientists, it is clear that this area of integrative medicine deserves much more clinical study. We need to understand how massage is most useful in the clinical setting, and how and why it is effective. But, from our studies of traditional cultures in Asia, Central America, South America, India, and the Pacific, we know that massage has a long and rich history—beginning thousands of years ago—as an important therapeutic modality, as well as a way that parents have bonded with their children. Traditional massage used by indigenous cultures, along with the plant and mineral products they employ, is a most fascinating and important element of the folk wisdom of our planet.

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