SOME COMMENTS ON HERBAL MEDICINES AND CHANGING MEDICAL PARADIGMS

Stephen Harrod Buhner

Facts are subversive of lies, half-truths, myths;
of all those easy speeches that comfort cruel men.

Timothy Garton Ash

Sometimes it seems as if doses of supposed active constituents are too low to have an effect, and in the absence of clinical proof this has led sceptics to dismiss these medicines as mere placebos. . . . It is still routine to investigate and extract medicinal plants with a view to finding the single chemical entity responsible for the effect, and this may lead to inconclusive findings. If a combination of substances is needed for the effect, then the bioassay-led method of investigation, narrowing activity down firstly to a fraction and eventually a compound, is doomed to failure, and this has led to the suggestion that the plants are in fact devoid of activity . . . when activity is thought to be lost through purification, synergy should be suspected.

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In 1995, when I first began writing about herbal medicines, the internet was very new; the world was a very different place. A lot has changed.

The internet, among other things, has become the greatest reference library human beings have ever known. A tiny part of that library, but enormously huge compared to what was available in the past, has to do with medicinal plants and the vast amount of research now being conducted on them. Over the past five years especially, this has tremendously facilitated my work on the nature of resistant and emerging infections and the herbal medicines that can treat them. During my early researches and despite the size of my personal library (huge by most standards) and my access to a great university library at the University of Colorado in Boulder, CO, I had access to only a tiny portion of the research and other material on medicinal plants that existed in the world. Now I have access to a great deal more; it's as close as the research computer in my office. But that is only a small part of the changes that have taken place the past 20 years; something a great deal more interesting has been happening. Over the past three years, as I spent, literally, months on the web, following medicinal plant scents through the

internet forest, what struck home the most was a deep and visceral impact of just how much the human world itself has changed.

It is, most definitely, a new world out there. And it is a world with which the United States (and our medical system) has an increasingly tenuous connection. The rest of the Western nations are nearly as lost. During the past fifteen years nations on the African continent, in Asia, South America, within the Russian sphere, and in most of the old Eastern bloc have realized that the medical model used by the West is unworkable and, to a great extent, they have begun abandoning it as the dominant approach to their people's health care.

Nations in those regions, especially the African, Asian, and South American, have realized they can't afford a pharmaceutical/technological medical model as their primary approach to health care. They know that the problems of antibiotic resistance, stealth pathogens, emerging infections, petroleum depletion (most pharmaceuticals and all medical technology are made from or highly dependent on petroleum products), population expansion, top-down care models, and most especially cost and cost inflation cannot be solved and are only going to worsen over time; they have begun abandoning industrialized medicine as a legitimate model for providing health care to their cultures. (Industrialized medicine will still play a part but a much smaller, more affordable, and much less

dangerous one.)

Unlike the U.S., the journal papers being published by researchers in those nations aren't exploring whether plant medicines work (nor are they spending their time and money trying to discredit what they feel is "primitive" medicine or unscientific quackery), they are exploring which herbal medicines work best and in what form and at what dosage. Their research and their journal papers are looking for the herbs that can treat malaria most successfully (for example) and how those plants, once identified, can be grown by the people who need them so they can be used when, and where, and by whom they are needed. Many non-Western researchers are actively addressing the health problems of their populations and there is little if any profit motive involved in their doing so.

> *They know there is something terribly wrong when a physician says, "Yes, I will save your life, but it will cost you your home, your savings, and the economic future of your children for me to do so. Otherwise, forget it." They know something is terribly wrong when a culture's medical system rests on such a foundation. (And despite any movement toward national health care in the United States, those*

underlying attitudes among the medical community remain.)

They have simply realized that corporate profit making and human health are not compatible. Short hand: they are tired of getting screwed by international corporations that make billions out of the misery of others. They want to solve the problems facing them, simply, repeatedly, cheaply, ecologically, and with a great deal of personal empowerment for the people who are most directly affected. Reading the journal articles of U.S. researchers and comparing them to those of other nations and cultures is an illuminating and sobering experience.

The African and Asian journals tend to read like this: "Antibacterial activity of guava(Psidium guajava L.) And Neem (Azadirachta indica A. Juss.) extracts against foodborne pathogens and spoilage bacteria" or "Evaluation of Antimicrobial Activities of Extracts of Five Plants Used in Traditional Medicine in Nigeria" or "Antimicrobial activity of ethanolic and aqueous extracts of *Sida acuta* on microorganisms from skin infections."

The United States journals are more along these lines: "Severe hypernatremia and hyperosmolality exacerbated by an herbal preparation in a patient with diabetic ketoacidosis" or "Metal content of ephedra-containing dietary supplements and select botanicals" or "Hypereosinophilia associated with

echinacea use."

The abstract for that latter study contains the kind of commentary common to many Western researchers, especially in the U.S.

> Echinacea, believed by herbal practitioners to enhance the immune system, is one of the most widely used herbal supplements in the United States. Like most herbal products, it lacks strict FDA regulation and more information is needed about its potential adverse reactions. Here, we report the case of a patient with eosinophilia of unclear etiology whose condition resolved after cessation of this supplement. We feel this likely represents an IgE-mediated allergic process to echinacea. (Maskatia, ZK and K. Baker (Department of Internal Medicine, Baylor College of Medicine, Houston, Texas) *Southern Medical Journal* 2010;103(11):1173-4). **(1)**

The article ignores the depth research done in Germany over decades on echinacea and the fact that it is a part of primary care medicine in that country. It uses words and phrases like: "believed by" and "we feel" and "likely." It *assumes* that the echinacea is the cause of the eosinophilia even though they have

conducted no research to make sure of it. It's not science, not research, but, rather, is guesswork and opinion that reflects the orientation, and bias, of the technologically focused, and pharmaceutically dominated, medical world, especially in the United States.

Now compare that with this abstract from "Antimicrobial activity of ethanolic and aqueous extracts of *Sida acuta* of microorganisms from skin infections." (Ekpo, M.A. and P. C. Elim (Department of Microbiology, University of Uyo, Uyo, Akwa Iborn State, Nigeria), *Journal of Medicinal Plants Research* 2009;3(9):621-4.)

> The antimicrobial effect of the ethanolic and aqueous extracts of *Sida acuta* was investigated. Phytochemical analysis revealed the presence of saponins, tannins, cardiac glycosides, alkaloids and anthraquinones. The test isolates from human skin infections were *Staphylococcus aureus, Bacillus subtilis, Pseudomonas aeruginosa, Escherichia coli, Scopulariopsis candida, Aspergillus niger* and *Aspergillus fumigatus.* The zone of inhibition for the ethanolic extract varied from 10 mm for *P. aeruginosa* to 43 mm for *S. aureus* and from 4 mm for *P. aeruginosa* to 29 mm for *S. aureus* in the aqueous

> extract. Though the zone of inhibition increased with increase in the concentration of the extract, the highest concentration of the ethanolic extract revealed a higher significant (P. 0.05) inhibition against *S. aureus* and *B. subtilis* compared to the inhibition effect on these organisms by gentamicin used as control. The aqueous extract had no significant effect on the test organisms. The extracts had no inhibitory effect on the fungi isolates. This study has shown that the extract of *S. acuta* if properly harnessed medically will enhance our health care delivery system. **(2)**

This herb ". . . will enhance our health care delivery system." I have never seen that in a research article in the United States and I've read thousands of them. (Gentamicin, by the way, is what is called an aminoglycoside antibiotic, often used to treat Gram-negative bacteria. *Sida acuta*, at higher doses was more active against the test organisms than the antibiotic.)

The authors of that study tested both water (aqueous) and alcohol (ethanolic) extracts of the plant–essentially infusions and tinctures– to see which were most effective. Most plants are used by indigenous cultures as water infusions (strong teas) or in whole form of one sort or another, either eaten or

placed directly on the affected area of body. Some cultures do use simple alcohol extractions. Of the active ingredients in plants, some are soluble in water, some in alcohol, and the researchers clearly wanted to find out which form of preparation was the most effective for this plant. It's *usable* information they were after. And they found it. They came to the plant by looking at what traditional healers and herbalists in Nigeria were using in their practice and they decided to test this particular plant for activity. If it was effective they wanted to find out how it was *most* effective. And they planned then on supporting the use of that plant widely throughout Nigeria to enhance their health care system. Nothing could be more alien to the medical establishment in the United States.

To be fair there are some good studies occurring in the U.S. but to be clear, virtually *none* of them support the use of herbal medicines by the general populace or herbal practitioners. Their focus, rather, is on the identification of an "active" constituent which can then be modified chemically and patented and subsequently produced by a pharmaceutical company for profit. U.S. researchers, in spite of often being affiliated with universities, most often work for or in concert with pharmaceutical companies. They are not looking for something usable by the general populace without a prescription; they are not working to empower self care. In most instances they don't trust the general populace to be intelligent

enough to provide their own health care, nor do they want to interrupt their financial income stream.

We in Western world, especially in the U.S. are being left behind in an outmoded model that has no effective place in the real world. By the time we realize it, the rest of the world will be generations ahead. The rest of the world has abandoned our approach; they understand the problems they face and what lies ahead. In the meantime, we spend our time making better and better buggy whips, not realizing the automobile really is here to stay.

References:

1. Maskatia, ZK and K. Baker, Hypereosinophilia associated with echinacea use, *Southern Medical Journal* 2010;103(11):1173-4.

2. Ekpo, M.A. and P. C. Elim, Antimicrobial activity of ethanolic and aqueous extracts of *Sida acuta* of microorganisms from skin infections, *Journal of Medicinal Plants Research* 2009;3(9):621-4.