Alternative Therapies—A Moving Target

Jeffrey Bland, PhD, FACN, FACB

In 1995, the first year of publication of *Alternative Therapies in Health and Medicine*, our clinical research group authored a paper on tailored nutritional intervention with a medical food supplemented diet that focused on improving hepatic detoxification and clinical outcome in a group of patients with chronic fatigue syndrome. In 1995, the topic seemed appropriate for a journal with a title that incorporated the term “alternative therapies” because the focus of the research did not seem to belong within the definition of “usual and customary.” How times change in 10 years. Over the past decade *Alternative Therapies in Health and Medicine* has become recognized as a peer-reviewed journal that is abstracted by *Index Medicus*. The topic of the article of our group in this first year of the journal has now given a name in bioscience: pharmacogenomics, which is the study of the differences among individuals as to how they are genetically disposed to detoxify certain drugs and chemicals.

Over the past 10 years, many of the topics reviewed by the journal that may have seemed “alternative” at the time have moved into greater acceptance within the general healthcare system. *Alternative Therapies in Health and Medicine* has been, since its inception, an early pioneer in communicating the progress being made in “alternative” fields such as psychoneuroimmunology, environmental medicine, therapeutic touch, nutritional therapies, and botanical medicine. Over the past 10 years, the basic and clinical sciences underlying each of these areas have started to emerge. A summary of much of what has been described in the journal over its first 10 years could be characterized as “back to the future.” The journal has helped chronicle the truth inherent in the traditional healing modalities as examined through the lens of the Western medical model.

Reflecting on our first 1995 paper, “A Medical Food Supplemented Detoxification Program in the Management of Chronic Health Problems,” the past 10 years have witnessed the study of how genetic differences in the detoxification enzyme systems influence the elimination of metabolites, drugs and xenobiotics. Nutritional pharmacogenomics is the subdiscipline that is discovering how specific nutrients influence the activity of the phase 1 cytochrome P450 and phase 2 conjugation enzymes involved in detoxification.

Following the theme of describing the emerging science that helps to better understand the safety and effectiveness of alternative therapies, our group in 1995 also authored an article in the journal entitled, “Psycho-nutritional medicine: an advancing paradigm,” where we advanced the concept that with the recognition that specific nutrients influence brain chemistry has come the development of a new biological-based psychology. In 1996, our group authored an article in the journal entitled, “Phytonutrition, phytotherapy, and phytopharmacology,” that described the scientific evolution of botanical-based medicines. In 1998, our group authored the article in the journal entitled, “The use of complementary medicine for healthy aging,” that described how the concepts incorporated within the scope of alternative medicine could be successfully applied to the reduction in prematurity of age-related chronic disease and therefore reduction in health care expenditures. We are now faced with a serious issue related to the management of chronic diseases, which constitute 78% of medical expenditures for their management. It was stated by Holman that presently, we do not have a satisfactory medical education system that trains doctors to deal successfully with chronic disease. In order to handle the burgeoning numbers of aging baby boomers, which will seek service for the management of chronic diseases, as well as the escalating number of younger adults with metabolic syndrome obesity and type 2 diabetes, a new model which incorporates “alternative” therapies is needed. Since its inception 10 years ago, *Alternative Therapies in Health and Medicine* has been providing the structure and clinical tools for this new model.

I have observed a re-enchantment with medicine for thousands of healthcare providers by integrating “alternative therapies” successfully into their practices over the past 10 years. They had become disenchanted with medicine because they had come to feel that over many years of practice, in the face of managed care, that they had become de facto “drug salespeople.” I have personally had conversations with hundreds of doctors who had become discouraged because patients with chronic illnesses just did not seem to be getting better utilizing the therapies that were considered “usual and customary.” The re-enchantment with medicine came after they had what we call the
“Ah-ha experience” due to their patients’ successes when they applied the appropriate alternative therapies.

We are presently witnessing a true paradigm shift in medicine—a virtual revolution as profound as any that has ever occurred in healthcare. Through the discoveries of the human genome project, the diversity of human function is starting to be realized. This creates the opportunity for the development of a medicine that is more patient-centered and personalized. The age of the “medicine for the average” and the blockbuster “one size fits all” drug is starting to change to a new age of the individual.

Secondly, the paradigm shift in medicine is moving from the principle focus being on the differential diagnosis to a focus on the understanding of the mechanism associated with an origin of the signs and symptoms that the patient presents with. The new assessment moves from the primacy of diagnosis to a focus on understanding the antecedents, and triggers or precipitating events that give rise to the release of specific mediators that are then associated with the frequency, intensity, and duration of the signs and symptoms of the patient. In complex disorders such as fibromyalgia, the understanding of the mechanism associated with the origin of the dysfunction can result in the development of a treatment plan that integrates various therapeutic approaches for the successful management of complex chronic diseases, there by improving outcomes.

An example of how mechanism is surpassing diagnosis as a central feature in biomedicine is the story surrounding the role that chronic inflammation plays in diseases seemingly as disparate as arthritis, osteoporosis, coronary heart disease, diabetes, dementia, and cancer.

Twenty years ago, it was considered “alternative medicine” to be concerned about elevated blood cholesterol. There is no specific diagnosis associated with elevated blood cholesterol. Rather, it is a prospective functional marker for risk to coronary heart disease.

Upon the development of statin drugs to lower cholesterol and the recognition that they reduced disease in both primary and secondary prevention trials, cardiology was transformed to become a preventive medical specialty. It is interesting to note that statins were developed from the experience of Traditional Chinese Medicine (TCM). Statins, or monocolins, as pharmaceutical chemists call them, were first extracted from red yeast rice, where they were produced by a specific fungus living on rice that TCM had clinically recognized for more than 1,500 years. Who would have believed in 1995 that the statin family of drugs that were not thought to treat any specific disease would become the number one prescribed drug family in 2005?

The concept that the reduction in heart disease may require more than one medication was recently voiced in a very controverisal article in the British Medical Journal. Wald and Law advanced the concept that a “polypill” containing six active ingredients that “could reduce cardiovascular disease by 80%.” The six ingredients they suggested from clinical studies included a statin, baby aspirin, folic acid, and low doses of an Angiotensin-converting Enzyme (ACE) Inhibitor, beta-blocker, and a mild diuretic. This combination “polypill” would presumably address the majority of the physiological mechanisms known to be associated with the development of cardiovascular disease. This proposal abandons the “one drug for endpoint” model of pharmacology and proposes that synergy would exist if all the physiological dysfunctions were addressed simultaneously.

Interestingly, in many ways, this approach mimics what has been done historically through the clinical application of many integrated “alternative” therapies. Diet, exercise and stress reduction represent “alternative” therapies for cardiovascular disease, which provide for synergy through the multiple favorable impacts they have on physiological functions. Dean Ornish, MD, has demonstrated in a number of pioneering studies that diet, exercise and stress reduction therapies are successful in both the prevention and treatment of coronary atherosclerosis. This theme has been a recurrent message communicated in the first 10 years of the publication of Alternative Therapies in Health and Medicine.

The challenge for the acceptance of alternative therapies is the proof of effectiveness of these multi-parametered therapies using the “gold standard” of the double-blind, placebo-controlled trial. The double-blind, placebo-controlled trial is biased toward proof of hypotheses related to a single variable against a single clinical endpoint. By definition, this method of proof of efficacy is much more useful for proving the validity of monotherapy than complex alternative therapies, where many variables are at play.

Fortunately, other study designs and statistical evaluation are available for analyzing complex, multiparametered data sets that may be non-parametric (ie, do not fit Gaussian statistics) These statistics make use of pattern recognition and clustering algorithms. These non-parametric methods of analysis allow the evaluation of hypotheses that often are associated with “alternative” therapies. Over the past 10 years, Alternative Therapies in Health and Medicine has addressed these issues of study design and bias toward the proof of efficacy of monotherapies which has been the method that historically drugs have been approved.

The Journal has also addressed the “sticky” issue of how we prove that a therapy is successful with the advancing knowledge that no two patients are identical in their response. We have learned that there is much more genetic diversity (ie, more than three million single nucleotide polymorphisms are thought to exist in the human genome) than was previously believed. Cohort analysis of data may be much more valuable in determining subsets of patients that are responders and non-responders than aggregating the data and regressing the conclusion to the mean.

Lastly, Alternative Therapies in Health and Medicine has approached the “sacred cow” of the double-blind, placebo-controlled trial, which is the placebo. The journal has addressed the...
issue of whether a placebo is truly an artifact or if it is a clinical entity that could be harnessed in a patient-centered therapy. What truly is the “therapeutic encounter”? Could this encounter include the placebo effect, which is stronger in certain clinical settings than others?²²,²³

This came to mind recently in a series of clinical intervention trials in which my research group at the Functional Medicine Research Center was involved. The studies involved the evaluation of therapeutic agents used to manage knee osteoarthritis. The group was randomized to a natural, “alternative” therapy and placebo groups. The results demonstrated a highly statistical significant positive benefit of the “alternative” therapy versus placebo. The difference between the groups was comparable to the differences reported in the literature between a class of nonsteroidal anti-inflammatory medications and placebo in patients with knee osteoarthritis. The unexpected observation was that the placebo effect in our study was larger than reported in the pharmacological literature, but so was the treatment effect.

Why did we observe a larger placebo effect, but also a larger treatment effect? One possible answer could be that the caring, compassionate environment of our research center, which is more similar to a patient-centered clinic than a stereotypical, clinical research center, had an influence on outcomes for both groups.

Could it be that due to the “belief” in clinical success in the setting of the Functional Medicine Research Center that the placebo group had a greater clinical outcome in pain reduction than expected?

Alternative Therapies in Health and Medicine has raised very important issues concerning what is a “healing environment.” These may be some of the most important issues in medicine and should not be relegated to the often trivialized label of “alternative.”

Alternative Therapies in Health and Medicine has enjoyed a rich first decade. The field has evolved both around and through it. It is with great anticipation that I and its many other readers look forward to how the journal will break new ground in our understanding of what constitutes the alternative therapies that survive the rigor of scrutiny from both the basic science and clinical perspectives as medicine moves farther into the 21st century.

References