ACUPUNCTURE today

HEALTH & WELLNESS / LIFESTYLE

Economics of Complementary/Integrative Care

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Although this column doesn't usually feature a book review, we're going outside of our usual public health format to discuss a new book written by Patricia Herman ND, PhD. The title of her book is *Evaluating the Economics of Complementary and Integrative Medicine*, published by the Samueli Institute in 2012.

This compact handbook of 102 pages offers a basic introduction to health economics, including definitions and underlying principles. As acupuncture professionals in the 21st century, economic literacy aids in our comprehension of research that links health outcomes related to acupuncture with costs of care. If we're going to effectively advocate for our profession, we need to be cognizant of issues, research, and the economic underpinnings of healthcare reform.

Health economics is an important public health approach that integrates an appreciation of clinical effectiveness and outcomes with an understanding of the costs that are associated with care. For acupuncturists who want to better comprehend the kinds of factors and perspectives that contribute to economic analyses, this book offers an excellent primer on understanding the language and interpretations of health economics.

Herman's reader-friendly design offers clear and comprehensive definitions of terms like "cost" including three types of costs to be considered – direct, indirect, and opportunity costs. Herman describes metrics used in analyses, as well as giving numerous examples that enliven and clarify the concepts she addresses. A chapter is devoted to study designs that can be used for economic analyses, including using clinical results based on observational research. Other chapters deal with measuring costs and health outcomes, as well as with doing the statistical analyses necessary for conducting economic evaluations. The book is replete with examples of studies that illustrate the various points she is making. Concluding the book with a chapter on interpreting and reporting the results of complementary and integrative medical (CIM) studies, Herman makes the case that making healthcare policy necessitates utilizing evidence from high quality economic evaluations.

From our perspective as reviewers, we see that the winds of change are affecting acupuncture research in some very favorable ways. Although acupuncturists have conducted randomized controlled trials using sham or placebo comparison groups, recent studies have shown that these sham or placebo comparators may not be inert . Brain activity can be determined through imaging studies that demonstrate effects related to sham procedures. Additionally, biomarkers and hemodynamic indicators such as blood pressure provide evidence of physiological changes are also evident following sham procedures . Thus, there is not a clean comparison that can be made between verum (real) acupuncture and sham procedures. Because sham procedures often result in small, non-negligible effects, results from studies using sham comparators fail to reflect the true effectiveness of acupuncture treatment. Thus, by comparing a relatively larger effect (due to true acupuncture) with a smaller effect (related to the sham comparison), study results often fail to achieve statistical significance. Although we may see clinically favorable outcomes, the final results may not show a difference that achieves a large enough magnitude of effect between verum and sham procedures. The third critical point against sham or placebo-controlled trials is that economic

analyses are most appropriately conducted comparing an intervention to the current standard of care, not a placebo.

Study design for economic analyses includes approaches such as comparative effectiveness research, cost-effectiveness studies, patient-centered outcome research and pragmatic trials. Each of these approaches favors evaluating the effects of an intervention by examining it in the way it would actually be practiced 'on the ground' with a variety of patients that reflect real-life clinical situations. Because the "gold standard" clinical trial that involves using a placebo or sham comparison was developed for evaluation of pharmaceuticals, this approach is less than optimal for most other types of healthcare that don't involve pharmaceuticals. For example, how do surgeons test "sham" surgical procedures? How would psychologists devise "sham" counseling? What would "sham" procedures in physical therapy or osteopathic care look like? All these modalities face the same dilemma as acupuncture in trying to design a placebo approach. The development of other types of rigorous and scientifically valid study designs represents a major step forward in conducting meaningful research that can truly contribute to the public's health.

There are other features of economic analyses that will appeal to providers in our field as well. Economic analyses often take factors into consideration such as quality of life, patient perspective, and health outcomes in terms of their impact on wellness. Given that the rise of chronic illness continues to affect healthcare and related budgets on the national level, long-term approaches that can deliver improvements in health while at the same time demonstrate cost savings are highly desirable.

Herman illustrates her book with examples from a wide variety of CIM modalities in addition to acupuncture; she includes results from studies of chiropractic, massage, naturopathic medicine, osteopathy, Alexander Technique, homeopathy, *Tai Qi*, and music therapy.

Acupuncture-related studies are cited numerous times in the volume. One example is from a study by Ratcliffe and colleagues that evaluated the effects of acupuncture in addressing low back pain. Costs and health benefits were compared for usual care alone versus usual care plus acupuncture. The study followed patients and examined health outcomes as well as costs of acupuncture and costs of direct care. Direct healthcare costs over the next two years for the group receiving acupuncture totaled approximately $367 per patient, while direct healthcare costs for this same time period were approximately $515 per patient for the group receiving usual care only. Adding acupuncture to usual care at a cost of $319 per patient saved an average of $148 per patient (U.S. dollar amounts are estimates based on current values of UK pounds). If the investigators had included factors such as patient out-of-pocket costs and changes in work productivity, the savings may have been even more substantial. Namely, the addition of acupuncture to usual care could have accounted for a net savings of $370 per patient.

Based on a study done in 1998 using moxibustion during the 33rd week of gestation to successfully turn babies who were in a breech position, Van Den Berg and colleagues developed a statistical model to associate the effects of this study with cost . Moxibustion could not only result in the need for fewer caesarian sections because of proper version of the baby, but also could account for increased cost savings of approximately $585 U.S. dollars per woman.

We recommend this book as a resource and inspiration for the acupuncture community.

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JUNE 2013