

## **Women's Health: Toxicology and Safety of Complementary and Alternative Medicine**

### **Background**

The World Health Organization estimates that 65–80% of the world's population uses traditional medicine as their primary form of health care. As the incidence in disease states affecting women increases, a corresponding increase in the use of complementary and alternative medicines (CAM) has been observed due to either a lack of an ideal pharmaceutical agent or desire to seek natural alternatives. Complementary and Alternative Medicines have been helpful for women's health (e.g., menopausal health, osteoporosis, autoimmune disease, urinary tract infection, and cancer of the breast, ovary, bone, cervix, and uterus). Some formulations have been used for thousands of years, but little is known about their toxicity potential and the safety following long-term use. How to appropriately evaluate CAM in regards to their therapeutic efficacy and risk assessment is an important aspect of CAM in women's health.

In the Asian cultures, CAM has had a long history of development and application and has demonstrated efficacy in the treatment of many diseases affecting multiple organ systems. In the 21<sup>st</sup> century medicine, the value of CAM has been significantly raised, due in part, to the use of advanced technologies in bringing novel insights into the unique features of CAM. For example, the lack of an ideal pharmaceutical agent for menopausal health, coupled with a desire to seek more natural alternatives, has led to growing interest in CAM interventions for women's health. Approximately 20% of women in the U.S. use some form of CAM therapy for control of menopausal symptoms or other related health concerns.

CAM products are considered food or dietary supplements, which are not regulated as rigorously as drugs by the U.S. Food and Drug Administration (FDA). Conventional medicines are subjected to testing to determine what undesired side effects occur; whereas CAM generally does not. The use of CAM may interfere with conventional medicine or pose unique safety risks for susceptibility to other disease states. For example, soy is seen as some to be a cure-all for menopause, cancer prevention, osteoporosis, heart disease, weight loss, and many other health concerns. Still others cite soy as a toxin that promotes breast/endometrial cancer or has a negative impact on the thyroid. Additionally, some patients may rely on CAM, thus possibly delaying effective treatment with conventional medicine.

### **Research**

Ongoing research includes the efficacy and safety of CAM modalities, the biological mechanisms that underlie them, the methods and tools used to study them, and patterns of CAM use. This research will enable the public health professionals to better understand which CAM therapies have been proven to be safe and effective. In 2010, over \$125 million will be granted by National Institutes of Health (NIH) and National Center for Complementary and Alternative Medicine (NCCAM) for these efforts.