Study says Turmeric may help prevent osteoporosis

September 28 2010, By Janet Stark

Dr. Janet Funk (Photo by Norma Jean Gargasz / UANews)

Research by Dr. Janet Funk at the University of Arizona College of Medicine supports the potential health benefits of the spice turmeric, showing that it may be an effective resource for preventing bone loss, a significant concern for postmenopausal women.

A recently published study by Dr. Janet Funk at the University of Arizona College of Medicine adds to the literature supporting the potential health benefits of the spice turmeric, showing that it may be an effective resource for preventing osteoporosis, or bone loss, a significant

concern for postmenopausal women, among others. The study findings also point to characteristics of the turmeric tested that may determine its efficacy.

Turmeric comes from a plant that is related to ginger. It is a mainstay of Indian cooking, and it has been used for centuries in Ayurvedic medicine as a treatment for a variety of ills, from stomach ache to arthritis. Commercially produced turmeric is consumed widely as a spice and is readily available as a dietary supplement.

Funk, an endocrinologist, associate professor in the UA Department of Medicine and a member of the UA's BIO5 Institute, has studied turmeric for several years, working with carefully characterized extracts that have been processed specifically for her research.

In earlier studies that she conducted to assess the antiarthritic effects of turmeric, Funk discovered that it not only prevented arthritis, but also prevented the development of bone cells that foster bone resorption and bone destruction around the joint in a model of rheumatoid arthritis.

To study whether turmeric might prevent bone loss occurring with postmenopausal osteoporosis, Funk's team evaluated and compared two turmeric extracts analogous to those that are commercially available and marketed.

The extracts contained a mixture of three major curcuminoids - chemical substances also known as polyphenols that occur in turmeric in varying proportions. One was a complex turmeric fraction containing 41 percent cucuminoids. The second, a curcuminoid-enriched turmeric fraction, contained 94 percent curcuminoids and was by far the more effective in preventing loss of bone mineral density and trabecular bone, the spongy or porous bone found in the spine and hip, the types of bone areas that are most subject to fracture in post-menopausal women.

In addition, her team noted improvements in the structure of the bone, the microarchitecture, which would suggest a reduction in the risk of bone fracture. This, Funk said, is the fundamental aim of all treatments targeting osteoporosis.

While clinical data are lacking, the results of this translational study are encouraging, she said, as they may help identify better treatments for osteoporosis.

"Some phytoestrogens - estrogen-like chemicals that are found in plants - have been identified for evaluation as an alternative to hormone replacement therapy for preserving bone during menopause, but a botanical dietary supplement that would preserve bone without involving estrogen-receptor pathways might be a safer alternative for patients."

Funk's previous analyses of randomly selected, commercially available turmeric dietary supplements revealed that the botanical content of these products is variable and often not reflective of labeled content. (See video)

She concludes that characterization of turmeric dietary supplement composition and rigorous preclinical and clinical testing will be necessary to identify the role turmeric might play in the development of affordable bone-protective therapeutics for the prevention of metabolic bone disorders.

More information: Full research text of the study appeared in the Aug. 9 online edition of the Journal of Agricultural and Food Chemistry.

Provided by University of Arizona