

Exercise and vitamin D help to prevent falls in seniors

December 21 2010

(PhysOrg.com) -- A systematic review of over 50 clinical trials finds that exercise and Vitamin D supplements are the best ways to reduce the risk of falling in people aged 65 and over. The review is published in the December 21 issue of *Annals of Internal Medicine* and was commissioned by the US Preventive Services Task Force. A researcher at the Drexel University School of Public Health worked with colleagues at the Kaiser Permanente Center for Health Research, which is part of the Oregon Evidenced-based Practice Center, to conduct the study.

“Our evidence review shows that exercise and Vitamin D supplementation are the most effective primary care interventions to prevent falls,” said Yvonne L. Michael, ScD, MS, an associate professor at the Drexel University School of [Public Health](#) and lead review author of the report. “This is important news because falls are extremely common in this population and they are the leading cause of death and injury for the elderly. We need to help primary care clinicians find better ways to prevent falls, and this review will help to do that.”

Michael and her colleagues evaluated 18 clinical trials of exercise and physical therapy involving nearly 4,000 people who were aged 65 or older. Some of the trials involved group exercise or Thai Chi classes; others involved individualized exercise instruction at home. There were a variety of exercises included but most were aimed at improving gait, balance, strength and flexibility needed to do everyday activities. The interventions ranged from six weeks to 12 months or longer and the evaluation periods lasted up to 18 months after the programs ended.

When taken individually most of these trials showed no statistical difference, but when the results were pooled together the exercisers had a 13 percent lower risk of falling compared to those who did not exercise.

For the review of Vitamin D supplementation researchers evaluated nine clinical trials involving nearly 6,000 participants who received daily oral doses of Vitamin D with or without calcium. The dosage ranged from 10 to 1,000 IU's per day, in one trial participants received a larger single intramuscular injection of 600,000 IU's of Vitamin D. The trials lasted from eight weeks to three years. Follow up periods ranged from six to 36 months. Participants who received Vitamin D had a 17 percent reduced risk of falling, compared to participants who did not receive [Vitamin D](#).

Other interventions that addressed single risk factors including vision correction, medication assessment, home hazard modification, and education and behavioral counseling did not significantly reduce the risk of falling in the elderly. Interventions that provided comprehensive risk assessment and management did reduce the risk of falling by 11 percent. In these trials—called multifactorial assessment and management interventions—healthcare providers evaluated and managed multiple risk factors including medication use, visual problems, home environment and gait and balance issues. In many of the successful trials, home health nurses or case managers developed an individual tailored approach specifically for that participant. For example, the nurse might conduct a home visit to remove obstacles, help the patient enroll in an [exercise](#) class to improve balance, and help the patient get in to see an ophthalmologist to address a vision problem.

Michael received her ScD in epidemiology and health and social behavior from the Harvard School of Public Health, master of science degree in health and social behavior from the Harvard School of Public Health and bachelor of arts degree in government from the College of

William and Mary. Her research areas include the impact of social characteristics of communities and individuals on population health, particularly as it relates to active aging, women's health and health disparities.

Provided by Drexel University

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