

## ***Tai Chi* for Fall Prevention in Seniors**

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As we age, balance becomes more of a challenge and falls become a serious threat to our aging, fragile bodies. Falls are a leading cause of mortality among older adults ages 65 and older. With population models predicting steep increases in the 65 and older population, the need to address these falls and the strain they place on the health care system is vital. The implementation of mainstream fall-prevention programs into senior communities could be an important first step.

Many studies have shown that the regular practice of *tai chi* significantly improves balance and is an effective means of preventing falls in seniors. A study published in the July 2008 issue of the *American Journal of Public Health*, "Translation of an Effective *Tai Chi* Intervention Into a Community-Based Falls-Prevention Program," evaluated the success rate when offering a *tai chi* program at community-based centers.

Researchers evaluated the *Tai Chi* - Moving for Better Balance program, an evidence-based falls-prevention program specifically developed for use with community centers. The 12-week study included the participation of 140 seniors (60 years or older) in six community centers for twice-weekly, one-hour classes. The classes were taught by trained community *tai chi* instructors between April 2006 and April 2007. Each class consisted of five to 10 minutes of warm-up exercises, followed by the eight-form *tai chi* program, ending with a five-minute cooldown. The participants were also given a videotape or DVD and user's guidebook for practice at home.

Using the RE-AIM model of evaluation, the researchers primarily focused on the program's reach, adoption and implementation, with the secondary focus being the program's effectiveness and maintenance. RE-AIM elements (specific to this study) were:

- Reach - The number of eligible individuals who qualified per the study criteria (physically mobile seniors w/o severe mental deficits), divided by the total number of individuals who responded to the program promotion, multiplied by 100.
- Adoption - The percentage of total local community senior centers approached that agreed to participate and implement the program.
- Implementation - The extent to which providers and instructors successfully implemented key elements of the program.
- Effectiveness - The change in measures of physical performance and quality of life.
- Maintenance - The center's willingness to consider *tai chi* as part of its program offerings and continuation of the program after completion of the intervention.

Study findings revealed 89 percent participation by eligible seniors (reach) and a 100 percent adoption rate. All participating centers and instructors successfully implemented the program. The program had an attendance rate of 80 percent and an average of 32 minutes of at-home practice per participant each week. All participants also expressed their intention to continue the program if it were offered in

their community.

At the end of the study, follow-up reviews determined the program's effectiveness and maintenance. Using various measures, researchers found significant improvement between pre-intervention and post-intervention, including improvement in participants' reach and 50-foot speed walk. All of the centers reported their intention to continue offering the program; five centers continued offering *tai chi* classes, and one was waiting for the availability of an instructor.

The researchers concluded that the evidence-based *tai chi* program can be implemented and maintained in urban and rural community settings. Of the senior participants, 92 percent continued *tai chi* practice after the intervention ended. The researchers added that although the implementation was successful, continued efforts are needed to "address several translation, implementation and evaluation issues" along with documentation of "whether this program can improve health while reducing health care costs." Nevertheless, they feel the program is practical to implement and maintain in community settings.

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