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**The Effectiveness of Tai Chi Interventions on Fall Prevention in Older Adults**

**Search Terms:** elderly, geriatrics, older adults, Tai Chi, eastern exercises, fall, fall prevention, fall program

**Years:** 2007-2013

**Databases:** PUBMED, Medline, Ageline, CINAHL

**Number of Articles:** 6

**Summary of Research Findings:**

This review included five randomized control trials and one cross-sectional study. Participants of all studies were over 60 years old, had little to no cognitive decline, lived in the community, and had no significant co-morbidities, with the exception of one study measuring reduction of falls in men with dizziness (i.e., Maciaszek & Osinki, 2012). The modality used in all cases was Tai Chi, however two of the studies also compared results of Tai Chi against other interventions: physiotherapy interventions such as weight lifting and brisk walking (i.e., Tousignant et al., 2012), and yoga classes or a senior center program (i.e., Hakim et al., 2010). The studies were performed in time periods ranging from three weeks to one year with numbers of participants ranging from 22 to 702.

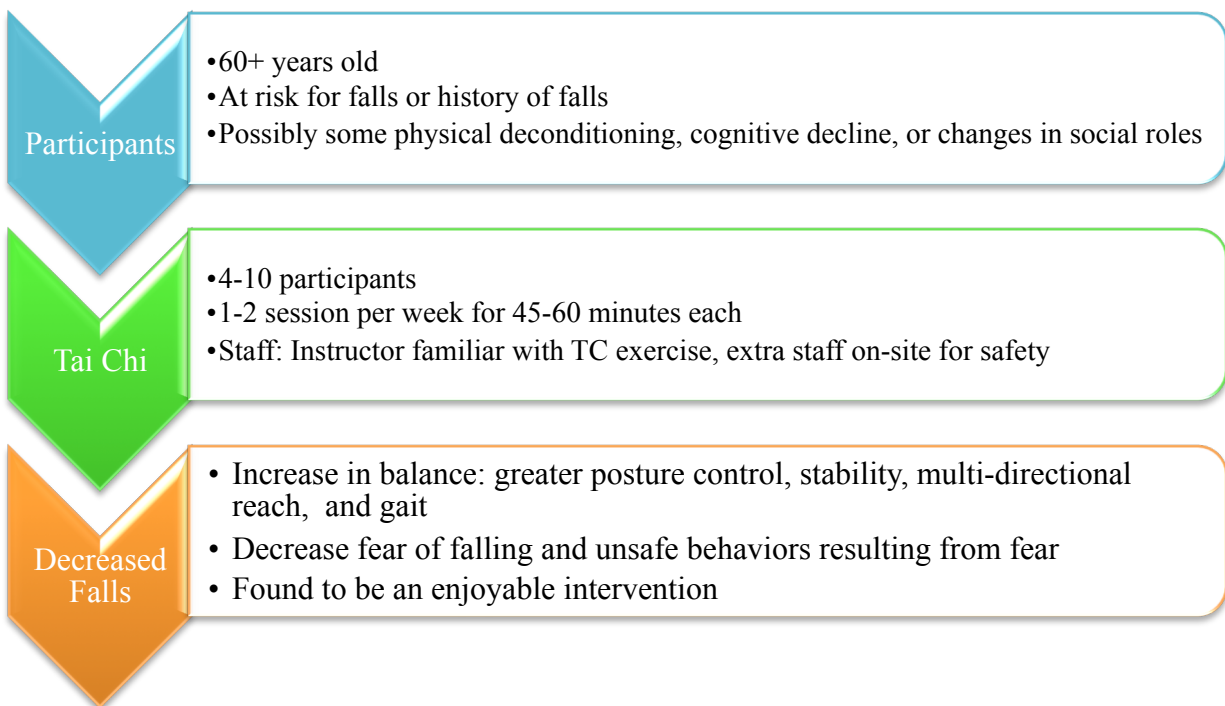
All but one studies measured balance and number of falls pre- and post-study, asking clients to self-report this information. Other outcome measures related to fall incidents included postural stability (Gatts & Woollacott, 2007; Maciaszek & Osinki, 2012), gait (Gatts & Woollacott, 2007; Voukelatos et al., 2007), and fear of falling (Logghe et al., 2009; Tousignant et al., 2012). All studies, with the exception of Logghe et.al (2009) found a significant increase in balance and decrease in falls in participants taking part in Tai Chi interventions. This was marked by significant findings related to increases in self-confidence, effecting fear of falling (Logghe et al., 2009; Tousignant et al., 2012), postural stability (Gatts & Woollacott, 2007; Maciaszek & Osinki, 2012), and overall better gait (Gatts & Woollacott, 2007; Voukelatos et al., 2007). Tousignant and other (2012) however found Tai Chi to be slightly less effective than physiotherapy interventions, such as walking and weight lifting. Logghe et al. (2009) found an increase in falls amongst study participants participating in Tai Chi as opposed to a non-intervention control group, however their results were not significant. Overall, Tai Chi was found to be an enjoyable and cost-effective modality for improving balance in older adults with history of, or at risk for falls, with no negative side-effects.

**Knowledge Translation Plan:**

The high incidence of falls in older population has brought public attention to a variety of practices in fall prevention programs. Based on the findings of the abovementioned studies, Tai Chi can help decrease fall occurrences by improving balance and gait, and reducing fear of falling in our older clients. Many of these clients have experienced physical deconditioning (e.g., generalized weakness and decreased bone density), cognitive loss (e.g., dementia, Parkinson's disease, and forgetfulness), or change in social roles (e.g., retirement, move to a retirement community, and loss of friends/loved ones), which are all factors known to lead to falls. However, due to their deficits, many are involved in programs where they can receive an intervention from a CTRS in skilled nursing facilities, assisted living, or senior centers. As indicated by the aforementioned studies, Tai Chi has been proving to reduce tripping, fear of falling and

unsafe behaviors associated with fear, as well as promote greater stability, multi-directional reach and gait. The results from the synthesis of these studies indicate that a CTRS should conduct Tai Chi sessions with 4-10 clients one to two times per week for 45-60 minute sessions. Ideally, Tai Chi sessions should be instructed by a CTRS with staff member who is familiar with Tai Chi exercise, or a certified Tai Chi instructor. The studies reviewed for this article all used standing Tai Chi interventions, however, seated Tai Chi is an option for clients who are unable to stand for long periods of time. Other staff should be present at the sessions for maximum safety benefits. The modality can be used with little to no cost to the facility or clients, and is found to be enjoyable by clients who have previously participated.

Tai Chi resources and additional knowledge about the modality can be obtained easily within the community (inexpensive classes are offered throughout the country), online through websites such as YouTube, Wikipedia, taichiforseniorsvideo.com, and healthyaging.ori.org; and books that can be purchased in any bookstore or on Amazon.



## References

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