

# **The Effects of Tai Chi on Physical Functioning in Older Adults with Parkinson's Disease**

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**Search Terms:** Parkinson's, Tai Chi, physical, physical functioning

**Years:** 2008-2012

**Databases:** CINAHL, SPORTDiscus, Medline, PubMed

**Number of Articles:** 35 articles found, 6 articles used

## **Summary of Research Findings:**

Individuals diagnosed with Parkinson's disease often experience symptoms that impact their physical, cognitive and social functioning. Since Tai Chi is a balance-based exercise that incorporates a variety of movements, several research studies have examined the effects of Tai Chi based exercises on different aspects of physical functioning in this population. This preliminary literature review included six articles that specifically examined the use of Tai Chi interventions to improve gait (Amano et al., 2013; Hackney & Earhart, 2008; Li et al., 2012), balance, and postural control (Amano et al., 2013; Kim, Kim, Tae, & Son, 2011; Li et al., 2012) in older adults with Parkinson's disease.

The studies reviewed all limited participation to older adults who were ambulatory and cognitively intact. Participants all had a diagnosis of Parkinson's disease, and three of the studies narrowed their inclusion criteria by only including individuals scoring between 1.5 and 4.0 on the Hoehn & Yahr scale (Amano et al., 2013; Hackney, & Earhart, 2008; Li et al., 2007). Although a variety of Tai Chi interventions were utilized throughout the studies, all sessions were either 60 minutes (Amano et al., 2013; Hackney, & Earhart, 2008; Li et al., 2012; Venglar, 2005) or 90 minutes (Kim, Kim, Tae, & Son, 2011; Li et al., 2007) in length, with 60 minute sessions identified as a more appropriate intervention for this population.

Results indicated improved balance control (Hackney & Earhart, 2008; Li et al., 2012; Venglar, 2005) and postural stability (Li et al., 2012) in individuals who participated in Tai Chi. Additionally, three of the studies surveyed participants following their experiences by using questionnaires, and found that participants reported they enjoyed the Tai Chi sessions and felt more confident in their safety (Hackney & Earhart, 2008; Li et al., 2007; Venglar, 2005). While these results are promising, it should be noted that one study failed to yield any significant findings related to postural control or gait initiation (Amano et al., 2013).

The most common limitation present throughout the studies was a small sample size. Other limitations were a brief measurement time frame, and a lack of control group (Kim, Kim, Tae, & Son, 2011; Li et al., 2007; Venglar, 2005).

While more research is needed in this area, Tai Chi appears to be a cost-effective, enjoyable and safe intervention for improving the physical functioning of older adults with Parkinson's disease.

## **Knowledge Translation Plan**

Tai Chi is an intervention that can be used by recreation therapists to improve balance and postural stability in older adults with Parkinson's disease. According to recommendations in the current literature, this intervention is best suited for clients who are ambulatory and cognitively intact. This will facilitate active engagement in the movements as well as the ability to follow necessary directions and instructions involved in the exercise program.

Recreational therapists should structure the Tai Chi intervention so that it is implemented in small groups with participants of similar ability levels. Programs should be approximately 60 minutes in length, and meet approximately twice per week. The CTRS should also encourage participants to practice Tai Chi exercises outside of the group sessions in order to maximize positive outcomes. Group leaders should be familiar with Tai Chi exercises, and should structure each program to include a warm-up and cool down segment of basic Tai Chi poses, with traditional Tai Chi exercises making up the body of the program.

Tai Chi participants can expect to achieve their desired effects in approximately 8-24 weeks, depending on the person. However, once started, the exercise program should be offered continuously in order for desired outcomes to be maintained.

Since the literature indicates that participants have not only experienced improvements in balance, gait and postural control following participation in Tai Chi, but also reported feeling more confident in their safety, therapists should also consider discussing safety issues related to movement with their clients.

### Older Adults with Parkinson's disease

- Ambulatory
- Cognitively Intact
- Decrease in balance/balance concerns
- Limited Postural Control

### Tai Chi Intervention

- Small group settings
- At least 2x per week for no more than 60mins
- Participants should be involved in Tai Chi for 8-24 weeks to achieve results
  - Encourage individual practice outside of class setting
  - Continue interventions indefinitely for maintenance

### Outcomes

- Improved balance
- Improved postural control
  - Decrease in falls
- Overall increase in self-awareness
- Enhanced feelings of safety

### References

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