

# Tai Chi as a Fall Prevention Program

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## Project Description & Sites

The purpose of the 14-week capstone project was to implement a fall prevention program and lead a Tai Chi for Rehabilitation (TCR) program for Gracework's Bethany Lutheran Village Retirement and Community Living, which is an assisted living facility and independent living facility in Dayton, Ohio for those 65 years or older. The occupational therapy doctoral (OTD) student aimed to increase quality of life for Bethany Village (BV) residents by providing Tai Chi (TC) as a therapeutic measure to increase safety and well-being. OTD student marketed the TCR program at BV by creating and distributing flyers and presenting an informative presentation on the benefits of TC based off of evidence-based research. The TCR program consisted of a 30-minute chair-based TCR class and a 45-minute standing-as-tolerated TCR class offered to BV residents. OTD student offered additional one-on-one practice sessions ranging from 15 to 30 minutes as tolerated by the resident. A curriculum binder on TC was created by the OTD student that incorporated how a professional in occupational therapy can incorporate forms of TC into a plan of care. The OTD student conducted a focus group, created a needs assessment, and synthesized research as a means to create a presentation on fall prevention strategies for BV residents. OTD student participated in and completed a Tai Chi certification program. OTD student received feedback from TCR participants at Bethany Village from a peer-reviewed satisfaction survey.

## Project Completion and Outcomes

The OTD student implemented and led daily TCR classes as a 12-week fall prevention program at BV for assisted living and independent living resident's. The TCR participant's improved their balance over the course of the fall prevention program due to self-reported decrease in fall incidences each month. Participants increased their awareness of proprioception by participating in a tai chi stepping-pattern exercise during each class. The TCR participants incorporated diaphragmatic breathing techniques with the practice of TC to lower heart rate, blood pressure, and cortisol levels in order to promote relaxation and increase their psychological well-being. TCR participants unanimously reported 100% excellent satisfaction with the program on the satisfaction survey. Additionally, the OTD student earned three TC certifications from the Tai Chi for Health Institute during the capstone experience.

The OTD student collaborated with the Life Enrichment director at BV to create a virtual tai chi program to be broadcasted live on a local television station. The virtual tai chi program provided BV residents with easy access to fall prevention and exercise opportunities for those participating in self-quarantines due to the outbreak of COVID-19. The virtual tai chi program is to be continued at BV following completion of the capstone project. The OTD student provided an educational presentation aired to the local television channel to provide the community with educational materials to reduce one's risk of falls.

## Literature Review | Needs Assessment

**Literature Review:** One-third of older adults, defined as those who are 65 years or older, fall once or twice annually (Kumar, Delbarere, Zijlstra, Carpenter, Life, Masud, Skeleton, Morris, & Kendrick, 2016). Occupational therapist's (OT) can address fall risk by providing prevention measures (Peterson & Clemson, 2008) in the older adult population in order to prevent injury to maintain or increase their client's quality of life. Literature reports that Tai Chi significantly prevents the risk of falling (del-Pino-Casado, Obrero-Gaitan, & Lomas-Vega, 2016). Tai Chi is a balance-based exercise (Crew, Petrosky, Byrnes, & Nelson, 2015) that derives from traditional Chinese martial arts and involves smooth, continuous motions in a choreographed manner (Leung, Chan, H. Tsang, W. Tsang, & Jones, 2011). OT's can incorporate Tai Chi-like activities in their patient's plan of care to address balance deficits, along with providing knowledge of community-based resources for referrals to these types of programs for older adults living at home (Hakium, Kotroba, Cours, Teel, & Leininger, 2010).

**Needs Assessment:** A needs assessment was created for Gracework's Bethany Lutheran Village Retirement and Community Living for the purpose of determining (a) the extent of which fall prevention is addressed by health professionals in Bethany Village (BV), (b) fall rates of assisted living and independent living residents, (c) extent of knowledge of fall prevention that residents obtained, and (d) recommendations for educational needs and future implications of fall prevention program. The means of obtaining this information at BV included: (a) leading a focus group, (b) conducting interviews with the therapy department, (c) collaborating with the exercise specialist and administrator, and (d) surveying residents.

## Mission & Vision Statements

**Project Vision Statement:** To increase quality of life for Bethany Village residents by providing Tai Chi as a therapeutic measure to increase safety and well-being.

**Project Mission Statement:** To implement and lead a TCR program for fall prevention offered to residents in an assisted living and independent living facility in a means that is supported by research to provide residents the opportunity to learn skills to aid in (a) decreasing falls, (b) improving balance, (c) increasing proprioceptive awareness, (d) developing breathing techniques and (e) promoting psychological well-being.

## Deliverables

- ❖ 1. Flyer of marketing and recruitment of residents
- ❖ 2. Satisfaction survey
- ❖ 3. Tai Chi certification: Tai Chi for Arthritis Instructor
- ❖ 4. PowerPoint presentation on fall prevention
- ❖ 5. Tai Chi Curriculum Binder



## Future Implications for OT

The practice of TC is supported by evidence-based research to provide immense health benefits for the aging population and those with special health conditions. Occupational therapist's (OT) can use TC in their practice to allow these populations to gain various health benefits. Based on the Tai Chi Curriculum Binder, the OTD student has determined ways for OT's to use the principles of TC in their practice. OT's may use TC to (a) lead fall prevention programs, (b) earn continuing education units (CEU), (b) provide group intervention, and (d) to incorporate Tai Chi principles into daily activities for fall prevention measures.

## KEY REFERENCES

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- Peterson, E.W. & Clemson, L. (2008). Understanding the role of occupational therapy in fall prevention for community-dwelling older adults. *OT Practice*, 13(3), 1-7.
- \*Full reference list and image reference list available upon request