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Manuscript: Tai Chi! Enhancing Priest Wellness through Tailored Tai Chi Programming

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Abstract

Falls are a leading cause of injury and traumatic death amongst older adults. As health declines, older adults may also be burdened by high stress. A priest community partnered with a school of nursing to address challenges associated with aging in place, including fall risk and stress, through health promotion practices. The 8-week intervention examined the effect of tailored Tai Chi programming on fall risk and stress. Baseline timed up and go and stress scores were compared to postintervention scores; weekly Tai Chi exercise resulted in a statistically significant reduction in fall risk scores. Findings from this intervention may inform the nurse practitioner's care of individuals looking for holistic cost-effective interventions to reduce fall risk.

Keywords: Tai Chi, fall risk, stress, wellness, older adults, priests

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In the United States, unintentional falls are a primary cause of injury and traumatic death amongst older adults.¹ In 2015, total medical costs associated with falls per year exceeded \$50 billion; the average cost per fall exceeded \$9000.^{1,2} Aside from financial burden, falls may create a lasting impact by making it difficult for older adults to live in their community independently.

Compared to other age groups, older adults are also more vulnerable to stress.³ While older adults may experience stress due to declining health, stress may also be associated with vocation. Literature exploring disease and stress among clergy indicate that chronic illness and high stress levels are prevalent among the rapidly aging Catholic priest population.⁴⁻⁶ There is a paucity of research exploring health interventions for Catholic priests. However, findings of health disparities among clergy, coupled with a lack of protective health factors such as a nuclear family, suggest that this population may benefit from initiatives that address health challenges encountered with aging, including high fall risk and stress.

Background

A group of 29 Catholic priests, from a religious order serving a northwest university community, served as the population focus for this intervention. Members of the congregation at this university serve on campus beyond retirement. While the order offers provisions for this priest community, including campus housing and insurance, the clergy are expected to live independently and manage their health through routine care visits. In instances of health decline, they must relocate to an out-of-state nursing facility that is overseen by their congregation. Apart from creating a gap in care, this uprooting may also trigger transitional trauma.⁷

To assist the priests in times of health crises, the congregation's Father Superior assumes

the role of case manager. Through this role, he sought support from the School of Nursing (SON) to address the health challenges faced by his community as he believed they might be mitigated through health promotion practices. In 2018, the congregation and SON collaborated on a pilot study that addressed hypertension through mindfulness.⁸ The success of that shared health initiative prompted continued efforts to promote wellness practices among the priests, founded on the community's ongoing needs.

Tai Chi for Fall Risk and Stress Reduction

The priests identified a need to address wellness issues surrounding the congregation's tradition of aging in place, including elevated fall risk and stress levels. Multiple studies support the use of Tai Chi (TC) as a safe, cost-effective, and low-impact exercise option for community-dwelling older adults as it improves balance and strength, and reduces fall risk.^{2,9} Beyond offering physical benefits, the literature also indicates that TC may have positive effects on psychological wellbeing—recent studies have found that TC practice may moderate stress in the adult population.^{10,11}

TC, an ancient Chinese mind-body exercise, is comprised of a series of gentle flowing movements which are performed in a focused manner and accompanied by deep breathing.¹² While the style and form of TC use varies between studies, many interventions utilize a TC instructor to teach participants short-form TC.^{2,9-11} Studies that demonstrate notable effects of TC on fall risk and stress routinely include both in-class and self-guided practice, along with two to three hours of weekly practice.^{2,9-11} Though the spiritual component of TC may serve as a barrier for certain populations, the literature indicates that this is a culturally appropriate exercise for older adults with diverse backgrounds.^{2,9-11} This improvement project used a modified TC intervention, tailored to accommodate the congregation's needs, with a goal to enhance the

priests' ability to age in place.

Methods

The TC program was conducted at a northwest university recreation center located on the campus where the priests serve; a doctor of nursing practice (DNP) student served as the project director. Approval for the study was obtained from the university's Institutional Review Board. Recruitment activities included placement of flyers in common gathering areas, electronic outreach via the congregation's newsletter, and an informational session with the TC instructor.

All 29 members of the university's congregation were eligible for the TC program. Informed consent was obtained from all participants. Seven priests enrolled in the TC program and five completed the intervention. Reasons for withdrawal included work and health-related challenges that created scheduling issues with the TC sessions. None of the participants had prior TC experience.

Participants attended 60-minute TC sessions at the recreational center two times per week over an intervention period of eight weeks. An experienced TC instructor, proficient in Yang style 24-form TC, taught all sessions. Prior to the start of the first class, the DNP student gathered the participants' preintervention assessments which included a demographic information form, Perceived Stress Scale (PSS) score, and fall risk assessment using the timed up and go (TUG) tool. The 10-item PSS was utilized as it is a valid and reliable self-report measure of perceived stress among community samples; higher scores on the PSS indicate greater perceived stress.¹³⁻¹⁴ The TUG, a valid and reliable tool for assessing fall risk in community-dwelling adults, was administered by the DNP student in accordance with the processes outlined by the CDC.¹⁵ A TUG score ≥ 12 seconds indicates that an older adult is at risk for falling.¹⁵

The 16 TC sessions were tailored to class needs and integrated instruction to facilitate

self-guided practice. Participants were monitored for safety, with modifications given as needed. Priests were asked to complete 60 minutes of self-guided TC practice per week; supplementary videos and handouts were used to support home practice. Each week, participants completed a tracking tool which gathered self-reported home practice times and any barriers or facilitators to practice. Log entries were reviewed weekly by the project director, along with class attendance, to identify needed program adaptations. The participants' feedback was discussed with the instructor and subsequent class instruction was tailored based on this feedback. Final PSS and TUG assessments were gathered after eight weeks of the TC training, following the sixteenth session.

Results

The average age of the five participants who completed the intervention was 84.2 years. On average, the priests' self-guided practice times ranged from 40-75 minutes per week. The mean practice time was 55.5 minutes (SD= 12.6), slightly below the goal of 60 minutes per week. Average class attendance ranged from 10-16 sessions, with an average of 14.2 (SD= 2.7) sessions.

Data analysis was carried out, using SPSS software, to compare preintervention and postintervention measures of the PSS and TUG. Two-tailed paired sample *t* tests were performed to evaluate the hypothesis that following the TC intervention, participants' PSS and TUG scores would show a significant reduction compared with the respective preintervention values. At baseline, stress scores were relatively low (M= 6.40, SD= 3.51); the average stress score was lower than the normative value based on the participants' age group.¹⁶ Compared with the preintervention mean PSS score, participants' stress levels remained relatively low following the intervention (M= 5.8, SD= 4.66). The priests' reduction in stress levels was not statistically

significant ($t_{(4)} = .192$, $p = .857$).

The baseline TUG score of 12.44 seconds (SD= 1.98) was above the normative reference value for the participants' age group and was above the CDC fall risk cut-off score of 12 seconds, indicating high risk for falls in this sample.^{15,17} Compared with the preintervention TUG score, participants showed a statically significant reduction in fall risk (M=9.34 seconds, SD=1.72), $t_{(4)} = 11.80$, $p < .001$. Individual postintervention TUG scores revealed that all priests had improved their fall risk score and were below the fall risk threshold following the intervention.

Discussion

To our knowledge, this the first reported intervention to examine the effects of TC on fall risk and stress among older priests living in the community. The findings of this intervention indicate that TC may be a culturally appropriate mind-body exercise for clergy, with significant benefits achieved through weekly practice. An average of 50 - 60 minutes of weekly self-guided TC practice appeared to be feasible for this community and resulted in improved fall risk. Of note, adherence to the 60-minute home practice goal may have been impacted by a one week instructional break that occurred between weeks 4 and 5 of the intervention while the instructor was on leave.

Stress scores remained relatively low following the 16 session TC intervention. As volunteer sampling was used, self-selection bias may reflect lower stress levels than that of the general priest population and may have impacted results. Compared to other interventions examining the effect of TC on stress, this 8-week program may have been too brief to significantly reduce stress.^{10,11} However, the finding that stress scores remained stable after participants took on a new physical activity, with a significant weekly time commitment, may

indicate that TC represents a low-stress approach to enhance physical activity and improve strength and balance.

Significant reduction in fall risk occurred following the 8-week TC program. These results are consistent with similar studies exploring the effects of brief TC interventions on fall risk in older adults.^{2,9} The postintervention TUG score of 9.34 seconds (SD=1.72) also indicated a clinically significant reduction in fall risk. Specifically, this value fell below both the normative reference value for the participants' age group and the fall risk cut-off value set by the CDC. These findings underscore the positive effect that a brief TC intervention can have on fall risk. The results also affirm that a modified TC intervention may be a culturally appropriate exercise for religious older adults.

The small sample size was a limitation of this intervention as was the inability to control for the physical activities, or stress reduction practices, that the priests engaged in outside of TC. Additionally, the attrition rate of 28.6% may indicate attrition bias. Finally, the reliance on self-reported measures for documented home-practice times served as another limitation. While the generalizability of these findings is limited, the project findings affirm that TC is a safe cost-effective intervention for older adults at risk for falls and calls for future interventions to explore modified TC with a larger sample size.

Future interventions should consider providing TC lessons in a community space close to participants and offering a flexible class schedule as these features may enhance accessibility and allow for greater in-class participation. Lastly, utilizing an experienced TC instructor may enhance adoption of the intervention as this allows for tailored programming, founded on ongoing participant needs.

Conclusion

Nurse practitioners are in a unique position to promote integrative programs that comprehensively address health care gaps. TC, a low-impact exercise, integrates mind-body connection; beyond offering physical benefits, it may enhance psychological well-being. Results of this project underscore that weekly physical activity that enhances strength and balance, such as TC practice, may be a meaningful intervention for older adults who hope to reduce their fall risk or manage their stress. In addressing elevated fall risk and stress, TC may be offered as an intervention for older patients with different cultural and religious backgrounds who have no previous experience with TC practice. Future research exploring tailored TC practice among larger, more generalizable populations is recommended.

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References

1. Centers for Disease Control and Prevention. Important facts about falls.
<https://www.cdc.gov/homeandrecreationalafety/falls/adultfalls.html>; 2017 Accessed 18 November 2018.
2. Li F, Harmer P, Fitzgerald K, et al. Effectiveness of a therapeutic Tai Ji Quan intervention vs a multimodal exercise intervention to prevent falls among older adults at high risk of falling: a randomized clinical trial. *JAMA Intern Med.* 2018;178(10):1301-1310.
<https://doi:10.1001/jamainternmed.2018.3915>.
3. Jeon HS, Dunkle RE. Stress and depression among the oldest-old: a longitudinal analysis. *Res Aging.* 2009;31(6):661-687. <https://doi.org/10.1177/0164027509343541>.
4. Kane MN. Stress and relaxation among aging Catholic priests. *J Spirituality Ment Health.* 2017;19(1):1-19. <https://doi.org/10.1080/19349637.2016.1157566>.
5. Koller M, Blanchfield K, Vavra T, Andrusyk J, Altier M. Assessing and meeting the health needs of Roman Catholic priests in the archdiocese of Chicago. *J Prev Interv Community.* 2012;40(3):219-232. <https://doi.org/10.1080/10852352.2012.680421>.
6. Proeschold-Bell RJ, Legrand SH. High rates of obesity and chronic disease among United Methodist clergy. *Obesity.* 2010;18(9):1867-1870. <https://doi.org/10.1038/oby.2010.102>.
7. Walker CA, Curry LC, Hogstel MO. Relocation stress syndrome in older adults transitioning from home to a long-term care facility. Myth or reality? *J Psychosoc Nurs Ment Health Serv.* 2007;45(1):38-47.
8. Mocerri J, Cox PH. Mindfulness-based practice to reduce blood pressure and stress in priests. *J Nurse Practitioners.* 2019;15(6):e115-e117. <https://doi.org/10.1016/j.nurpra.2019.01.001>
9. Lomas-Vega R, Obrero-Gaitan E, Molina-Ortega FJ, Del-Pino-Casado R. Tai Chi for risk of

- falls. A meta-analysis. *J Am Geriatr Soc.* 2017;65(9):2037–2043. <https://doi-org.ezproxy-eres.up.edu/10.1111/jgs.15008>.
10. Taylor-Piliae RE, Haskell WL, Waters CM, Froelicher ES. Change in perceived psychosocial status following a 12-week Tai Chi exercise programme. *J Adv Nurs.* 2006;54(3):313-329. <https://doi.org/10.1111/j.1365-2648.2006.03809.x>.
11. Zheng S, Kim C, Lai S, Meier P, Sibbritt D, Zaslowski C. The effects of twelve weeks of Tai Chi practice on anxiety in stressed but healthy people compared to exercise and wait-list groups—A randomized controlled trial. *J Clin Psychol.* 2018;74(1):83-92. <https://doi.org/10.1002/jclp.22482>.
12. Massey PB. Prescribing movement therapies. In: Rakel D, ed. *Integrative Medicine*. 3rd ed. Philadelphia, PA: Elsevier; 2012:821-827.
13. Cohen S, Williamson, G. Perceived stress in a probability sample of the U.S. In: Spacapan S, Oskamp S, eds. *The Social Psychology of Health: Claremont Symposium on Applied Social Psychology*. Newbury Park, CA: Sage; 1988:31-67.
14. Roberti JW, Harrington LN, Storch EA. Further psychometric support for the 10-item version of the perceived stress scale. *J Coll Counseling.* 2006;9(2):135-147. <https://psycnet.apa.org/doi/10.1002/j.2161-1882.2006.tb00100.x>.
15. Centers for Disease Control and Prevention. Assessment: timed up & go. <https://www.cdc.gov/steady/pdf/STEADI-Assessment-TUG-508.pdf>; 2017 Accessed 1 December 2018.
16. Cohen S, Janicki-Deverts D. Who’s stressed? Distributions of psychological stress in the United States in probability samples from 1983, 2006, and 2009. *J Appl Soc Psychol.*

2012;42(6):1320-1334. [https://doi: 10.1111/j.1559-1816.2012.00900.x](https://doi:10.1111/j.1559-1816.2012.00900.x)

17. Bohannon RW. Reference values for the timed up and go test: a descriptive meta-analysis. *J Geriatr Phys Ther.* 2006; 29(2):64-68. <https://doi:10.1519/00139143-200608000-00004>.