

CHI TIME (modified Tai chi/Qigong) Exercise Persistence Among Residents of Senior Apartment Housing

Executive Report

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Background: Providing access to health promoting physical activity to older adults is one of the goals of the U.S. national health agenda. Individuals living in Senior Apartment housing often have mobility challenges that limit their participation in community-based exercise programming.

Purpose: This quasi-experimental research addresses the following questions.

1. Can residents of Senior Apartment housing safely engage in independent home practice of modified tai chi/qigong exercises? (Self-efficacy)
2. What benefits will be perceived? (Outcomes)
3. What are the exercise mode preferences of this population for practice of modified tai chi/qigong?
4. Does frequency of instruction influence tai chi/qigong home practice exercise persistence among residents of Senior Apartment housing?

Theoretical Framework: The theory of planned behavior (TpB) as described by Aizen, serves as the theoretical foundation. According to TpB, human action is guided by three kinds of considerations: beliefs about the likely outcomes of the behavioral beliefs (outcome expectations), beliefs about the normative expectations of others and motivation to comply with these expectations (normative beliefs), and control beliefs including self-efficacy and factors which facilitate or impeded the practice of the target behavior. Instructional features of the intervention being studied have been designed to address each area and research analyses will evaluate effect.

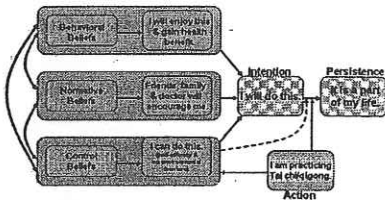


Figure 1. Contextual adaptation of Aizen's Model of Theory of planned Behavior (TpB) illustrating factors influencing successful achievement of tai chi/qigong exercise persistence

Methods:

Design: 2-group comparison, randomized group assignment, community-based research.

Setting: Senior Apartment housing residences in Upstate NY

Subjects: The conceptual population is older adults living in Senior Apartment housing. Participants were recruited from 6 Senior Housing residences in Upstate NY affiliated with a single community housing authority. Inclusion criteria: (a) interested in daily practice of tai chi/qigong, (b) willingness to attend scheduled tai chi/qigong class(es), (c) able to engage in mild exercise in sitting or standing, (d) cognitive functioning for unassisted living, and (e) willing to complete provide study data.. Subjects were excluded if they are unable or unwilling to provide informed consent in English language or sign a liability waiver.

Protection of Human Subjects: Study protocol was approved by the D'Youville College IRB and registered with Clinical Trials.gov [ID: NCT01006447]

Procedures:

In late summer and fall 2009, two types of programming in tai chi/qigong were offered as part of a health and wellness initiative for residents of Senior Apartment housing managed by one housing provider in Upstate NY.

Residents of 8 Senior Apartment buildings (N=364) were invited to participate. Self-selected volunteers from two of the housing units chosen at random received condition A: a series of 4 group classes delivered over a 4-week period plus the DVD for home practice (n_A=19). Self-selected volunteers from the remaining sites received condition B: one class of group tai chi/qigong instruction and provided with a DVD for home practice also given to attendees at the initial contact (n_B=52)

Participant demographics were surveyed at study entry. The primary outcome, exercise persistence, was measured by participant recorded daily exercise logs and operationally defined as the percentage of group participants who reported maintaining an exercise frequency of at least 3 x's a week during the 6 week study period. Secondary outcomes regarding participant experiences with the programming and home exercise were gathered using a post study survey. Survey questions related to application of TpB and included influence of behavioral factors specific to expectation of outcome, self-efficacy, social support, and barriers to exercise persistence. Thematic analysis was used to categorize participant perceptions regarding benefits, preferences for modes of practice, and barriers to exercise persistence.

Results: The study population was predominantly female and white/Caucasian, mean age of 76 yrs. A majority of participants (64%) reported exercising with others rather than alone. Thirty percent exercised primarily in sitting rather than in standing. Initially, over 80% participants of both groups exercised regularly in the first week. Average exercise time per exercise day was 25 min. The greatest decline in exercising persistence occurred in the second week. By the completion of week 5, 68.4 of the participants who received weekly instructor-led classes were still exercising regularly on their own as compared to 55.8% of the participants who received a single instructor-led class.

Participant feedback validated Aizen's model of TpB – fun, easy, social, and continued participation encouraged by family, friend & physicians. Reported perceived benefits, in order of frequency of report were improved sense of well being, improved energy and vitality, improved quality of sleep, reduced pain and improved mobility and balance, in that order.

Barriers to exercise persistence were reported as 'no time', 'forgot', 'unwell', 'not fun', 'too slow', could not find anyone to exercise with'.

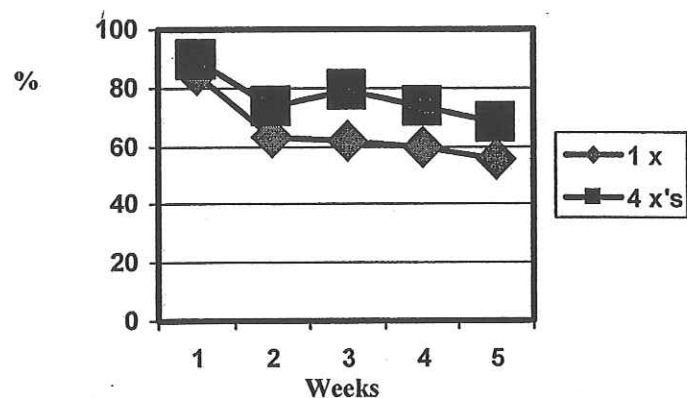


Figure 2: 5- week group comparison rates of exercise persistence Group A (4x's) received four instructor led classes once weekly for 4 consecutive weeks. Group B (1 x) received one instructor-led exercise class in the first week of study. Exercise persistence is operationally defined as % of participants who reported exercising 3 or more times in given week

Conclusions: Results of the research established that residents of Senior Apartments can gain necessary skills and confidence in performing modified tai chi/qigong exercises in a single instructor-led session when augmented with an instructional DVD for guided home practice. Repeated instructor led classes provided some marginal improvement in exercise persistence. Quality of life benefits including increased vitality were perceived as the major benefits with improved mobility and balance perceived by some participants. Limited mobility was not perceived as a barrier to exercise, and a majority of participants chose to make their exercising a social activity.

Summary: These results of this study validate that with limited instruction and DVD instructional support residents of Senior Apartment housing can engage in safe home practice of modified tai chi/qigong and perceive value in this activity in terms of quality of life benefit as well as social engagement.

Acknowledgement:

Funding support for this research was provided by the Community Health Foundation of WNY & CNY & D'Youville College, Buffalo, NY.