
Tai Chi for Elder Falls Prevention

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Introduction

Every year, one in three adults over the age of 65 years has a fall. Of those who fall, 20% to 30% suffer moderate to severe injuries.¹ Among older adults living independently who suffer a fall-related hip fracture, a quarter will need to stay in a nursing home for at least a year and 20% will die within a year of their injury.² The fear of falling in itself can prevent older adults from enjoying daily activities or even venturing outside of their homes.^{3,4}

To prevent fall injuries, the Centers for Disease Control and Prevention (CDC) recommends that older adults:⁵

- Exercise regularly
- Ask their doctor or pharmacist to review their medicines to reduce side effects and interactions
- Have their eyes checked by an eye doctor at least once a year
- Improve the lighting in their home and reduce home hazards that can lead to falls

According to the CDC, the most beneficial forms of exercise to reduce falls are “programs like tai chi that increase strength and improve balance.”¹ Tai chi is among the most-studied exercise programs for older adults. In addition to improving balance,⁶ there is evidence that tai chi can reduce systolic blood pressure and fear of falling,⁷ enhance the quality of life and functional mobility among older adults with osteoarthritis,⁸ and improve glucose control and the quality of life among individuals with diabetes.^{9,10} A tai chi program of one-hour classes offered twice weekly in senior centers in Oregon reduced the frequency of falls by 55%.⁵ Tai chi has been shown to be one of the most cost-effective interventions to reduce hip fractures.¹¹ Staff from the Mayo Clinic recommend tai chi as a means of stress reduction, as well as for its other health benefits:

“Tai chi is sometimes described as “meditation in motion” because it promotes serenity through gentle movements -- connecting the mind and body . . . Tai chi, also called tai chi chuan, is a noncompetitive, self-paced system of gentle physical exercise and stretching. To do tai chi, you perform a series of postures or movements in a slow, graceful manner . . . Tai chi emphasizes technique over strength. In fact, because tai chi is low impact, it may be especially suitable if you're an older adult

who otherwise may not exercise. You may also find tai chi appealing because it's inexpensive, requires no special equipment, and can be done indoors or out, either alone or in a group.”¹²

Because of the many potential benefits of tai chi, we explored the feasibility of instituting a tai chi program for older adults in our service population. Would IHS and tribal agency directors be willing to promote the program? How difficult would it be to recruit and train instructors? Most importantly, would tai chi be embraced by elders, or rejected as too unusual or culturally inappropriate?

Formative Evaluation

To obtain input from community members and local health experts, we conducted interviews and focus groups, distributed a survey at community events, and solicited feedback at several community meetings. The focus groups were conducted with older adults who were living independently. Our moderator guide was patterned after that of Basia, et al.¹³ We asked about current physical activities, barriers and motivators for exercise participation, preferences regarding optimal frequency and location of group classes, and interest in various possible exercise programs, including tai chi. In addition to describing tai chi and its health benefits, we demonstrated several tai chi movements.

The most important finding from the focus groups, interviews, and survey was that community members were very receptive to tai chi. Many felt it would be beneficial because of its slow, gentle movements; simplicity; and low cost. They liked the idea that tai chi could be performed at home as well as in groups; by frail individuals as well as more active adults. Several community members remarked on how tai chi's spiritual nature – its connection to the flow of inner, vital energies (chi) – resonated with traditional views of health and restoring balance among mind, body, and spirit.

Concern about falling was widespread, and people were enthusiastic about interventions to reduce fall injuries. Other insights from the community assessment were that the exercises should be made culturally relevant; homebound adults and those living remote, rural areas should have access to a tai chi program; and group classes could be held at community recreational centers and during the weekly elders meetings to improve participation.

Implementing the Tai Chi Program

We began by offering a weekly tai chi class at one of the senior centers. At first, we taught exercises that could be performed while sitting in chairs. This allowed for participation by adults who had mobility problems or who

found it difficult to combine upper and lower extremity movements. As participants gained confidence and stamina, standing exercises were introduced.

There were small numbers of participants initially. However, at the annual Diabetes Wellness Event we had to add a second tai chi presentation because of the substantial interest in the program. This was followed by a multi-day, train-the-trainers session resulting in 25 participants being certified as instructors in “Tai Chi for Diabetes.” The new instructors are now providing instruction in the 18 tai chi moves recommended by Dr. Paul Lam “to prevent and improve the control of diabetes.”¹⁴ The Healthy Heart Project also has adopted the use of tai chi. Among the benefits anticipated for heart patients practicing tai chi’s are reductions in blood pressure, relief of stress, and promotion of social interaction.

With multiple tai chi classes now being offered in several of our communities, we prepared a brochure to “market” tai chi. The brochure includes a brief description of tai chi and its health benefits, sample exercise, class times and locations, and contact information.

To make the program accessible to individuals outside of the scheduled classes, we developed a spiral-bound notebook of ten exercises entitled, “Tai Chi: Balance Your Wellness.” Printed in color, each page describes one exercise (e.g., “brushing the horse’s tail,” “butterfly,” “parting the waves”) with a photograph of local community members performing it.

We also produced a 10-minute DVD of our local participants performing several tai chi movements. The DVD will be used by our tai chi instructors and distributed to interested community members. Community health representatives have also received training in how to teach tai chi to homebound adults using the notebook and DVD, for example, to improve mobility after hospitalizations.

Conclusion

Tai Chi is becoming a valuable component of a comprehensive approach to elder falls prevention in our communities. As more community members participate and report their satisfaction and enjoyment of tai chi, interest in the classes continues to grow among both individuals and health programs. The next steps for our tai chi program are to recruit individuals from the community to become instructors; adopt objective measures, such as balance testing, to assess the impact of the tai chi program on participants health and well-being; and explore ways to sustain community interest and financial support for the program.

Tai chi is not for everyone. Some people will prefer a more vigorous workout, or will have medical reasons to avoid this form exercise (e.g., joint or spinal problems, severe osteoporosis¹²). However, we hope our very positive experience with tai chi at an American Indian nation will encourage other community-based falls-prevention and wellness programs to offer this ancient yet modern approach as an option for healing and improved well-being. Further

information and a list of instructors by state, are available from the online Tai Chi Health Information Center.¹⁵ Details about a CDC-funded program to disseminate tai chi as an evidence-based, community falls-prevention strategy are provided in the article, “Tai Chi: Moving for Better Balance.”¹⁶

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Sources of Needs Assessment Data That Can Be Used to Plan CE Activities

The new focus in planning continuing education activities is the identification of gaps in provider knowledge, competence, or performance that can be addressed with your activity. Ideally, these gaps should apply specifically to the American Indian and Alaska Native population and the providers who serve them. Where can you obtain data that help you identify these gaps? From time to time, we will publish items that either give you such data or show you where you can find them. When you are asked about the sources of your needs assessment data in your CE planning process, it will be easy enough to refer to these specific resources.

By many measures, injuries are one of the leading causes of morbidity and mortality in the population we serve.

In fact, they are the leading cause of death in the younger portion of the AI/AN population – that subgroup with the greatest remaining number of years of life to live. Our observation is that, given the magnitude of the problem, injury prevention is underrepresented in the continuing professional education activities we sponsor. We encourage you to examine the available data for the IHS, your Area, your community, and your facility to see where you might try to target your CE efforts. Your injury prevention specialists will be most willing to help you research the data you will want to demonstrate the needs of your learners.