

# Tai Chi program helps Parkinson's disease patients

February 8 2012

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An Oregon Research Institute (ORI) exercise study conducted in four Oregon cities has shown significant benefits for patients with mild-to-moderate Parkinson's disease. In an original article published in the February 9, 2012 issue of the *New England Journal of Medicine (NEJM)*, ORI scientist Fuzhong Li, Ph.D. and colleagues report that a tailored program of twice-weekly Tai Chi training resulted in improved postural stability and walking ability, and reduced falls in the participants.

"These results are clinically significant because they suggest that Tai Chi, a low-to-moderate impact exercise, may be used, as an add-on to current physical therapies, to address some of the key clinical problems in [Parkinson's disease](#), such as postural and gait instability. Since many training features in the program are functionally oriented, the improvements in the balance and gait measures that we demonstrated highlight the potential of Tai Chi-based movements in rehabilitating [patients](#) with these types of problems and, consequently, easing cardinal symptoms of Parkinson's disease and improving mobility, flexibility, balance, and range of motion," noted Dr. Li.

In the 4-year project funded by the National Institute of Neurological Disorders and Stroke, the investigators randomly assigned 195 patients to one of three exercise groups: Tai Chi, [resistance training](#), or stretching. The patients participated in 60-minute exercise sessions twice weekly for 24 weeks.

The results of the study showed that the Tai Chi group performed

consistently better than the stretching group in how far they could lean in any direction without losing balance as well as demonstrating better levels of directional control of the body and walking ability (i.e., longer stride length). Tai Chi participants also outperformed those in the resistance training group on the balance and stride length measures. Finally, Tai Chi training was shown to significantly lower the incidence of falls compared to stretching and to be as equally effective as resistance training in reducing falls.

Impaired movement, especially the loss of ability to maintain standing balance, adversely affects function and quality of life in patients with Parkinson's disease. With progression of the disease, patients lose stability and have trouble walking, difficulty managing activities of daily living, and experience frequent falls. Exercise is an important part of the management of Parkinson's disease because physical activity has been shown to retard the deterioration of motor function and to prolong functional independence. However, research on alternative forms of exercise, such as Tai Chi, that could improve balance, gait, and function in patients with Parkinson's disease is scarce.

The Tai Chi program developed by Dr. Li consisted of six Tai Chi movements integrated into an eight-form routine that focused on weight-shifting, controlled-displacement of the center of gravity over the base of support, ankle sway, and front-to-back and sideways stepping. Natural breathing was integrated into the training routine.

"There are a number of practical advantages to using Tai Chi to improve motor dysfunction of Parkinson's disease - it is a low cost activity that does not require equipment, it can be done anywhere, at any time, and the movements can be easily learned. It can also be incorporated into a rehabilitation setting as part of existing treatment. Similarly, because of its simplicity, certain aspects of this Tai Chi program can also be prescribed to patients as a self-care/home activity," Dr. Li added.

Provided by Oregon Research Institute

Citation: Tai Chi program helps Parkinson's disease patients (2012, February 8) retrieved 17 April 2024 from

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