

TAMIM, HALA

York University

C. Ardern, P. Ritvo, P. Weir, H. Baker

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Tai Chi (TC) for Older Adults: Improving Physical and Psychological Health and Identifying and Overcoming Cultural/Ethnic Barriers to Participation

Project Summary

Tai Chi (TC), a traditional Chinese exercise, has been shown to have several health benefits. In general, TC is a widely practiced, well received exercise in large populations in China. Such generally positive attitudes towards the exercise result from a long history of practice in Chinese culture. The current literature has identified some factors affecting its use by older Chinese adults but it is still unclear, however, whether these factors are applicable to or consistent across the different ethnicities that characterize Ontario's population. The objectives of the study were to examine and assess the factors influencing multi-ethnic Canadian older adults living in low income neighborhoods in terms of enrolment and adherence to a four months locally offered TC program, and to examine the program's effects on cardio-respiratory fitness and mental health. Results of this study showed that women were more socially motivated to both recruit and participate, whereas men were more focused on initiating physical activity to obtain the subsequent health benefits. The TC program was well attended by the participants who had multiple chronic conditions ranging from metabolic to orthopedic. Even within a group of participants with a range of functional abilities, participants were able to fully engage in and maintain TC practice for the duration of the study. Adherence to the program did not differ between Canadians of Chinese and non-Chinese origin. Furthermore, results of the present study showed that the program was effective in improving physical and mental health.

Research Methods

The study targeted community dwelling older adults in two locations in the Greater Toronto Area of Ontario, Canada; Jane and Finch as well as Dundas and Spadina. These two locations were chosen for their diverse ethnic make-up and their low socio economic status (SES). Eligibility for participation was limited to being 50 years of age and older, residing in the above-mentioned locations and with the medical capability to be involved in an exercise program. Two focus groups (male/female) were initially conducted to identify barriers and promoters to participation in the community based TC program. Information obtained from participants of these focus groups helped identify poster placement in strategic areas in the neighborhoods to actively recruit participants. Participants were exposed to 16 consecutive weeks of TC offered free of charge. The TC program consisted of an average of 6 TC classes given throughout the week where participants were advised to attend two classes per week. Classes took place at a Toronto Community Housing building and local community centers in each area. A professional TC master facilitated the classes. Each class was 60 minutes long and consisted of 15 minutes of Qigong followed by 45 minutes of Yang style TC. Attendance of study participants was collected throughout study period. Socio-demographic, lifestyle and health related characteristics were collected at baseline. Measures of physical, mental and perceived stress were collected at baseline and at end of study and were compared to assess effectiveness of TC program.

Research Results

A total of 210 participants were recruited for the present study. The mean age at enrolment was 68 and the majority of the participants (80%) were females. The majority had less than primary education (45%) and had

an annual income less than \$14,000 (64%). The country of origin of participants included China (35%), South America (26%), Europe (16%), Caribbean (6%), Canada (6%), South Asia (5%) and other. The proportion of participants who reported having arthritis, hypertension, diabetes and depression were 48.6%, 50%, 21.4%, 14.8%, respectively. A total of 18 participants (9%) were using walking provision devices at baseline.

Over the duration of the program, 34% attended < 8 TC classes, 21% attended 8-16 TC classes, 15% attended 16-24 TC classes and 31% attended > 24 TC classes. The average weekly attendance for the overall sample was 1 session per week, with no difference observed in the overall average weekly attendance for the Chinese versus non-Chinese groups. Of the 210 overall sample recruited, 27% did not complete the study and hence were lost to follow-up. Reasons for loss to follow-up included health reasons not related to the TC program, leaving the country to visit family, not being available for post TC program data collection and unknown reasons. Not completing the study was not related to any of the socio-demographic characteristics. Results showed that the 16 week program was effective at improving strength, endurance and flexibility as well as mental health and stress perception. These findings are of particular importance since improvements were in the context of real world settings based within lower income communities.

The limitations of the study relate to self-reporting bias and the uncontrolled intervention design such as changes in daily and seasonal physical activities as well as changes in dietary patterns and lifestyle factors.

Policy Implications

It has been assumed that individuals are more likely to adopt and maintain physically active lifestyles if they are able to perform activities that are culturally affiliated with their own. Research concerning TC in Canada is still in its infancy with respect to its potential uptake. For example, some individuals may view the activity as too "foreign". Such ethno-cultural barriers might seriously reduce TC acceptance. Yet, it is apparent from our study that TC is an optimal mode of physical activity for a culturally diverse group of older adults. Furthermore, results of the present study demonstrate that even with an average weekly attendance of one session of TC per week, significant physical, mental and stress changes can occur. This has significant implications for public health strategies targeting physical inactivity among older adults, as even a modest level of TC activity may contribute to meaningful improvements in health, and can be performed by ambulatory participants at any level of skill. It is an activity that can be incorporated into community programs, senior center activities or senior nursing homes to promote the wellbeing of community dwelling elders. The requirements of TC do not involve expensive equipment and are limited to a good TC master and an available space where the exercise can take place. This relatively inexpensive program could be widely implemented across our aging population and has the potential for considerable public health improvement and potential cost savings to the health care system.

Next Steps

Based on the data collected, the team is currently working on addressing the following research questions; 1) assessing the barriers and promoters for sustained participation in TC, 2) assessing if physical and mental health improvements due to the TC program is different for older adults of Chinese versus non-Chinese origin.

Potential important future studies would include; 1) assessing sustainability of participation in TC exercise over longer duration (greater than 4 months), 2) assessing cost effectiveness of TC programs.

Key Stakeholders and Benefits

- Coalition for Active Living Canada

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- Active Living Coalition for Older Adults
 - Public Health Agency of Canada
 - Health Canada, Healthy Living
 - Seniors Association Canada

The benefits are to encourage participation in a safe, low impact, physical activity.