A 16-week tai chi programme prevented falls in healthy older adults

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_Evid. Based Nurs._ 2008;11;60
doi:10.1136/ebn.11.2.60

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A 16-week tai chi programme prevented falls in healthy older adults

QUESTION
Does a 16-week, community-based tai chi programme reduce falls in healthy older adults?

METHODS
Design: randomised controlled trial.
Allocation: unclear.
Blinding: unclear if blinded.
Follow-up period: 24 weeks.
Setting: community in Sydney, New South Wales, Australia.
Participants: 702 people ≥60 years of age (mean age 69 y, 84% women) who lived in the community and had not practised tai chi in the previous year. Participants with degenerative neurological conditions, dementia, severely debilitating stroke, severe arthritis, marked vision impairment, or inability to walk across a room unaided were excluded.

Intervention: a 16-week tai chi programme (n = 353) or a 24-week wait list (n = 349). The tai chi programme comprised weekly 1-hour classes of 8–15 participants. Classes were taught by 22 instructors who had ≥5 years experience or had completed an accredited tai chi trainer’s course and had previously taught older people. Styles of tai chi used were Sun-style (83%), Yang-style (3%), and mixed styles (14%). Participants paid $A44 (£20.21) for the programme.

Outcomes: falls at 16 weeks. Secondary outcomes included falls at 24 weeks.

Patient follow-up: 97% (intention-to-treat analysis).

MAIN RESULTS
At 16 weeks, groups did not differ for rate of falls or proportion of participants with ≥1 fall, but fewer adults in the tai chi group had ≥2 falls (table). At 24 weeks, the rate of falls and proportion of adults with ≥1 and ≥2 falls were lower in the tai chi group (table).

CONCLUSION
A 16-week tai chi programme reduced falls in healthy older adults; effects remained 2 months after the programme ended.

A modified version of this abstract appears in Evidence-Based Medicine.

ABSTRACTED FROM

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Source of funding: NSW Health Department.

*Clinical impact ratings: Elderly care 6/7

### Tai chi programme v wait list for fall prevention in older adults*

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Tai chi (%)</th>
<th>Wait list (%)</th>
<th>Adjusted RRR (95% CI)</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;1 falls at 16 weeks</td>
<td>26% (3 to 47)</td>
<td>21%</td>
<td>Not significant</td>
<td></td>
</tr>
<tr>
<td>&gt;2 falls at 16 weeks</td>
<td>75% (17 to 92)</td>
<td>4.5%</td>
<td>31 (25 to 135)</td>
<td></td>
</tr>
<tr>
<td>&gt;1 fall at 24 weeks</td>
<td>31% (7 to 50)</td>
<td>24%</td>
<td>14 (9 to 60)</td>
<td></td>
</tr>
<tr>
<td>&gt;2 falls at 24 weeks</td>
<td>72% (40 to 88)</td>
<td>4.3%</td>
<td>18 (15 to 32)</td>
<td></td>
</tr>
</tbody>
</table>

| Number of falls at 16 weeks | 0.73 (0.50 to 1.07)† |
| Number of falls at 24 weeks | 0.67 (0.47 to 0.94)   |

*IRR = incidence rate ratio; other abbreviations defined in glossary. RRR, NNT, and CI calculated from data in article. Adjusted for age, sex, previous falls history, venue, baseline adequate physical activity, and baseline sway on mat.
†Not significant.

Preventing falls in older adults is a major public health concern; falls are associated with increased morbidity and mortality in elderly people. Tai chi has been shown to improve balance and reduce falls in older people living in the community. The study by Voukelatos et al found that weekly sessions reduced falls for up to 2 months after the sessions ended.

Generalisability of the findings may be limited by the 22 different instructors who used 3 different types of tai chi; lack of assessment of between-group differences in physical activity levels; and completion of <80% of follow-up balance assessments. Furthermore, as participants had to pay for the classes, ability to pay could have introduced a form of selection bias, although this does not appear obvious based on the numbers withdrawing from the study.

This study is of interest to public health nurses who provide programming for seniors, as well as those providing direct care to elderly people in the community. The development of community partnerships to facilitate the provision of low or no cost tai chi classes would allow for more participation across all socioeconomic groups.

In addition to health promotion and primary prevention strategies, such as decreasing clutter in the home, avoiding rugs on the floor, using non-slip mats in the bath, having annual hearing and vision screening, and reviewing medications for possible side effects, nurses can also include participation in tai chi classes as another option to help elderly people living in the community to remain active and healthy.

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