

**Journal Club Details**

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<b>Date of submission</b>	November 2008
<b>Journal Club location</b>	Southern Therapy Service
<b>JC Discipline/s</b>	Occupational Therapy/Physiotherapy
<b>JC Facilitator</b>	Jessica Atkinson & Bronwyn Keller

**Clinical Scenario**

Is there evidence for the effectiveness of Tai-chi in improving muscle strength and balance among community dwelling older people?

**Review Question/PICO/PACO**

- P** Community dwelling adults
- I** Tai-chi
- C** No intervention
- O** Strength, Balance, Quality of Life

**Article/Paper**

Li Y, Devault C, Oteghen SV. Effects of Extended Tai-chi Intervention on Balance and Selected Motor Functions of the Elderly. The American Journal of Chinese Medicine. 2007; 35(3): 383-391.

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<b>Article Methodology:</b>	Non-randomised controlled trial
<b>Returned JC on:</b>	19 November 2008
<b>By CAHE staff member:</b>	Lucylynn M. Lizarondo

Ques No.	Yes	Can't Tell	No	Comments
1	✓			The study has a clearly focused question. <i>Population:</i> Community dwelling, independent senior citizens. <i>Intervention:</i> a. Intervention group – Tai-chi exercise which consisted of a 1-hour session per week for 12 months b. Control group – bingo, card playing, knitting or similar activities but experienced no physical exercise class <i>Outcomes:</i> strength, flexibility, reaction time, balance
2	✓			A randomised controlled trial is always preferable when looking at evidence of effectiveness. However, the research questions were still addressed by using the design applied in this study. Is it worth continuing? YES
3			✓	The allocation of participants to intervention and control groups was based on individual's preference. Randomised allocation would have been ideal as it ensures that every participant has an equal chance of being in either group to avoid systematic differences between group characteristics at the start of the trial. Despite non-randomised distribution of participants however, baseline test showed no significant differences between groups.
4			✓	Blinding of participants would not have been possible in this study as they were the ones who decided on their group allocation. In addition, the study did not report blinding of the assessor.
5			✓	Out of the 47 senior citizens who were initially recruited, only 20 participants completed the study. There was no information regarding the participants who dropped out of the study, nor was there any mention of intention-to-treat analysis.
6	✓			Data on the different outcomes were measured and collected in the same way for all participants.
7			✓	No power calculation was carried out. Hence, it will be difficult to determine the adequate number of participants for this study. It seems though that 20 is a small number to ensure generalisability of results.
8				Results were presented using means, standard deviation and p-values to determine changes in outcome measures after a 12-month intervention. <i>Bottom line result:</i> Tai-chi may have a beneficial effect on balance capability for the elderly on a 6-month extended training, but not on muscle strength and flexibility.
9				Results for all outcomes were presented in terms of statistical significance at $p < 0.05$ . Hence may be considered precise in terms of statistical significance.
10	✓			All important outcomes related to motor function of the elderly have been considered.  Generalisability and applicability of the results may be limited due to the small sample size and significant flaws in the methodology. Nevertheless, the low intensity movements involved in Tai-chi may still be worth considering in elderly patients who may have problems with balance.