

The effects of Tai Chi on falls prevention - by Heather Clarke

Based on research question: "Can practising Tai Chi reduce the risk of falls in adults aged 65 years and older?"

New Zealand has an increasing ageing population. The 2013 census indicated 607,032 residents aged 65 years and over to be living in New Zealand (Statistics New Zealand, 2015). Northern Regional Age Concern Councils (2016) state that "between 30 and 50 percent of older adults fall each year" (para. 7). Dempsey, Hillege and Hill (2014) state that improving balance is strongly correlated with decreasing the occurrence of falls.

Falls risk factors

- * Weakness in lower limbs
- * Gait or balance disorders
- * Cognitive and functional impairment
 - * Poor sight
 - * Polypharmacy

Xu, Hong and Chan (2004) explain that negative changes caused by aging contribute to the increased number of falls in the elderly. Balance is compromised due to the body being out of alignment. Dempsey, Hillege and Hill (2014) explain that exercise results in increased muscle mass, tone, strength, efficiency and increased joint mobility, therefore, reducing the risk of falling due to muscle weakness and poor balance.

Tai Chi is a form of exercise made up of slow, supple movements rooted in Taoism, an ancient Chinese philosophy, performed in a semi squat position as well as other unusual positions (Chen, Lai, Lan and Wong, 2013).

Chen et al. (2013) suggest that Tai Chi can significantly speed up "the reaction time of the semitendinosus muscle, which may help older people maintain postural control" (p. 4) which improves balance. Older adults practising Tai Chi showed better postural control in studies using simple balance tests compared with inactive subjects (Chen et al., 2013).

Multiple studies compared falls risk between older adults practising Tai Chi to older adults who did not, with most resulting in the Tai Chi group having a lower falls risk.

Conclusion

As suggested by the research, Tai Chi appears to have effects in falls prevention, due to increased muscle strength, reaction time and improved balance and motor control. The research showed a strong correlation between low intensity exercise and preventing falls. It showed that many factors relating to falls including confidence, muscle strength and balance can be improved to reduce the risk. Incorporating Tai Chi in to nursing interventions as part of a falls prevention program, can help keep the elderly out of hospital due to fall related injuries, and can help them maintain their independence and improve their quality of life.

Recommendations

- * **Funded Tai Chi programmes should be introduced to more aged-care facilities and into the community to promote health and encourage mobility.**
- * **Education about the benefits of exercise on muscle strength and balance should be given to more people, particularly people aged 65 years and older.**

References

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I chose to display the evidence-based literature review from assignment 1 as a poster because I wanted to use it as an educational tool, highlighting the key points, showing the effects Tai Chi can have on the balance of older adults. I thought a poster would be more effective than a submission. My poster is aimed at all ages but in particular, older adults. I have used an eye-catching picture of Tai Chi as the background to draw attention to the poster. Miller (2007) suggests writing so the audience can understand why the work is of interest to them, providing them with a clear take-home message that they can grasp in the few minutes they will spend at the poster. I feel I have done this. I started by introducing the topic and research question and provided a brief overview of the literature and ended with the conclusion. I put the recommendations in a different colour and kept them brief so the reader is able to see them clearly.

PECOT model (Dempsey, Hillege & Hill, 2014).

PECOT category	Information relating to question	Explanation
Population	Elderly aged 65 +	This is the age category in which falls are more common, causing injury.
Exposure (intervention)	The elderly who partake in Tai Chi	I will be looking for articles that used an experimental design which look at falls rates in the elderly who partook in Tai Chi compared with the elderly who did not
Comparison/Control	The elderly who fall who do not partake in Tai Chi	I am interested to see if partaking in an activating such as Tai Chi, reduces the risk of falling among the elderly
Outcome	What are the benefits of Tai Chi on the older adult	I want to know what the benefits of Tai Chi are on the older adult and if these benefits help reduce the risks of falls
Time	N/A	N/A

References

- Dempsey, J., Hillege, S., & Hill, R. (2014). *Fundamentals of nursing and midwifery: A person-centred approach to care*. (2nd ed. Australia and New Zealand). Philadelphia: Lippincott Williams & Wilkins.
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