

# CAHE *Allied Health News in Review*

## Does Tai chi help Diabetes?

### Article Hypothesis

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We intend to review the article “Tai chi gentle on diabetes” which was published on the *ABC Health and Wellbeing* website. The article suggests that tai chi may be helpful for people with type 2 diabetes and improve their physical and mental wellbeing. The actual article can be accessed from the link provided in the reference section.

#### The origin of evidence:

This news report was based on a randomised controlled trial of 6 month duration, published in the *Australian Family Physician* and conducted by Australian researchers.

#### The objectives of research:

- To assess the effectiveness of tai chi versus wait list control on glycosylated haemoglobin (HbA1c) and blood pressure (BP) in adults with type 2 diabetes.
- To explore the effect of tai chi on general health status as measured by the SF-36.

#### The nature of evidence:

Randomised Controlled Trial (blinded)

#### Participants involved in the research:

53 adults aged 30 years or above were randomized to the study. Further detailed inclusion criteria include:

- Type -2 diabetic – at least past 6 months
- HbA1c >7%
- Ability to attend tai chi classes twice a week for 6 months

Patients were excluded if there were unable to walk unaided for 10 minutes.

#### Interventions utilised:

Tai chi – ‘yang and sun style 20-form’ which has been designed for people with diabetes. Patients attended two one hour classes per week for three months and then further once per week for a further three months.



## Outcome measures (OM):

### Primary OM:

- HbA1c (Haemoglobin A1c test) – measures the number of glucose molecules attached to hemoglobin
- Systolic BP

### Other measurements included:

- Fasting blood tests for glucose;
- Homeostasis model assessment (HOMA) – measure of insulin resistance;
- Total cholesterol and triglycerides
- Height
- Weight
- Resting heart rate
- Waist and hip circumference
- Balance
- 6m walking test
- SF-36 questionnaire

## Key findings:

- Reduction in HbA1C was found in both groups between baseline and follow up but not statistically significant between the groups.
- Statistically significant difference found between baseline and follow up for total cholesterol for tai chi group ( $p=0.03$ ) but the difference between the groups was not significant ( $p=0.79$ )
- No significant improvement in metabolic control or cardiovascular risk at 6 month follow up compared to control group.
- Significant improvement was found in the three domains of the SF-36 namely, role due to physical function ( $p=0.04$ ), social function ( $p=0.024$ ), and general health ( $p=0.044$ ), social function ( $p=0.024$ ), general health ( $p=0.044$ ) between the baseline and follow up of the Tai chi group. This outcome was not reflected between the tai chi group and the control group.

## Recommendations made by the research:

- Tai chi may still be a useful adjunct for the treatment of type 2 diabetes. Tai chi may be a useful introduction to greater physical activity.
- Tai chi may have wider health benefits for people with type 2 diabetes.



**Validity of methodology and reliability of the conclusions:**

This RCT scored 6/10 on a Pedro score<sup>i</sup>. The assessors (trained nurse and exercise psychologist) were blinded to the treatment allocation. The tai chi intervention was not clearly described in the paper, so there is absence of information to replicate the 'yang and sun style 20-form' of tai chi for diabetes. The study did not adequately describe the psychometric properties of the outcome measures or reliability between the assessors. The study could have described their results in detail and their applicability in a diabetic population in order to gain a better understanding of the effects of tai chi in the diabetic population.

**Clinical implications:**

This study lacks enough explanation on treatment intervention and the outcome in diabetic population. In general, exercises have been extensively recommended for diabetic population. Tai chi is an accepted and widely used form of exercise. The link provided for the tai chi intervention in this research study directs us to a private website where no further information is found other than a description of a private fee-paid course. The study does not give enough evidence that show the effectiveness of tai chi in type-2 diabetes. Given the lack of information on the programme and the constraints on study quality, the effectiveness of tai chi for diabetic population is questionable. So, clinicians should approach this intervention with caution in diabetic people.

**Reference:**

Lam, P., Dennis, S.M. & Diamond, T.H. 2008, "Improving glycaemic and BP control in type 2 diabetes - The effectiveness of tai chi", *Australian Family Physician*, vol. 37, no. 10, pp. 884-887.

**Article Reference:**

Report published on the *ABC Health and Wellbeing* website,  
<http://www.abc.net.au/health/thepulse/stories/2008/10/09/2379469.htm>

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<sup>i</sup> [http://www.pedro.fhs.usyd.edu.au/scale\\_item.html](http://www.pedro.fhs.usyd.edu.au/scale_item.html)