

Tai Chi and Diabetes

No matter what area of medicine you study, you're bound to find some degree of controversy or debate. Do you think exercise is good for cardiovascular health or improving mood? Much of the evidence supports that position, but some studies dispute that as well. How about eating fresh fruits and vegetables? That's got to be healthy, right? A preponderance of the evidence points to that conclusion but, again, there are always findings to the contrary in scientific literature. It's important to know that there are always opposing points of view. So a study with negative findings should not cause one to lose faith in a perfectly viable remedy.



Tai Chi is an example of a promising therapy that has a somewhat checkered modern history. As you'll read below, several studies published in the past few years indicate that this mind-body technique may be a beneficial adjunct for managing diabetes. But in the interest of fairness and full disclosure, I'll also present some evidence that *Tai Chi* may not always be effective. After reviewing the positive and negative studies, I'll share my own view about the relevance of the following data.

The Positive Studies

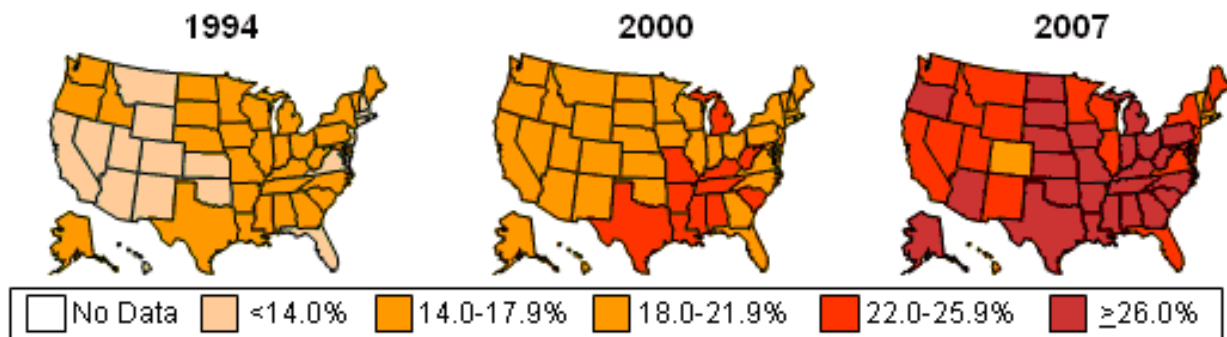
- A study published this month in *The Journal of Alternative and Complementary Medicine* determined that 6 months of consistent T'ai Chi practice could improve the overall health of type 2 diabetics. 62 patients participated in a twice-weekly course of 19 T'ai Chi movements. Blood tests and questionnaires relating to "diabetes self-care activities" and quality of life were provided prior to the commencement of the exercise and after the completion of the study. Those who engaged in the exercises at least 80% of the time showed significant declines in fasting glucose and A1c (a measure of long-term blood glucose levels). That same group demonstrated improvements in diabetic self-care, mental health, social function and vitality. A vital observation was that nearly 50% of the volunteers did not maintain the recommended practice schedule (as measured by a minimum of 80% adherence). (1)

- In 2008, *The American Journal of Chinese Medicine* reported on a trial involving 20 middle-aged females with type 2 diabetes. Half of this group engaged in *Tai Ji Quan* (a form of T'ai Chi). This experiment took place over the course of 14 weeks and involved one hour daily exercises practiced 5 days a week. Noteworthy improvements in glycaemic (blood sugar) control and a reduction in triglyceride levels were noted. The authors concluded that, "TJQ exercise could be used as an intervention tool to improve glycaemic control and serum TG level in the elderly people." (2) These results are supported by other recent trials that document drops in A1C and blood sugar levels and increases in "insulin receptor numbers". (3,4)

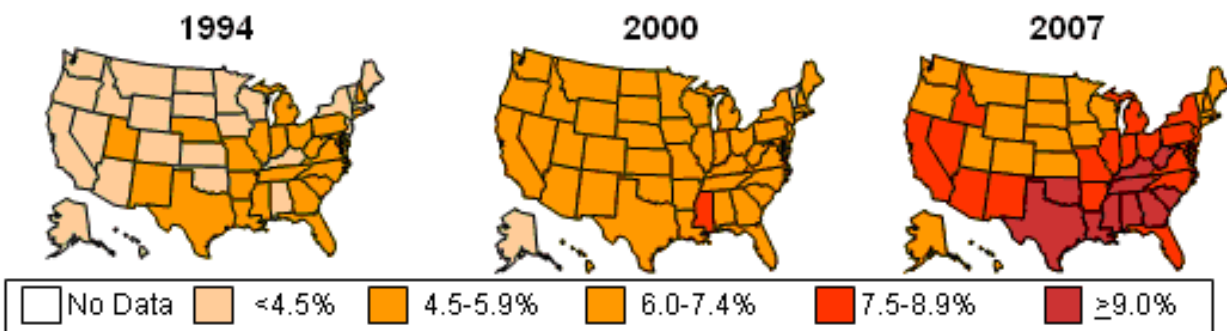
- The benefits of T'ai Chi may extend beyond that of simple blood sugar

control. In 2007, a study in the journal *Diabetes Technology and Therapeutics* revealed that a T'ai Chi intervention program helped elderly patients with type 2 diabetes to reduce the number of falls they typically sustained by increasing foot sensation. Advanced cases of diabetes often lead to a lack of feeling in the feet, commonly referred to as *diabetic peripheral neuropathy*. Measures of sensory perception (of the feet) and overall balance were improved in all the T'ai Chi participants. A beneficial decline in their A1C level was also noted. (5)

Obesity (BMI ≥ 30 kg/m²)



Diabetes



The Negative Studies

- Two recent trials specifically looked at the effects of a modified form of T'ai Chi that was geared toward diabetics. "T'ai Chi for Diabetes" involves 12 "soft, smooth and subtle movements with the knees bent in a slight semi-squat position". In one study, this form of T'ai Chi was compared to a group that engaged in no additional activity (a "wait list" group). No

statistically significant changes were found in measures of A1C (long term blood sugar), walking endurance and total cholesterol levels. The T'ai Chi group did, however, exhibit benefits with regard to physical and social function. (6) Another study tested T'ai Chi against a "sham exercise" routine consisting of calisthenics and gentle stretching. Balance was found to improve in both groups. But there was an expectation that T'ai Chi would improve other measures of health and physical function and it did not do so in this study. (7) A similar 4 month trial found that both T'ai Chi and a "sham exercise" improved mobility in a group of elderly type 2 diabetics. (8)

Based on the evidence, if I had diabetes, I would still consider T'ai Chi as a complementary therapy, but would keep a few things in mind: **1)** It's important to be consistent with the practice; **2)** I wouldn't put all my eggs in one basket. This would only be one part of a much broader approach to managing blood sugar and my overall health. **3)** I would engage in T'ai Chi believing that it would make me healthier in both body and mind. This last recommendation is tremendously important. I think that the benefits of T'ai Chi are likely based on the very real mental and physiological changes that it provokes. But I also know that the placebo effect is a very powerful tool, which can help improve the outcome of *any* treatment. (9) It's a waste not to utilize it more frequently.

Be well!

JP

