



# Effects of Tai Chi on health related quality of life in patients with chronic conditions: A systematic review of randomized controlled trials



Guichen Li\*, Hua Yuan, Wei Zhang

School of Nursing, Jilin University, PR China

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## KEYWORDS

Chronic illness;  
Quality of life;  
Tai Chi;  
Systematic review

## Summary

**Objectives:** To determine the effects of Tai Chi practice on health related quality of life in patients with various chronic medical conditions.

**Background:** One of the characters of chronic illness is life-long condition with the deterioration in health related quality of life. Tai Chi has become a popular mind-body exercise and self-management strategy for patients with chronic conditions regarding its various physical and psychological effects.

**Methods:** Eight databases (the Cochrane Library, PubMed, Medline, EBSCO, Web of science and three Chinese databases: CNKI, Wanfang data and VIP) were searched (up to December 2013) for relevant studies. Studies including participants with chronic conditions were selected. All studies were randomized controlled trials reporting the effects of Tai Chi on health related quality of life. Two independent reviewers extracted trial data and assessed risk of bias using the risk of bias tool recommended by the Cochrane Back Review Group.

**Results:** Of the 2021 papers which were screened, 21 studies including 1200 patients met the eligibility criteria. Most studies (18 of 21 studies) found significant improvements on health related quality of life for participants with chronic conditions in Tai Chi group. No evidence was observed to suggest that Tai Chi was more effective than other types of exercise. And objective measures were not always consistent with self-reported quality of life measures.

**Conclusions:** Tai Chi appears to be safe and has positive effects on health related quality of life in patients with chronic conditions, especially for patients with disorders in Cardio-cerebrovascular and respiratory systems, and musculoskeletal system. However, as the delivery mood of Tai Chi provides multiply benefits, which part of the group provides the most benefit in improving quality of life is unclear. Due to the design limitations of previous studies, more larger and well-designed RCTs are needed to confirm the effects. And qualitative researches are warranted to explore how Tai Chi may work exactly from patients' own perspectives.

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\* Corresponding author at: School of Nursing, Jilin University, No. 965 Xinjiang Street, Changchun, Jilin 130021, PR China. Tel.: +86 0134 0477 6591.

E-mail address: [edith25@163.com](mailto:edith25@163.com) (G. Li).

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## Introduction

Chronic illness is a long-term condition with slow disease progression and without effect cure, and has posed one of the most significant challenges facing healthcare providers.<sup>1</sup> When facing chronic illness, health related quality-of-life becomes increasingly important as patients suffer a life-long impact on physical, psychological and social health status. As a result, patients and healthcare providers are seeking for effective strategies for managing patients' chronic conditions as much as possible.<sup>1</sup> One of the strategies is complementary and alternative medicine (CAM) which has been increasingly substantially used in patients with chronic illness, due to its effects in improving both physical and psychological components.<sup>2–5</sup> And Tai Chi is one of the representatives of CAM practice which has become a world-wide activity to improve health and well-being.<sup>6–9</sup>

Tai Chi, which sometimes is known as “taiji”, “taijiquan” or “taijichuan”, is a form of traditional Mind-body exercise originated in China as a martial art and a means of self-defense.<sup>10–13</sup> It combines traditional Chinese culture and philosophy during the development, and has been practiced in China for hundreds of years with the goal of rebalancing the body's healing capacity by supporting a healthy balance of yin and yang (the Chinese concepts of opposing force within the body), and refining the flow of qi (a vital energy within the body).<sup>10–15</sup> In Tai Chi practice, the body presents spiral and circular movements which stimulate the body's meridians and acupuncture points, and thereby improve health status. Differ from intense exercise, Tai Chi as a moving meditation emphasizes gentle movements below the pace of life, which requires practitioners to move their bodies slowly with awareness and deep breath.<sup>15–17</sup> The popularity of Tai Chi may be explained by its non-stress exercise style, the feeling of relaxation and well-being, and the potentiality of addressing multiple health

needs both physically and psychologically amongst people with chronic illness.<sup>1,18,19</sup>

There are many different styles of Tai Chi including Chen, Yang, Wu, Sun and Hao.<sup>9,20</sup> They all have their own characteristics in posture, form, order and pace, but with the same principles emphasizing relaxation and mindfulness.<sup>1</sup> Tai Chi is now widely practiced in many countries, and Yang is the most popular style.<sup>1,9,14</sup> Tai Chi has been reported to have both physical and psychological benefits including promoting balance control, flexibility, musculoskeletal conditions, cardiovascular and respiratory functions, endocrine and immune functions, and mental health.<sup>14,21–31</sup> There are various perspectives on the mechanisms of Tai Chi. The movements of all the major muscle groups and joints in Tai Chi practice strengthen bones and slow bone loss, thus improving balance and preventing the development of osteoporosis.<sup>32,33</sup> Deep breathing increases lung capacity and enhances blood circulation.<sup>34</sup> The moderate intensity, non-competitive atmosphere and meditation decrease muscle tension, lower blood pressure and slower heart beat.<sup>8,35</sup> The frequently and consistently practice of Tai Chi could also increase levels of neurotransmitters such as dopamine, serotonin, nor adrenaline, acetylcholine, GABA, and endorphins, and decrease levels of stress hormones such as cortisol and adrenaline, thus enhancing mental health, reducing anxiety and relieving pain.<sup>34</sup>

Previous reviews have reported health benefits of Tai Chi for patients with various chronic illnesses, but the effects on health related quality of life are not well understood. Thus a systematic review of randomized controlled trial (RCT), which is considered to be the golden standard for verifying the effectiveness of intervention, may provide the overall situation of Tai Chi practice in enhancing quality of life for patients with chronic conditions.<sup>36</sup> The primary aim of this systematic review was to summarize and evaluate RCTs which examined the effects of Tai Chi on health related quality of life for patients with various chronic conditions.

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