



REVIEW

# A systematic review and meta-analysis of the effects of Qigong and Tai Chi for depressive symptoms



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## KEYWORDS

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## Abstract

**Background:** Qigong and Tai Chi are the two most popular traditional Chinese exercises, known as mind-body movement therapies. Previous studies suggest that Qigong and Tai Chi may be beneficial in reducing depressive symptoms. This was the first study to systematically review and compare the effects of Qigong and Tai Chi on depressive symptoms.

**Methods:** A systematic search of six electronic databases was undertaken through to February 2014, for randomized controlled trials (RCTs) which reported depressive symptoms measured by a depressive symptom rating scale. The standardized mean difference in depressive symptoms score between Qigong or Tai Chi and a control group (at the end of follow-up) was extracted as a primary outcome. The secondary outcome was the standardized mean gain in symptom score (SMG) relative to the baseline from individual arms of the RCTs for various forms of care including Qigong, Tai Chi, usual care, other exercise, education and miscellaneous interventions.

**Results:** Thirty studies with a total of 2328 participants (823 males and 1505 females) were included. A significant effect was found for the Qigong interventions (Cohen's  $d$   $-0.48$  95% CI  $-0.48$  to  $-0.12$ ; SMG  $-0.52$ , 95% CI  $-0.79$  to  $-0.26$ ). There was no significant effect seen for

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Tai Chi for the primary endpoint. No mean change in symptom scores were seen for Tai Chi, usual care, other exercises, education and the 'miscellaneous' group in pre-post assessment in single arms. The Qigong results were found to be robust in sensitivity analyses.

*Conclusions:* Qigong appears to be beneficial for reducing depressive symptom severity. However, given the low quality of the included studies and the documented evidence of publication bias, these results should be viewed cautiously.

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## 1. Introduction

Depression is a serious medical condition, with an estimated 350 million people of all ages affected worldwide.<sup>1</sup> Depression is associated with a range of physical illnesses, including stroke, diabetes, cancer, arthritis, osteoporosis, and obesity,<sup>2–4</sup> and the onset of depression incrementally worsens the latter health problems.<sup>5–7</sup> Interventions to tackle this problem are therefore important and previous studies have indicated an important role for physical activity in the management of depression.<sup>8</sup>

Specialized physical activity interventions such as Qigong and Tai Chi have been shown to be effective in reducing depressive symptoms in previous studies.<sup>9–13</sup> Qigong and Tai Chi are the two most popular traditional Chinese exercises, known as mind and body movement therapies. Qigong is a traditional Chinese medical exercise and Tai Chi is a type of Chinese martial art. Qigong came into being earlier than Tai Chi, and has been recognized as a 'medical' exercise in the Traditional Chinese Medicine field for thousands of years.<sup>14</sup> There are many styles of Qigong, such as Daoyin Qigong, WuQinXi (Five Animals Qigong) and BaDuanJin (Eight-section Brocades Qigong). In contrast, Tai Chi was created by Mr. Chen Wang Ting (a retired General from army) as martial arts more than 300 years ago (in 1600s), named Chen style Taijiquan.<sup>15</sup> Apparently, Qigong is a health/medial exercise, consisting of movements with health functions and with mind activity playing a predominant role in training.

Therefore, Qigong focuses more on 'inside' energy flow than Tai Chi. Qigong can be practiced as a 'static' (sitting, lying or standing) or 'dynamic' (moving) style, and is generally easier to master than Tai Chi. Tai Chi can be practiced as standing and mainly moving style (not sitting or lying) and was initially a martial art, consisting of movements with fighting functions and therefore it focuses on 'outside' defending and attacking intention while practicing. However, in line with cultural development, it has now evolved into many different gentle styles, such as 'Yang style', 'Sun style', 'Wu style', '24 forms', '48 forms' and '42 forms', and its function/intention has also changed accordingly. Therefore, people, especially the aging group, nowadays practice it for health at a slow pace.

Although some reviews on the effects of Qigong and Tai Chi have also been conducted,<sup>9–13</sup> they were not conclusive because they were either not quantitative reviews or had several limitations. For example, there has just been only one previous meta-analysis on Qigong in relation to depressive symptoms that examined 10 randomized controlled trials (RCTs) with quantitative data but pooled only subsets of 2, 3 or 4 RCTs (by type of control group)<sup>9</sup> and the results were only suggestive of a beneficial effect. When it comes to Tai Chi, one meta-analysis<sup>12</sup> combined both RCTs and observational studies while another meta-analysis combined just four RCTs and 253 participants<sup>13</sup> with both suggesting a significant effect of Tai Chi on depression scores. However, this was inconclusive given the small numbers. A subsequent

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