Review Article

BIOMEDICAL Journal of Scientific & Technical Research

ISSN: 2574 -1241

DOI: 10.26717/BJSTR.2025.60.009430

# Tai Chi, Qigong and their Use in Neuroscience

**Robert W McGee***

*Fayetteville State University, North Carolina, United States*

***Corresponding author:** Robert W McGee, Fayetteville State University, North Carolina, United States

**ARTICLE INFO**

**Received:** December 09, 2024

**Published:** January 21, 2025

**Citation:** Robert W McGee. Tai Chi, Qigong and their Use in Neuroscience. Biomed J Sci & Tech Res 60(2)-2025. BJSTR. MS.ID.009430.

**ABSTRACT**

This study examined the use and applications of tai chi and qigong, two forms of traditional Chinese medicine [TCM] that incorporate breathing, mindfulness and moving meditation, in neuroscience. Microsoft Co-pilot, an artificial intelligence bot, was used to find relevant studies. The studies were then summarized by the author. The studies found that both tai chi and qigong can be effective as supplementary treatments in various areas of neuroscience, including the treatment of Parkinson's disease, traumatic brain injury, motor and non-motor function, cognitive impairment, stroke, dementia, memory and other neurological disorders. Tai chi and qigong were found to reduce pain and fatigue, and to improve sleep and quality of life as well.

**Keywords:** Tai Chi; Qigong; Traditional Chinese Medicine; TCM; Artificial Intelligence; Microsoft Co-pilot; Neuroscience

## Introduction

Tai chi and qigong [pronounced chee gong] are forms of traditional Chinese medicine [TCM]. There is dispute about the origins of both, other than the general belief that they originated in China. Tai chi might have originated as early as the thirteenth century, while qigong could have originated as early as 2000 B.C.E., or perhaps even earlier [1-5]. Tai chi and qigong have some common features, but they also have their differences. Tai chi originated as a martial art, but in recent decades it has been increasingly practiced for its health benefits. Some tai chi teachers do not even mention its martial applications except in passing. Tai chi consists of a series of postures, much like Japanese katas (forms) or Korean poomsae. Practitioners move from one posture to the next using transition moves [6-10]. Qigong is not a martial art. It includes many postures, perhaps thousands, but they are not necessarily done in sequence. It may be practiced as a single exercise, or as a series of exercises, and may or may not include transition moves, depending on the teacher or practitioner [4,11-14]. Tai chi, when done properly, includes elements of qigong, so it might be said that qigong is a subset of tai chi. Both tai chi and qigong are forms of moving meditation. They involve mindful breathing techniques. They both activate the body's natural healing powers. Numerous studies have been done on the effects of tai chi and qigong on many forms of illness. In the West, they are sometimes used as supplements to Western medical treatments. One difference between Western medicine and Chinese medicine is their emphasis. Whereas Western medicine focuses mainly on treating an existing disease, Chinese medicine places its emphasis on preventing disease, although it is also used to treat existing ailments.

## The Study

Tai chi and qigong have both been used to treat a wide variety of ailments [15-21]. The focus of the present study is to find studies where either tai chi or qigong has been used to treat neurological diseases. One simple way to find such studies would be to utilize artificial intelligence [AI]. In recent years, AI has been used as an adjunct research tool by medical practitioners [22-38]. We decided to use Microsoft Copilot [39] for this study because it is one of the more popular chatbots, and it is free to use. We gave it the following instruction.

## Instruction

What studies have been done on the use of tai chi or qigong in the field of neurology? Provide references. It gave several good references, all of which were relevant [40-45]. Song, et al. [40] studied the impact of tai chi and qigong on motor and non-motor function and quality of life in Parkinson's disease. They conducted a systematic review and meta-analysis of Parkinsonism and related disorders. They found significant improvements in balance, falls, depression and quality of life. Either tai chi or qigong was used over periods ranging from

2 to 6 months in the studies they found. Wang, et al. [41] conducted a systematic review and meta-analysis on the effects of tai chi and qigong on cognition in neurological disorders. The 40 randomized controlled trials included 2,754 participants. Several neurological disorders were included in the studies they found, such as Parkinson's disease, mild cognitive impairment, stroke, dementia and traumatic brain injury. Their analysis found that tai chi and qigong were highly effective ($p < 0.05$) on cognitive processing speed, visuospatial ability, memory, executive function and global cognitive function. Another study [42-43] examined the effectiveness of virtual tai chi, qigong and meditation for adults with low back pain. The program lasted for 12 weeks. The results showed significant improvements in pain, movement, sleep and quality of life. A study by Wang, et al. [44] found that practicing tai chi mitigated the effects and mechanisms of mild cognitive impairment in the elderly. Tai chi activated different regions of the brain, altering their connectivity, increasing brain volume and modulating brain-derived neurotrophic and inflammation factors. Laskosky, et al. [45] plan to examine evidence on the effectiveness of tai chi and qigong in the treatment of symptoms of traumatic brain injury, such as fatigue, impaired balance, vestibular disorders, anxiety and depression. The results of their study have not yet been reported.

## Concluding Comments

The information provided by Copilot was a good start. It found several relevant studies. However, for scholars who are serious about researching a medical topic, Copilot or other forms of AI should not be the final step in the research. AI can point researchers in the right direction, and can provide useful information. However, AI is not yet sophisticated enough to be fully trusted to give complete and accurate results. Any information uncovered by the use of AI needs to be verified because it can be inaccurate [46-50]. Results of other studies can be found on PubMed [51] or other medical databases.

## Funding

None.

## Conflict of Interest

None.

## References

1. Peter M Wayne (2013) In: Mark L Fuerst, The Harvard Medical School Guide to Tai Chi. Boulder, CO: Shambhala Publications, a Harvard Health Publication.
2. Yang Jwing Ming (2010) Tai Chi Chuan. Wolfeboro, NH: YMAA Publication Center.
3. Wong Kiew Kit (2001) The Complete Book of Tai Chi Chuan. Tuttle Publishing.
4. Roger Jahnke (2002) The Healing Promise of Qi: Creating Extraordinary Wellness Through Qigong and Tai Chi. New York: Contemporary Books.
5. McGee Robert W (2021) Tai Chi, Qigong and the Treatment of Depression and Anxiety. Biomedical Journal of Scientific & Technical Research 36(2): 28350-28354.
6. Jesse Tsao (2021) Practical Tai Chi Training: A 9-Stage Method for Mastery. In: Jason Weil, Tai Chi Heath ways.
7. Liang, Shou Yu Wu, Wen Ching (2014) Simplified Tai Chi Chuan. Wolfeboro, NH: YMAA Publication Center.
8. Dan Docherty (2015) The Complete Tai Chi Tutor. London: Gaia.
9. Master Pixiang Qiu, Weimo Zhu (2013) Tai Chi Illustrated. Champaign, IL: Human Kinetics.
10. Dan Docherty (2014) The Tai Chi Bible. Buffalo: Firefly Books.
11. Katherine Allen (2017) The Qigong Bible. London: Gods field Press.
12. Chunli Lin (2005) Born a Healer. Spring Forest Publishing.
13. (2008) Chinese Health Qigong Association. Ba Duan Jin. Beijing: Foreign Languages Press.
14. (2009) Chinese Health qigong Association. Yi Jin Jing. Beijing: Foreign Languages Press.
15. McGee Robert W (2020) Qigong: A Bibliography of Books and Other Materials. The Economics of Qigong Series.
16. McGee Robert W (2020) A Bibliography of Recent Medical Research on Qigong. The Economics of Qigong Series (2).
17. McGee Robert W (2020) Ba Duan Jin as a Treatment for Physical Ailments: A Bibliography of Recent Medical Research. The Economics of Qigong Series (3).
18. McGee Robert W (2020) Wu Qin Xi as a Treatment for Physical Ailments: A Bibliography of Recent Medical Research. The Economics of Qigong Series (4).
19. McGee Robert W (2020) The Use of Yi Jin Jing to Treat Illness: A Summary of Three Studies. The Economics of Qigong Series (5).
20. McGee Robert W (2020) Qigong and the Treatment and Prevention of COVID-19. The Economics of Qigong Series (6).
21. McGee Robert W (2020) Qigong and the Treatment and Prevention of Cancer. The Economics of Qigong Series (7).
22. McGee Robert W (2024) Using Artificial Intelligence to Conduct Research on the Health Benefits of Tai Chi: A Pilot Study. Biomedical Journal of Scientific & Technical Research 55(2): 46838-46841.
23. McGee Robert W (2024) Incorporating Qigong into a Western Medical Practice: A Study in Artificial Intelligence. Biomedical Journal of Scientific & Technical Research 55(5): 47401-47405.
24. McGee Robert W (2024) Incorporating Baduanjin into a Western Medical Practice: A Study in Artificial Intelligence and Traditional Chinese Medicine (TCM). Biomedical Journal of Scientific & Technical Research 56(1): 47739-47744.
25. McGee Robert W (2024) Incorporating Artificial Intelligence and Traditional Chinese Medicine (TCM) into a Western Medical Practice: A Case Study. Biomedical Journal of Scientific & Technical Research 56(3): 48149-48154.
26. M Ablameyko, N Shakel (2022) Doctor-Patient-Artificial Intelligence Relations in Smart Healthcare. Biomed J Sci & Tech Res 44(5): 36021-36027.
27. Emmanuel Andrès, Nathalie Jeandidier, Noel Lorenzo Villalba, Laurent Meyer, Abrar Ahmad Zulfiqar, et al. (2020) Currents and Emerging Technologies for Diabetes Care. Biomed J Sci & Tech Res 25(2): 18897-18905.

28. Ahmed Asfari (2021) Artificial Intelligence Role and Clinical Decision Support System Extubation Readiness Trail and Etiometry Scoring System. Biomed J Sci & Tech Res 35(1): 27291-27293.
29. Ashis Kumar D, Harihar Bhattarai, Saji Saraswathy Gopalan (2019) Determinants of Generic Drug Use Among Medicare Beneficiaries: Predictive Modelling Analysis Using Artificial Intelligence. Biomed J Sci & Tech Res 22(1): 16405-16413.
30. Chris Caulkins (2019) Detection of Psychological Trauma and Suicide Risk among Emergency Medical Services Personnel: An Artificial Intelligence Approach. Biomed J Sci & Tech Res 23(3): 117372-17376.
31. Philippe Funk (2023) Biomedical Computation Artificial Intelligence Challenges in Cloud Environments. Biomed J Sci & Tech Res 50(4): 41813-41816.
32. Angela Hsu, Robin Zachariah, James Han, William Karnes (2023) Artificial Intelligence for Colonoscopy: Beyond Polyp Detection – A Review of where we are Today and where AI can Take us. Biomed J Sci & Tech Res 49(3): 40736-40739.
33. Adrián P Hunis (2024) The Role of Artificial Intelligence in Oncology: Transforming Cancer Diagnosis and Treatment. Biomed J Sci & Tech Res 57(3): 49356-49363.
34. Hergan Klaus, Zinterhof Peter, Abed Selim, Nikolaos S, Christoph K, et al. (2022) Challenges implementing and running an AI-Lab: Experience and Literature Review. Biomed J Sci & Tech Res 45(4): 36605-36611.
35. Jyoti Lamba, Taniya Malhotra, Drishti Palwankar, Vrinda Vats, Akshat Sachdeva, et al. (2023) Artificial Intelligence in Dentistry: A Literature Review. Biomed J Sci & Tech Res 51(1): 42323-42326.
36. Luca Marzi, Fabio Vittadello, Alessandra Andreotti, Andrea Piccin, Andrea Mega, et al. (2021) Will Artificial Intelligence Unveil Hepatocellular Carcinoma? Biomed J Sci & Tech Res 35(4): 27913-27914.
37. Sotiris Raptis, Christos Ilioudis, Vasiliki Softa, Kiki Theodorou (2022) Artificial Intelligence in Predicting Treatment Response in Non-Small-Cell Lung Cancer (NSCLC). Biomed J Sci & Tech Res 47(3): 38421-38428.
38. Purohit Saraswati, Suneel Kumar CN (2024) AI in Health Care: A Comprehensive Review. Biomed J Sci & Tech Res 57(4).
39. Microsoft Copilot (2024).
40. Song R, Grabowska W, Park M, Osypiuk K, Vergara Diaz GP, et al. (2017) The impact of Tai Chi and Qigong mind-body exercises on motor and non-motor function and quality of life in Parkinson's disease: A systemic review and meta-analysis. Parkinsonism and Related Disorders 41: 3-13.
41. Wang Y, Zhang Q, Li F, Li Q, Jin Y, et al. (2022) Effects of tai chi and Qigong on cognition in neurological disorders: A systematic review and meta-analysis. Geriatric Nursing 46: 166-177.
42. Roger Härtl, Jaspal R. Singh (2024) Virtual Trial Explores the Use of Tai Chi and Qigong for Improving Low Back Pain. New York Presbyterian Hospital.
43. Yang Y, McCluskey S, Mohamad Bydon, Singh JR, Sheeler RD, (2024) A Tai Chi and Qigong Mind-Body Program for Low Back Pain: A Virtually Delivered Randomized Control Trial. North American Spine Society Journal (NASSJ) 20: 100557.
44. Wang X, Si K, Gu W, Wang X (2023) Mitigating effects and mechanisms of Tai Chi on mild cognitive impairment in the elderly. Front. Aging Neurosci 14: 1028822.
45. Laskosky NA, Huston P, Lam WC, Anderson C, Zheng Y, et al. (2023) Are tai chi and qigong effective in the treatment of TBI? A systematic review protocols. Front. Aging Neurosci 15: 1121064.
46. McGee Robert W (2024) Don't Trust ChatGPT: A Case Study of a Defective Research Tool.
47. McGee Robert W (2023) An AI Interview with Bruce Lee.
48. McGee Robert W (2023) Using Chat GPT and Bing Image Creator to Create Images of Martial Artists: An Application of Artificial Intelligence to Create Art. Preprints.
49. McGee Robert W (2023) Using Artificial Intelligence to Create Art: An Experimental Study Using Martial Arts Examples.
50. McGee Robert W (2024) Creating a Quiz Using Artificial Intelligence: An Experimental Study.
51. PubMed.


**ISSN: 2574-1241**

DOI: 10.26717/BJSTR.2025.60.009430

**Robert W McGee.** Biomed J Sci & Tech Res



**Submission Link**: https://biomedres.us/submit-manuscript.php