MSI Journal of
Multidisciplinary Research (MSIJMR)

Using Tai Chi and Qigong to Treat COPD: An Application of Artificial Intelligence to Traditional Chinese Medicine

Robert W. McGee[1*]

[1*] Fayetteville State University.

*** Correspondence:** Robert W. McGee

The authors declare that no funding was received for this work.

OPEN ACCESS

Received: 20-November-2025
Accepted: 30-December-2025
Published: 01-January-2026

This article is published in the **MSI Journal of Multidisciplinary Research (MSIJMR) ISSN 3049-0669 (Online)**

The journal is managed and published by MSI Publishers.

Volume: 3, Issue: 1 (January-2026)

ABSTRACT: Background: Chronic obstructive pulmonary disease (COPD) is a leading cause of morbidity worldwide. Although pharmacotherapy and conventional pulmonary rehabilitation improve outcomes, adherence remains suboptimal. Tai Chi and Qigong, mind-body practices from Traditional Chinese Medicine, have gained attention as low-cost, accessible adjunctive therapies.

Objective: To synthesize evidence from 21 clinical studies on the therapeutic effects of Tai Chi and Qigong in COPD using artificial intelligence-assisted literature summarization.

Methods: PubMed was searched for randomized controlled trials, systematic reviews, and meta-analyses. Grok (xAI) was employed to generate structured summaries of study design, participants, interventions, outcomes, mechanisms, strengths, and limitations.

Results: Tai Chi and Qigong consistently improved exercise capacity (6MWD mean difference up to 40.83 m), lung function (FEV1 up to 0.11 L; FEV1% predicted up to 1.67%), health-related quality of life (SGRQ reductions up to −16.75 points), exacerbation rates (RR 0.59), and psychological symptoms (anxiety/depression SMD up to −0.86). Benefits were mediated by enhanced respiratory muscle efficiency,

diaphragmatic breathing, reduced systemic inflammation, and stress reduction. Interventions were safe and well-tolerated.

Conclusion: Tai Chi and Qigong are effective, safe, and feasible adjunctive therapies for COPD management. Large-scale, multicenter trials with standardized protocols are warranted to confirm long-term outcomes and optimal dosing.

Keywords: *Chronic Obstructive Pulmonary Disease, COPD, Tai Chi, Qigong, Pulmonary Rehabilitation, Mind-Body Exercise, Exercise Capacity, 6-Minute Walk Distance, Quality of Life, Exacerbations, Traditional Chinese Medicine, Complementary Therapy, Systematic Review, Meta-Analysis, Artificial Intelligence.*

Introduction

Tai chi and qigong are both forms of traditional Chinese medicine (TCM). The origins of tai chi are steeped in myth, but some studies estimate that tai chi started around the twelfth or thirteenth century. Qigong is much older, going back several thousand years. Many studies have found that the application of tai chi and qigong yield multiple health benefits for a wide range of ailments [1-17]. Several bibliometric studies have been conducted on the health benefits of these forms of traditional Chinese medicine [18-22]. In recent years artificial intelligence has been used as both a research and administrative tool in Western medicine [23-30]. The present study utilizes artificial intelligence to summarize studies where tai chi and qigong have been used to treat chronic obstructive pulmonary disease (COPD).

Chronic obstructive pulmonary disease (COPD) is a progressive respiratory disorder characterized by airflow limitation, dyspnea, and reduced quality of life, affecting millions globally. Conventional treatments like pharmacotherapy and pulmonary rehabilitation offer benefits but often face adherence challenges. Tai Chi and Qigong, ancient mind-body practices rooted in Traditional Chinese Medicine, integrate gentle movements, breathing, and meditation, showing promise as adjunctive therapies. This compilation summarizes 21 studies on their effects in COPD, highlighting improvements in lung function, exercise capacity, and psychosocial outcomes. Drawing from prior reviews on conditions like osteoarthritis and hypertension, this analysis provides evidence-based insights for integration into clinical practice.

Despite advances in bronchodilators, inhaled corticosteroids, and pulmonary rehabilitation programs, many patients with COPD continue to experience persistent dyspnea, exercise intolerance, frequent exacerbations, and impaired quality of life. Adherence to conventional exercise-based rehabilitation is often low (typically <50% completion rates) due to accessibility barriers, transportation difficulties, high cost, and perceived exertion. These limitations have prompted exploration of alternative or complementary exercise modalities that are gentle, enjoyable, and easily integrated into daily life.

Tai Chi and Qigong are particularly well-suited for patients with COPD because they combine slow, deliberate movements with coordinated diaphragmatic breathing and meditative focus—features that simultaneously address physical deconditioning, inefficient breathing patterns, and the anxiety–dyspnea cycle commonly seen in this population. Unlike high-intensity aerobic training, these practices produce meaningful cardiopulmonary stimulus at lower metabolic and ventilatory loads, minimizing dynamic hyperinflation and perceived breathlessness while still eliciting training effects.

Emerging evidence suggests that Tai Chi and Qigong may also exert anti-inflammatory effects, modulate autonomic balance, and improve psychosocial outcomes—benefits that extend beyond those typically achieved with pharmacologic therapy alone. The present work leverages artificial intelligence (Grok, xAI) to systematically summarize and synthesize the rapidly growing body of literature in this field, providing clinicians and researchers with an efficient, updated evidence base for integrating these ancient practices into modern COPD care.

Methodology

Studies were selected from the PubMed database. Grok, an artificial intelligence assistant, was then used to summarize the studies.

Study Summaries

Study 1 [31]

This perspective article advocates for Tai Chi as a multicomponent exercise for recovery from COVID-19 and long COVID, with references to its benefits for

COPD-like respiratory conditions. **Study Design:** Perspective/opinion piece, not an empirical study or RCT. **Participant Details:** Not applicable; no primary data on participants (references general COPD patients from cited literature). **Intervention Protocols:** Recommended Tai Chi program: minimum 3 months, twice-weekly 1-hour sessions, with self-training encouraged; type focuses on traditional forms integrating movement, breathing, and meditation. **Key Findings with Statistical Data:** No primary statistical data; cites general improvements in lung capacity (125–145% via Qigong breathing) and quality of life in COPD from prior studies, without SMD, p-values, or CI. **Potential Mechanisms for Medical Professionals:** Physiological: Enhances diaphragmatic breathing to counteract lung fibrosis, balances autonomic nervous system, reduces oxidative stress, and modulates cytokines (e.g., downregulates IL-6) to prevent inflammation; psychological: Activates relaxation response, alleviating anxiety, depression, and cognitive impairments. **Benefits for Tai Chi/Qigong Enthusiasts:** Promotes Qi cultivation through mindful breathing and fluid movements, fostering internal energy balance, harmony of body-mind-spirit, and resilience against respiratory stressors akin to long COVID or COPD exacerbations. **Strengths:** Emphasizes Tai Chi's accessibility and multicomponent nature (physical, mental, social), supported by references to COPD benefits; promotes self-efficacy in rehabilitation. **Limitations:** Lacks original data, empirical validation, or COPD-specific participant outcomes; relies on anecdotal and cited evidence without quantitative analysis. **Clinical Recommendations:** Consider Tai Chi as an adjunct for post-viral respiratory recovery, including mild COPD cases, to improve lung function and mental health; monitor adherence in community settings.

Study 2 [32]

This RCT examined Tai Chi Qigong's impact on lung function and activity tolerance in COPD patients. **Study Design:** Single-blind RCT. **Participant Details:** 206 COPD clients; age, sex, and stage not specified. **Intervention Protocols:** Tai Chi Qigong: two 60-min sessions/week for 3 months; compared to breathing/walking exercise or usual care. **Key Findings with Statistical Data:** Significant time-group interactions in forced vital capacity ($p=0.002$, $\eta^2=0.06$), forced expiratory volume in

1s ($p<0.001$, $\eta^2=0.02$), walking distance ($p<0.001$), and exacerbation rate ($p=0.006$, $\eta^2=0.06$); improvements in Tai Chi Qigong group, no change in exercise group, decline in control. **Potential Mechanisms for Medical Professionals:** Physiological: Enhances respiratory muscle coordination and efficiency, improving ventilation-perfusion matching; psychological: Reduces stress via mindful practice, potentially lowering exacerbation triggers. **Benefits for Tai Chi/Qigong Enthusiasts:** Cultivates Qi through integrated breathing and gentle movements, promoting energy flow to lungs and overall vitality, ideal for sustaining practice in chronic conditions. **Strengths:** Demonstrates practical benefits in lung function and tolerance; single-blind design minimizes bias. **Limitations:** Limited demographic details; no long-term follow-up or effect sizes reported. **Clinical Recommendations:** Integrate Tai Chi Qigong as complementary therapy for COPD to boost lung function and reduce exacerbations; suitable for outpatient programs.

Study 3 [33]

This qualitative sub-study explored patient experiences with Tai Chi and mind-body breathing in COPD management. **Study Design:** Qualitative sub-study of an RCT. **Participant Details:** 66 participants (from 123 in parent RCT); mean age 68.1 years, 42.4% female, moderate-severe COPD (GOLD stage 2.3, FEV1 58% predicted). **Intervention Protocols:** Tai Chi: 12 weeks, twice weekly, Cheng Man-Ch'ing's Yang-style short form (5 movements) with meditative breathing; mind-body breathing: similar duration/frequency, focusing on breathing without movement; control: education sessions. **Key Findings with Statistical Data:** Themes included improved self-awareness, self-efficacy, physical function, and psychological well-being; Tai Chi showed more sustained self-care intentions; no quantitative stats (e.g., SMD, p-values) in sub-study. **Potential Mechanisms for Medical Professionals:** Physiological: Enhances neurocognitive factors like self-regulation for better symptom management; psychological: Boosts emotion regulation and disease acceptance via mind-body integration. **Benefits for Tai Chi/Qigong Enthusiasts:** Fosters Qi harmony through breath-movement synergy, enhancing internal awareness and energy cultivation for daily resilience. **Strengths:** Patient-centered themes; rigorous coding with multi-disciplinary team. **Limitations:** Potential bias from

interviewer involvement; subjective themes; needs quantitative confirmation. **Clinical Recommendations:** Use Tai Chi for holistic COPD care to improve self-efficacy and well-being; combine with education for sustained benefits.

Study 4 [34]

This meta-analysis assessed Tai Chi's effects on cardiopulmonary function and quality of life in COPD. **Study Design:** Systematic review and meta-analysis of RCTs. **Participant Details:** 1354 participants across 15 RCTs; age/sex/stage not detailed. **Intervention Protocols:** Varied Tai Chi styles (e.g., 24-form Yang); durations classified as short/mid/long-term. **Key Findings with Statistical Data:** Improved 6MWD short-term (MD 16.02, 95% CI 2.86-29.17), mid-term (MD 30.90, 95% CI 6.88-54.93), long-term (MD 24.63, 95% CI 2.30-46.95); FEV1 mid-term (MD 0.10, 95% CI 0.01-0.19); quality of life dyspnea (MD 0.90, 95% CI 0.51-1.29). **Potential Mechanisms for Medical Professionals:** Physiological: Strengthens respiratory muscles and improves gas exchange; psychological: Reduces fatigue via relaxation. **Benefits for Tai Chi/Qigong Enthusiasts:** Builds Qi reserves for lung health, aligning yin-yang balance to enhance endurance. **Strengths:** Large sample; time-stratified analysis. **Limitations:** No long-term pulmonary effects; heterogeneous protocols. **Clinical Recommendations:** Recommend Tai Chi for COPD to enhance exercise capacity; monitor mid-term for optimal gains.

Study 5 [35]

This pilot RCT evaluated feasibility of Tai Chi and mind-body breathing for COPD. **Study Design:** RCT (feasibility trial). **Participant Details:** 92 participants; moderate-severe COPD; age/sex not specified. **Intervention Protocols:** Tai Chi or mind-body breathing: 12 weeks; frequency not detailed. **Key Findings with Statistical Data:** Adherence: Tai Chi 62%, mind-body 75%; Tai Chi improved depression (ES -0.53, adj MD -2.31, 95% CI -5.7 to 1.07), 6MWD (ES 0.47, adj MD 62.04, 95% CI 2.85-121.22); sustained social support at 24 weeks. **Potential Mechanisms for Medical Professionals:** Physiological: Boosts functional capacity via integrated exercise; psychological: Enhances mood and support through mindfulness. **Benefits for Tai Chi/Qigong Enthusiasts:** Cultivates Qi for emotional

balance and social harmony. **Strengths:** Demonstrates feasibility; short-term benefits. **Limitations:** No maintenance methods; small sample. **Clinical Recommendations:** Pilot Tai Chi in COPD programs for mood and function; extend to 24 weeks for sustainability.

Study 6 [36]

This report reviewed Tai Chi as exercise for COPD. **Study Design:** Expert review (special report). **Participant Details:** References mild-moderate COPD patients; no specifics. **Intervention Protocols:** 12-week Sun-style Tai Chi; moderate intensity (64% VO2peak). **Key Findings with Statistical Data:** Improves exercise capacity, quality of life, balance, strength; no stats provided. **Potential Mechanisms for Medical Professionals:** Physiological: Aerobic training enhances endurance; psychological: Mindful focus reduces dyspnea perception. **Benefits for Tai Chi/Qigong Enthusiasts:** Harmonizes Qi flow for respiratory vitality. **Strengths:** Alternative to conventional rehab. **Limitations:** Few studies; unknown long-term adherence. **Clinical Recommendations:** Use Tai Chi when rehab unavailable; select styles for COPD.

Study 7 [37]

This meta-analysis examined mind-body exercises for anxiety/depression in COPD. **Study Design:** Systematic review and meta-analysis of RCTs. **Participant Details:** 906 participants (13 studies); age 36-83 years; COPD duration varied. **Intervention Protocols:** Tai Chi/Qigong/yoga: 8-48 weeks, 2-7 sessions/week, 30-90 min. **Key Findings with Statistical Data:** Anxiety (SMD -0.76, 95% CI -0.91 to -0.60, p=0.04); depression (SMD -0.86, 95% CI -1.14 to -0.58, p=0.000). **Potential Mechanisms for Medical Professionals:** Physiological: Reduces inflammation (TNF-α, IL-8), improves oxygenation; psychological: Enhances mood via serotonin synthesis. **Benefits for Tai Chi/Qigong Enthusiasts:** Nourishes Qi to alleviate mental stagnation. **Strengths:** Subgroup analysis; multi-country studies. **Limitations:** Mostly Chinese studies; variable designs. **Clinical Recommendations:** Incorporate Qigong for mental health in COPD; 24-week protocols for elderly.

Study 8 [38]

This RCT tested Tai Chi as complementary to pulmonary rehab in COPD. **Study Design:** Single-blind RCT. **Participant Details:** 120 recruited, 102 analyzed; mild-severe stable COPD; age/sex not specified. **Intervention Protocols:** Tai Chi or combined with stepper: 2-month supervised + 10-month home; frequency not detailed. **Key Findings with Statistical Data:** SGRQ change: Tai Chi -10.19 (95% CI -13.72 to -6.67), combined -16.75 (95% CI -20.25 to -13.24, $p<0.001$); sustained at 12 months. **Potential Mechanisms for Medical Professionals:** Physiological: Reduces inflammation, improves function; psychological: Mindfulness eases symptoms. **Benefits for Tai Chi/Qigong Enthusiasts:** Integrates Qi with rehab for holistic lung nourishment. **Strengths:** Novel combination; long follow-up. **Limitations:** Single-blind; per-protocol analysis. **Clinical Recommendations:** Add Tai Chi to rehab for sustained quality of life.

Study 9 [39]

This meta-analysis evaluated Tai Chi for pulmonary rehab in COPD. **Study Design:** Systematic review and meta-analysis of RCTs. **Participant Details:** 1663 participants; age 54-79 years, FEV1 30-80% predicted; moderate-severe COPD. **Intervention Protocols:** Varied styles (e.g., Yang, Chen); 1-12 months. **Key Findings with Statistical Data:** Vs. control: 6MWD MD 40.83 (95% CI 32.47-49.19, $p<0.00001$); FEV1% MD 1.67 (95% CI 0.41-2.93, $p=0.009$); SGRQ MD -6.57 (95% CI -10.17 to -2.98, $p=0.0003$). **Potential Mechanisms for Medical Professionals:** Physiological: Boosts immunity (cytokines); psychological: Reduces anxiety. **Benefits for Tai Chi/Qigong Enthusiasts:** Circulates Qi to strengthen lungs. **Strengths:** PRISMA-compliant; large sample. **Limitations:** Heterogeneity; Asian bias. **Clinical Recommendations:** Prescribe Tai Chi vs. usual care for function and quality.

Study 10 [40]

This RCT assessed Tai Chi for moderate-severe stable COPD. **Study Design:** Two-arm RCT. **Participant Details:** 216 completed (from 226); mean age ~68 years, ~69% male; moderate-severe COPD (FEV1 30-79%). **Intervention Protocols:**

Yang-style Tai Chi: 52 weeks, ≥5 times/week, 30 min/session + usual care. **Key Findings with Statistical Data:** Exacerbation rate: 1.04 vs. 1.34 (p=0.002, RR 0.586, 95% CI 0.402-0.735); SGRQ change -4.15 (95% CI -8.35 to -0.87, p=0.022); no FEV1 change. **Potential Mechanisms for Medical Professionals:** Physiological: Enhances immune function (NK cells); psychological: Improves anxiety/depression. **Benefits for Tai Chi/Qigong Enthusiasts:** Sustains Qi for exacerbation prevention. **Strengths:** First long-term combo; well-tolerated. **Limitations:** No blinding; small sample. **Clinical Recommendations:** Add yearly Tai Chi to care for reduced exacerbations.

Study 11 [41]

This Cochrane review meta-analyzed Tai Chi for COPD. **Study Design:** Systematic review and meta-analysis of RCTs. **Participant Details:** 984 participants (12 studies); age 61-74 years; COPD details varied. **Intervention Protocols:** Tai Chi: 6 weeks-1 year; compared to usual care or other exercises. **Key Findings with Statistical Data:** Vs. usual: 6MWD MD 29.64 (95% CI 10.52-48.77); FEV1 MD 0.11 L (95% CI 0.02-0.20); no superiority when added to others. **Potential Mechanisms for Medical Professionals:** Physiological: Improves breathing control; psychological: Facilitates Qi for homeostasis. **Benefits for Tai Chi/Qigong Enthusiasts:** Channels internal energy for lung balance. **Strengths:** RCTs only; safety noted. **Limitations:** Diverse styles; low-moderate evidence. **Clinical Recommendations:** Use Tai Chi alone for mild improvements; not additive to rehab.

Study 12 [42]

This RCT tested combined Tai Chi-yoga for COPD. **Study Design:** RCT. **Participant Details:** 24 males; age 70±6 years; moderate-severe COPD. **Intervention Protocols:** Tai Chi-yoga: 12 weeks; frequency not specified. **Key Findings with Statistical Data:** Improved pulmonary function, fitness, quality, fatigue (p<0.05 implied); rapid fitness gains at 4 weeks. **Potential Mechanisms for Medical Professionals:** Physiological: Enhances respiratory efficiency; psychological: Reduces fatigue via mind-body. **Benefits for Tai Chi/Qigong Enthusiasts:** Blends Qi with yoga for comprehensive energy. **Strengths:** Safe; quick

benefits. **Limitations:** Small male sample; no stats details. **Clinical Recommendations:** Adjunctive 12-week program for older males.

Study 13 [43]

This RCT compared Tai Chi to pulmonary rehab in treatment-naive COPD. **Study Design:** RCT. **Participant Details:** 120 patients; FEV1 43.6% predicted; age/sex not specified. **Intervention Protocols:** Tai Chi: 5 times/week, 12 weeks; vs. rehab thrice weekly. **Key Findings with Statistical Data:** SGRQ difference end: -0.48 (95% CI -3.6 to 2.6, p=0.76); post-12 weeks: 4.5 (95% CI 1.9-7.0, p<0.001) favoring Tai Chi. **Potential Mechanisms for Medical Professionals:** Physiological: Sustains endurance; psychological: Better adherence. **Benefits for Tai Chi/Qigong Enthusiasts:** Cultivates Qi without equipment. **Strengths:** Equivalent to rehab; sustained effects. **Limitations:** No long-term data. **Clinical Recommendations:** Tai Chi as alternative for naive patients.

Study 14 [44]

This study compared physiological responses to Tai Chi vs. treadmill in COPD. **Study Design:** Comparative physiological study. **Participant Details:** 11 patients; FEV1 61% predicted; age/sex not specified. **Intervention Protocols:** Tai Chi vs. treadmill at 60% max; duration not specified. **Key Findings with Statistical Data:** Oxygen uptake similar (51.1% vs. 52.5%, p>0.05); lower respiratory rate in Tai Chi; TwQ decrease post-Tai Chi. **Potential Mechanisms for Medical Professionals:** Physiological: Similar aerobic load with less hyperinflation. **Benefits for Tai Chi/Qigong Enthusiasts:** Balances Qi with low strain. **Strengths:** Direct comparison. **Limitations:** Small sample; no protocol details. **Clinical Recommendations:** Tai Chi for rehab-equivalent exercise.

Study 15 [45]

This review discussed yoga/Tai Chi for obstructive lung diseases. **Study Design:** Narrative review. **Participant Details:** COPD patients; no specifics. **Intervention Protocols:** Community-based Tai Chi/yoga; not detailed. **Key Findings with Statistical Data:** Better than usual care in 6MWD, FEV1, quality; comparable to

rehab; no stats. **Potential Mechanisms for Medical Professionals:** Mind-body for symptom management. **Benefits for Tai Chi/Qigong Enthusiasts:** Mind-body Qi approach. **Strengths:** Community accessibility. **Limitations:** Limited evidence. **Clinical Recommendations:** Promote for respiratory symptoms.

Study 16 [46]

This review evaluated yoga/Tai Chi/Qigong for COPD symptoms. **Study Design:** Systematic review. **Participant Details:** COPD patients; no details. **Intervention Protocols:** 6 weeks-6 months, 2-7 sessions/week, 30-90 min. **Key Findings with Statistical Data:** Benefits on lung function/exercise; unclear for quality/dyspnea; no stats. **Potential Mechanisms for Medical Professionals:** Not discussed. **Benefits for Tai Chi/Qigong Enthusiasts:** Enhances Qi for symptom relief. **Strengths:** Multi-therapy synthesis. **Limitations:** No meta; limited data. **Clinical Recommendations:** Consider for function.

Study 17 [47]

This meta-analysis assessed Tai Chi for exercise capacity/quality in COPD. **Study Design:** Systematic review and meta-analysis of RCTs. **Participant Details:** 824 participants (11 studies); COPD (FEV1<80%). **Intervention Protocols:** ≥12 weeks, 2-5 sessions/week, 30-60 min. **Key Findings with Statistical Data:** Vs. nonexercise: 6MWD MD 35.99 (95% CI 15.63-56.35, p=0.0005); SGRQ MD -10.02 (95% CI -17.59 to -2.45, p=0.009). **Potential Mechanisms for Medical Professionals:** Aerobic adjustment for physical/mental status. **Benefits for Tai Chi/Qigong Enthusiasts:** Moderate Qi-building. **Strengths:** Preliminary evidence. **Limitations:** Low quality studies; language bias. **Clinical Recommendations:** Tai Chi over nonexercise for quality.

Study 18 [48]

This meta-analysis evaluated Tai Chi for lung function/exercise/psychosocial in COPD. **Study Design:** Systematic review and meta-analysis of RCTs. **Participant Details:** 1430 participants (20 RCTs); no details. **Intervention Protocols:** Varied Tai Chi; not specified. **Key Findings with Statistical Data:** Significant for FEV1,

6MWD, anxiety, quality ($p<0.01$); no for depression. **Potential Mechanisms for Medical Professionals:** Not discussed. **Benefits for Tai Chi/Qigong Enthusiasts:** Improves psychosocial Qi. **Strengths:** Large sample. **Limitations:** No demographics. **Clinical Recommendations:** Tai Chi for lung/psychosocial benefits.

Study 19 [49]

This review summarized Tai Chi's effects on COPD. **Study Design:** Systematic review. **Participant Details:** COPD patients; no specifics. **Intervention Protocols:** 12-24 weeks; styles like Sun/Yang. **Key Findings with Statistical Data:** Positive on function, capacity, support, strength; no stats. **Potential Mechanisms for Medical Professionals:** Not discussed. **Benefits for Tai Chi/Qigong Enthusiasts:** Safe Qi practice. **Strengths:** Superior to some therapies. **Limitations:** Needs larger studies. **Clinical Recommendations:** Tai Chi over routine care.

Study 20 [50]

This meta-analysis on pulmonary rehab included Tai Chi for COPD. **Study Design:** Systematic review and meta-analysis of RCTs. **Participant Details:** 2397 participants; COPD per GOLD. **Intervention Protocols:** Tai Chi/yoga/exercises; varied. **Key Findings with Statistical Data:** 6MWT WMD 36.34 (95% CI 26.51-46.17, $p<0.001$); SGRQ WMD -6.66 (95% CI -8.38 to -4.94, $p<0.001$); Tai Chi FEV1% WMD 0.20 (95% CI 0.08-0.32, $p=0.002$). **Potential Mechanisms for Medical Professionals:** Improves physical/psychological well-being. **Benefits for Tai Chi/Qigong Enthusiasts:** Mind-body Qi enhancement. **Strengths:** Largest meta; subgroups. **Limitations:** Heterogeneity; bias risks. **Clinical Recommendations:** Include Tai Chi in rehab.

Study 21 [51]

This RCT tested modified Tai Chi for COPD. **Study Design:** RCT. **Participant Details:** 60 patients; stages II-IV; age/sex not specified. **Intervention Protocols:** 6-form modified Tai Chi: learned in 3 hours, high adherence (86%). **Key Findings with Statistical Data:** Improved FEV1% ($\chi^2=13.68$, $p<0.001$), 6MWD ($\chi^2=192.39$, $p<0.001$), CAT ($\chi^2=6.05$, $p=0.014$). **Potential Mechanisms for Medical**

Professionals: Not discussed. **Benefits for Tai Chi/Qigong Enthusiasts:** Simplified Qi cultivation. **Strengths:** Easy, safe. **Limitations:** No demographics. **Clinical Recommendations:** Use modified form for adherence.

Concluding Comments

The collective evidence from 21 studies, including multiple high-quality randomized controlled trials and meta-analyses involving thousands of patients, strongly supports Tai Chi and Qigong as safe, effective, and practical adjunctive interventions for COPD. Clinically meaningful improvements are observed across the key domains of exercise capacity, lung function, symptom burden, exacerbation frequency, and psychological well-being. Notably, benefits are achieved with low-risk, low-cost programs that demonstrate excellent adherence and acceptability—even in patients with moderate-to-severe disease who often struggle with conventional rehabilitation.

From a mechanistic perspective, these practices appear uniquely suited to COPD pathophysiology: coordinated slow breathing reduces air trapping and respiratory rate, gentle weight-shifting strengthens lower-limb and core muscles without excessive dyspnea, and mindfulness components interrupt anxiety-driven hyperventilation. The consistent finding of reduced exacerbation rates and sustained quality-of-life gains further underscores their potential role in long-term disease management.

Although methodological heterogeneity and the predominance of Asian studies call for caution, the magnitude and consistency of benefits justify immediate clinical integration of Tai Chi or Qigong into pulmonary rehabilitation programs, particularly for patients who decline or cannot access traditional exercise modalities. Future research should prioritize large, multicenter RCTs with standardized Tai Chi/Qigong protocols, longer follow-up periods, cost-effectiveness analyses, and head-to-head comparisons with conventional rehabilitation to establish optimal “dosing” and to confirm generalizability across diverse populations.

In summary, Tai Chi and Qigong represent a rare convergence of ancient wisdom and modern evidence-based medicine, offering a scalable, patient-centered tool to

improve outcomes in one of the world's most prevalent and disabling respiratory diseases.

References

1. McGee RW. *Incorporating Tai Chi & Qigong into a Medical Practice*. New York: Prime Publishing; 2025.
2. McGee RW. *The Health Benefits of Tai Chi & Qigong*. New York: Prime Publishing; 2025.
3. McGee RW. *Utilizing Tai Chi & Qigong to Treat Cancer Survivors*. New York: Prime Publishing; 2025.
4. McGee RW. Tai Chi, Qigong and the Treatment of Disease. BJSTR. 2021;34(2):26627-33. DOI: 10.26717/BJSTR.2021.34.005531
5. McGee RW. A Suggestion for Treating Amyotrophic Lateral Sclerosis (ALS). BJSTR. 2022;44(4):35627-31. DOI: 10.26717/BJSTR.2022.44.007072
6. McGee RW. Using Tai Chi, Qigong and Chinese Herbs to Reduce Cholesterol: A Study Incorporating Artificial Intelligence. BJSTR. 2024;57(1):48776-84. DOI: 10.26717/BJSTR.2024.57.008943
7. McGee RW. Utilizing Tai Chi and Qigong to Treat Colon Cancer Survivors. BJSTR. 2024;58(5):51017-25.
8. McGee RW. Does the Practice of Chen Style Tai Chi Cause Knee Damage? A Literature Review Incorporating Artificial Intelligence. BJSTR. 2025;60(5):53019-25. DOI: 10.26717/BJSTR.2025.60.009510
9. McGee RW. Harnessing Grok 3 to Explore Qigong in Cancer Care: An AI-Driven Literature Synthesis. Collective Journal of Oncology. 2025;2(1): ART0076.
10. Liang SY, Wu WC. *Simplified Tai Chi Chuan*. Wolfeboro, NH: YMAA Publication Center; 2014.
11. Liao W. *T'ai Chi Classics*. Boulder: Shambhala; 2000.

12. Tsao J. *Practical Tai Chi Training*. San Diego: Tai Chi Healthways; 2021.

13. Wayne, P.M. *The Harvard Medical School Guide to Tai Chi*. Boulder: Shambhala, 2013.

14. Wong KK. *The Complete Book of Tai Chi Chuan*. London: Vermilion; 2001.

15. Yang JM. *Tai Chi Chuan*. Wolfeboro, NH: YMAA Publication Center; 2010.

16. Cohen KS. *The Way of Qigong*. New York: Ballantine Books; 1997.

17. Frantzis B. *Opening the Energy Gates of Your Body: Chi Gung for Lifelong Health*. Berkeley, CA: Blue Snake Books; 2006.

18. Chen J, Xue X, Xu J, Zeng J, Xu F. Emerging Trends and Hotspots in Tai Chi Fall Prevention: Analysis and Visualization. Int J Environ Res Public Health. 2022 Jul 7;19(14):8326. doi: 10.3390/ijerph19148326. PMID: 35886172; PMCID: PMC9320470.

19. Guan C, Gu Y, Cheng Z, Xie F, Yao F. Global trends of traditional Chinese exercises for musculoskeletal disorders treatment research from 2000 to 2022: A bibliometric analysis. Front Neurosci. 2023 Feb 10;17:1096789. doi: 10.3389/fnins.2023.1096789. PMID: 36845420; PMCID: PMC9950260.

20. Hang, Z., Ruslan, N.-H. B. & Zid, A.B. A Bibliometric Analysis of Development Trends of Digitalization in Tai Chi. Malaysian Journal of Science and Advanced Technology, 5(1): 53-60 (2025).

21. Yang C, He Q, Huang L, Tian H, Luo Q, Xu G, Sun M, Yang S, Liang F, Litao P. Research Trends of Traditional Chinese Medicine Therapies on Chronic Obstructive Pulmonary Disease: A Bibliometric Analysis. Complement Med Res. 2025;32(1):67-83. English. doi: 10.1159/000541020. Epub 2025 Jan 27. PMID: 39870053.

22. Zeng Q, Liu X, Li L, Zhang Q, Luo C, Yang S, Wu S, Yang A, Li J. Bibliometric Analysis of Research on Traditional Chinese Exercise and Osteoarthritis. J Pain

Res. 2024 Feb 8;17:559-569. doi: 10.2147/JPR.S436457. PMID: 38347853; PMCID: PMC10860586.

23. Andrew L McCart. Artificial Intelligence in U.S. Healthcare: Evolutionary Trend or Revolutionary Shift?. Biomed J Sci & Tech Res 61(4)-2025. BJSTR. MS.ID.009629.

24. Chekwube Martin Obianyo, Philbert Nzeyimana, Hareg Zewdu Alehegn, Alhagie Drammeh, A Lawal, Lakanse Rahmatu Gadzama and Jibrin Muhammad Yelwa. The Integration of Artificial Intelligence (AI) and Machine Learning (ML) in Diagnostics and Personalized Medicine. Biomed J Sci & Tech Res 61(5)-2025. BJSTR. MS.ID.009650.

25. Abdulmajeed Faihan Alotaibi. Ethical Guidelines of Integrating Artificial Intelligence in Healthcare in Alignment with Sustainable Development. Biomed J Sci & Tech Res 59(4)-2024. BJSTR. MS.ID.009325

26. Adrián P Hunis. The Role of Artificial Intelligence in Oncology: Transforming Cancer Diagnosis and Treatment . Biomed J Sci & Tech Res 57(3)-2024. BJSTR. MS.ID.009013.

27. Benjamin Wu, Yucheng Liu, Meng Jou Wu, Hiram Shaish and Hong Yun Ma. Usage of Artificial Intelligence in Gallbladder Segmentation to Diagnose Acute Cholecystitis. A Case Report. Biomed J Sci & Tech Res 55(2)-2024.BJSTR. MS.ID.008670

28. Marcos A M Almeida and Matheus H C de Araujo. The Use of Artificial Intelligence in the Classification of Medical Images of Brain Tumors. Biomed J Sci & Tech Res 53(4)-2023. BJSTR. MS.ID.008450 https://biomedres.us/pdfs/BJSTR.MS.ID.008450.pdf

29. Angela Hsu, Robin Zachariah, James Han and William Karnes. 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)-2023. BJSTR. MS.ID.007812 DOI: 10.26717/BJSTR.2023.49.007812

30. Jyoti Lamba, Taniya Malhotra, Drishti Palwankar, Vrinda Vats and Akshat Sachdeva. Artificial Intelligence in Dentistry: A Literature Review. Biomed J Sci & Tech Res 51(1)-2023. BJSTR.MS.ID.008050

31. Castro JP, Kierkegaard M, Zeitelhofer M. A Call to Use the Multicomponent Exercise Tai Chi to Improve Recovery From COVID-19 and Long COVID. Front Public Health. 2022;10:827645. doi: 10.3389/fpubh.2022.827645.

32. Chan AW, Lee A, Suen LK, Tam WW. Tai chi Qigong improves lung functions and activity tolerance in COPD clients: a single blind, randomized controlled trial. Complement Ther Med. 2011;19(1):3-11. doi: 10.1016/j.ctim.2010.12.007.

33. Gilliam EA, Cheung T, Kraemer K, Litrownik D, Wayne PM, Moy ML, Yeh GY. The impact of Tai Chi and mind-body breathing in COPD: Insights from a qualitative sub-study of a randomized controlled trial. PLoS One. 2021;16(4):e0249263. doi: 10.1371/journal.pone.0249263.

34. Guo JB, Chen BL, Lu YM, Zhang WY, Zhu ZJ, Yang YJ, Zhu Y. Tai Chi for improving cardiopulmonary function and quality of life in patients with chronic obstructive pulmonary disease: a systematic review and meta-analysis. Clin Rehabil. 2016;30(8):750-64. doi: 10.1177/0269215515604903.

35. Kraemer KM, Litrownik D, Moy ML, Wayne PM, Beach D, Klings ES, Reyes Nieva H, Pinheiro A, Davis RB, Yeh GY. Exploring Tai Chi Exercise and Mind-Body Breathing in Patients with COPD in a Randomized Controlled Feasibility Trial. COPD. 2021;18(3):288-298. doi: 10.1080/15412555.2021.1928037.

36. Leung RW, McKeough ZJ, Alison JA. Tai Chi as a form of exercise training in people with chronic obstructive pulmonary disease. Expert Rev Respir Med. 2013;7(6):587-92. doi: 10.1586/17476348.2013.839244.

37. Li Z, Liu S, Wang L, Smith L. Mind-Body Exercise for Anxiety and Depression in COPD Patients: A Systematic Review and Meta-Analysis. Int J Environ Res Public Health. 2019;17(1):22. doi: 10.3390/ijerph17010022.

38. Liu W, Liu XM, Huang YL, Yu PM, Zhang XW, Zhao C, Mao B, Min J, Jiang HL. Tai Chi as a complementary exercise for pulmonary rehabilitation in chronic obstructive pulmonary disease: A randomised controlled trial. Complement Ther Med. 2023;78:102977. doi: 10.1016/j.ctim.2023.102977.

39. Liu X, Fu C, Hu W, Hao S, Xie L, Wu X, Wang J, Liu Z, Lin Q, Li S. The effect of Tai Chi on the pulmonary rehabilitation of chronic obstructive pulmonary disease: a systematic review and meta-analysis. Ann Palliat Med. 2021;10(4):3763-3782. doi: 10.21037/apm-20-940.

40. Luo C, Jiang H, Li H, Chi X. Effects of Tai Chi on patients with moderate to severe COPD in stable phase. Medicine (Baltimore). 2023;102(14):e33503. doi: 10.1097/MD.0000000000033503.

41. Ngai SP, Jones AY, Tam WW. Tai Chi for chronic obstructive pulmonary disease (COPD). Cochrane Database Syst Rev. 2016;2016(6):CD009953. doi: 10.1002/14651858.CD009953.pub2.

42. Phantayuth D, Chuaychoo B, Supaporn S, Nana A, Ramyarangsi P, Ajjimaporn A. Effectiveness of a 12-week combining tai chi and yoga program on pulmonary function and functional fitness in COPD patients. Respir Med. 2024;234:107842. doi: 10.1016/j.rmed.2024.107842.

43. Polkey MI, Qiu ZH, Zhou L, Zhu MD, Wu YX, Chen YY, Ye SP, He YS, Jiang M, He BT, Mehta B, Zhong NS, Luo YM. Tai Chi and Pulmonary Rehabilitation Compared for Treatment-Naive Patients With COPD: A Randomized Controlled Trial. Chest. 2018;153(5):1116-1124. doi: 10.1016/j.chest.2018.01.053.

44. Qiu ZH, Guo HX, Lu G, Zhang N, He BT, Zhou L, Luo YM, Polkey MI. Physiological responses to Tai Chi in stable patients with COPD. Respir Physiol Neurobiol. 2016;221:30-4. doi: 10.1016/j.resp.2015.10.019.

45. Ratarasarn K, Kundu A. Yoga and Tai Chi: a mind-body approach in managing respiratory symptoms in obstructive lung diseases. Curr Opin Pulm Med. 2020;26(2):186-192. doi: 10.1097/MCP.0000000000000654.

46. Reychler G, Poncin W, Montigny S, Luts A, Caty G, Pieters T. Efficacy of yoga, tai chi and qi gong on the main symptoms of chronic obstructive pulmonary disease: A systematic review. Respir Med Res. 2019;75:13-25. doi: 10.1016/j.resmer.2019.04.002.

47. Wu W, Liu X, Wang L, Wang Z, Hu J, Yan J. Effects of Tai Chi on exercise capacity and health-related quality of life in patients with chronic obstructive pulmonary disease: a systematic review and meta-analysis. Int J Chron Obstruct Pulmon Dis. 2014;9:1253-63. doi: 10.2147/COPD.S70862.

48. Yang Y, Yang L, Yang X, Tian Y. Effects of Tai Chi on Lung Function, Exercise Capacity and Psychosocial Outcomes in Patients With Chronic Obstructive Pulmonary Disease: Systematic Review and Meta-analysis of Randomized Controlled Trials. Biol Res Nurs. 2023;25(4):635-646. doi: 10.1177/10998004231178318.

49. Yılmaz Karabulutlu E, Şimşekli D, Üstündağ Ş. The Effect of Tai Chi on Patients with Chronic Obstructive Pulmonary Disease: A Systematic Review. Altern Ther Health Med. 2024;30(6):39-45. PMID: 38843416.

50. Zhang H, Hu D, Xu Y, Wu L, Lou L. Effect of pulmonary rehabilitation in patients with chronic obstructive pulmonary disease: a systematic review and meta-analysis of randomized controlled trials. Ann Med. 2022;54(1):262-273. doi: 10.1080/07853890.2021.1999494.

51. Zhu S, Shi K, Yan J, He Z, Wang Y, Yi Q, Huang H. A modified 6-form Tai Chi for patients with COPD. Complement Ther Med. 2018;39:36-42. doi: 10.1016/j.ctim.2018.05.007.