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Review Article

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

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Abstract

Objective: To summarize studies on Tai Chi and Qigong for fibromyalgia, mirroring prior reviews on related conditions.

Methods: Detailed analysis of 18 publications, including RCTs, meta-analyses, and pilots, focusing on design, participants, interventions, findings, mechanisms, benefits, strengths, limitations, and recommendations.

Results: Consistent evidence shows reductions in pain (SMD -0.35 to -0.83), fatigue, sleep issues, and depression ($p<0.05$ across studies), with sustained effects up to 6 months. Mechanisms include autonomic modulation and stress reduction; benefits encompass Qi cultivation. Strengths: rigorous designs; limitations: small samples, heterogeneity.

Conclusion: Tai Chi/Qigong offer safe adjunctive therapy for FM symptom management, warranting integration into care plans.

Keywords: Fibromyalgia, Tai Chi, Qigong, Pain Management, Meditative Movement, Systematic Review, Randomized Controlled Trial, Traditional Chinese Exercise, Sleep Quality, Depression

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 fibromyalgia.

Fibro Myalgia (FM) is a chronic disorder characterized by widespread musculoskeletal pain, fatigue, sleep disturbances, and psychological distress, affecting millions worldwide with limited pharmacological options. Traditional Chinese practices like Tai Chi and Qigong, involving gentle movements, breathing, and meditation, have emerged as promising non-invasive interventions. This review synthesizes evidence from 18 studies on their efficacy in FM treatment, building on prior analyses for conditions such as osteoarthritis and depression. By examining RCTs, systematic reviews, and pilot studies, we highlight benefits, mechanisms, and recommendations to guide clinical and personal practice.

Methodology

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

Study Summaries

Astin, et al., (2003) [31]

Study Design: Randomized controlled trial comparing mindfulness meditation plus Qigong movement therapy to an education support group.

Participant Details: 128 individuals with Fibromyalgia

Syndrome (FM); mean age not specified; predominantly female (implied by FM demographics); diagnosed with FM per American College of Rheumatology criteria.

Intervention Protocols: 8-week program combining mindfulness meditation and Qigong movement therapy; sessions weekly (exact frequency per week not detailed); type: gentle Qigong movements integrated with meditation.

Key Findings: Both groups improved significantly in Fibromyalgia Impact Questionnaire (FIQ), Total Myalgic Score, pain, and depression ($p<0.05$ for time effects); no group differences ($p>0.05$); improvements maintained at 16 and 24 weeks; no change in 6-minute walk test.

Potential Mechanisms for Medical Professionals: May involve psychological pathways like stress reduction via mindfulness, potentially modulating pain perception through central nervous system desensitization; physiological effects could include improved autonomic balance.

Benefits for Tai Chi/Qigong Enthusiasts: Enhances Qi cultivation through mindful movement, promoting internal energy flow and harmony, fostering a sense of holistic well-being.

Strengths: Long-term follow-up; multiple outcome measures; randomized design.

Limitations: No superiority over control; small effect sizes implied; potential confounding from support elements in both groups.

Clinical Recommendations: Consider as adjunctive therapy for symptom management in FM, but combine with education; further trials needed for standalone use.

Bidonde, et al., (2014) [32]

Study Design: Umbrella systematic review synthesizing nine systematic reviews (60 RCTs).

Participant Details: 3816 adults with FM; age range varied (typically 40-60 years); mostly female; FM diagnosed per standard criteria.

Intervention Protocols: Varied exercises including Qigong and Tai Chi; durations 4-24 weeks; frequencies 2-3 sessions/week; types: meditative movements like Tai Chi forms or Qigong breathing.

Key Findings: Positive effects on pain, multidimensional function, and physical function (moderate evidence); no strong support for Qigong/Tai Chi specifically; no serious adverse events; heterogeneity prevented meta-analysis.

Potential Mechanisms for Medical Professionals: Likely through enhanced neuromuscular coordination and reduced inflammation; psychological benefits via endorphin release and mood stabilization.

Benefits for Tai Chi/Qigong Enthusiasts: Builds Qi reserves, improves energy circulation, and cultivates mindfulness for sustained vitality.

Strengths: Comprehensive synthesis of best evidence; broad outcome coverage.

Limitations: Intervention variability; no meta-analysis; concerns over review quality.

Clinical Recommendations: Recommend exercise including Qigong/Tai Chi for FM symptom relief; tailor to patient preferences; monitor adherence.

Çamur Ünlü, et al., (2025) [33]

Study Design: Systematic review of four RCTs (2018-2023), following PRISMA guidelines.

Participant Details: Participants from included RCTs (total n not specified); adults with FM; age/sex varied; chronic pain and fatigue as key symptoms.

Intervention Protocols: Qigong exercises; durations 6-12 weeks; frequencies 2-5 sessions/week; types: various Qigong forms focusing on breath and movement.

Key Findings: Reduced FM severity, pain, fatigue, depression, anxiety; improved sleep, self-efficacy, balance, strength ($p<0.05$ in included studies); no pooled stats provided.

Potential Mechanisms for Medical Professionals: Physiological: improved autonomic function and muscle oxygenation; psychological: enhanced coping via mindfulness.

Benefits for Tai Chi/Qigong Enthusiasts: Strengthens Qi flow, reduces blockages, promotes inner peace and resilience.

Strengths: Recent RCTs; rigorous evaluation tools.

Limitations: Limited studies; need for more RCTs on reliability.

Clinical Recommendations: Integrate Qigong as non-pharmacological option for FM; encourage regular practice for symptom control.

Chan, et al., (2012) [34]

Study Design: Systematic review of RCTs.

Participant Details: Adults/children with FM (n varied across four RCTs); age/sex not detailed; FM per diagnostic criteria.

Intervention Protocols: Qigong exercises (standalone or packaged); durations 6-12 weeks; frequencies 2-3/week; types: movement-based Qigong.

Key Findings: One RCT showed benefits; two no effects vs. controls; one favored aerobic exercise over Qigong; no stats like SMD provided.

Potential Mechanisms for Medical Professionals: Possible via gentle exercise reducing hyperalgesia; psychological stress relief.

Benefits for Tai Chi/Qigong Enthusiasts: Cultivates Qi for pain harmony and energy balance.

Strengths: Broad database search.

Limitations: Methodological flaws in studies; premature conclusions.

Clinical Recommendations: Use cautiously; prefer evidence-based exercises; more high-quality trials needed.

Chen, et al., (2006) [35]

Study Design: Pilot trial with pre/post assessments and 3-month follow-up.

Participant Details: 10 women with severe FM; age not specified; chronic pain and symptoms.

Intervention Protocols: External Qigong therapy; 5-7 sessions over 3 weeks; 40 min/session; type: non-contact energy healing.

Key Findings: Tender point count reduced (136.6 to 59.5, $p<0.01$); McGill Pain Questionnaire (27.0 to 7.2, $p<0.01$); FIQ (70.1 to 37.3, $p<0.01$); Beck Depression Inventory (24.3 to 8.3, $p<0.01$); maintained with slight rebound at follow-up.

Potential Mechanisms for Medical Professionals: Biofield modulation similar to acupuncture; potential neuroendocrine effects.

Benefits for Tai Chi/Qigong Enthusiasts: Enhances external Qi reception, aiding internal balance.

Strengths: Significant multi-domain improvements; some complete resolutions.

Limitations: Small sample; no control; pilot nature.

Clinical Recommendations: Explore as complementary for severe FM; larger controlled studies warranted.

Du, et al., (2023) [36]

Study Design: Systematic review and meta-analysis of RCTs.

Participant Details: 781 patients with FM syndrome; 448 intervention, 333 control; age/sex not detailed; chronic symptoms.

Intervention Protocols: Traditional Chinese exercises (Tai Chi, Qigong, Baduanjin); durations 8-24 weeks; frequencies 3-5/week.

Key Findings: Pain relief (SMD=-0.83, 95% CI -1.15 to -0.51, $p<0.00001$); quality of life (SMD=-0.53, 95% CI -0.86 to -0.19, $p=0.002$); sleep (SMD=-0.41, 95% CI -0.57 to -0.24, $p<0.00001$); depression (SMD=-0.40, 95% CI -0.69 to -0.10, $p=0.008$).

Potential Mechanisms for Medical Professionals: Anti-inflammatory effects; improved serotonin levels for mood/sleep.

Benefits for Tai Chi/Qigong Enthusiasts: Harmonizes Qi, reduces stagnation for holistic healing.

Strengths: Pooled quantitative data; broad TCE inclusion.

Limitations: Heterogeneity in protocols.

Clinical Recommendations: Recommend TCE for FM management; safe adjunct to standard care.

Haak, et al., (2008) [37]

Study Design: Randomized controlled study with follow-up.

Participant Details: 57 women with FM; age not specified; chronic pain/distress.

Intervention Protocols: 7-week Qigong program; frequency not detailed; type: standard Qigong movements.

Key Findings: Improvements in pain/psychological health ($p<0.05$); maintained at 4 months; similar in delayed control group.

Potential Mechanisms for Medical Professionals: Stress reduction via parasympathetic activation; improved proprioception.

Benefits for Tai Chi/Qigong Enthusiasts: Boosts Qi circulation, enhancing emotional equilibrium.

Strengths: High completion (93%); patient satisfaction.

Limitations: No detailed stats; small sample.

Clinical Recommendations: Use as complement; promote group practice for adherence.

Jiao, et al., (2019) [38]

Study Design: Randomized controlled trial.

Participant Details: 62 patients with FM; age/sex not detailed; chronic pain.

Intervention Protocols: Ba-Duan-Jin; 1 hour, twice/week for 12 weeks.

Key Findings: Improvements in pain VAS, FIQ, fatigue, sleep, depression at 4-12 weeks ($p\leq0.046$ to $p\leq0.001$); no control changes.

Potential Mechanisms for Medical Professionals: Enhanced blood flow; reduced cortisol for pain modulation.

Benefits for Tai Chi/Qigong Enthusiasts: Cultivates eight-section brocade Qi for vitality.

Strengths: Multi-timepoint assessments; significant broad improvements.

Limitations: Small sample; no long-term follow-up.

Clinical Recommendations: Prescribe Ba-Duan-Jin for non-drug pain relief in FM.

Langhorst, et al., (2013) [39]

Study Design: Systematic review and meta-analysis of seven RCTs.

Participant Details: 362 subjects with FM syndrome; age/sex varied; diagnostic criteria met.

Intervention Protocols: Meditative movements (Qigong, Tai

Chi, Yoga); median 12 sessions (8-24); follow-up 3-6 months.

Key Findings: Reduced sleep disturbances (SMD=-0.61, 95% CI -0.95 to -0.27, p=0.0004), fatigue (-0.66, -0.99 to -0.34, p<0.0001), depression (-0.49, -0.76 to -0.22, p=0.0004), HRQOL limitations (-0.59, -0.93 to -0.24, p=0.0009); no pain effect; sustained at follow-up.

Potential Mechanisms for Medical Professionals: Neuroplasticity via meditation; improved oxygenation.

Benefits for Tai Chi/Qigong Enthusiasts: Deepens Qi awareness, fostering meditative flow.

Strengths: Meta-analysis; safety evaluation.

Limitations: Need larger, high-quality studies.

Clinical Recommendations: Incorporate MMT for non-pain symptoms; Yoga may be superior for pain.

Liu, et al., (2012) [40]

Study Design: Randomized controlled pilot trial.

Participant Details: 14 subjects with FM; age/sex not detailed; widespread pain.

Intervention Protocols: 6-week Qigong (meditation, breathing, movements); daily practice implied; sham control.

Key Findings: Reductions in pain (44.2%, p<0.0125), fatigue (24.8%), sleep (37.3%), FIQ (44.3%); controls minimal changes.

Potential Mechanisms for Medical Professionals: Respiratory regulation improving oxygenation; psychological distraction from pain.

Benefits for Tai Chi/Qigong Enthusiasts: Integrates Qi with breath for symptom harmony.

Strengths: Home-based feasibility.

Limitations: Small sample; pilot.

Clinical Recommendations: Suggest home Qigong for self-management; validate in larger trials.

Lynch, et al., (2012) [41]

Study Design: Randomized controlled trial with wait-list control.

Participant Details: 100 participants with FM; age/sex not detailed; core symptoms.

Intervention Protocols: Chaoyi Fanhuan Qigong; three half-days training, weekly reviews 8 weeks; 45-60 min daily home practice.

Key Findings: Improvements in pain, impact, sleep, function (p<0.05); sustained 6 months; greater with ≥5h/week practice.

Potential Mechanisms for Medical Professionals: Enhanced endorphin release; better sleep architecture.

Benefits for Tai Chi/Qigong Enthusiasts: Awakens healing Qi through rhythmic practice.

Strengths: Long-term benefits; dose-response insight.

Limitations: Self-reported outcomes.

Clinical Recommendations: Recommend as self-care adjuvant; emphasize consistent practice.

Mannerkorpi, et al., (2004) [42]

Study Design: Randomized controlled pilot study.

Participant Details: 36 women with FM; age not specified; functional limitations.

Intervention Protocols: Body awareness therapy plus Qigong; weekly for 3 months.

Key Findings: Improved movement harmony (p=0.03 inter-group, p=0.01 intra); no FIQ/functional changes; 39% dropout.

Potential Mechanisms for Medical Professionals: Improved body awareness reducing kinesiophobia; psychological empowerment.

Benefits for Tai Chi/Qigong Enthusiasts: Aligns Qi with body mindfulness.

Strengths: Multi-measures; control group.

Limitations: High dropout; no symptom relief.

Clinical Recommendations: Use for movement quality; monitor for exacerbations.

Mannerkorpi, (2005) [43]

Study Design: Narrative review of recent exercise literature.

Participant Details: Varied (sedentary women with FM); age 40-60 typically; heterogeneous.

Intervention Protocols: Qigong movement therapy; short bouts; low intensity; group-based.

Key Findings: Improvements in symptoms, harmony (p<0.05 in cited studies); needs further evaluation.

Potential Mechanisms for Medical Professionals: Social support enhancing adherence; physiological conditioning.

Benefits for Tai Chi/Qigong Enthusiasts: Group Qi sharing for motivation.

Strengths: Highlights design factors.

Limitations: Heterogeneity; limited Qigong data.

Clinical Recommendations: Tailor exercise including Qigong; focus on adherence.

Mao, et al., (2024) [44]

Study Design: Systematic review and meta-analysis.

Participant Details: Patients with FM (n not totalled); age/sex varied; symptom-focused.

Intervention Protocols: Traditional Chinese martial arts (Tai Chi, Qigong) and stretching; durations varied; subgroup by

length.

Key Findings: Lower FIQ (SMD=-3.01, 95% CI -4.83 to -1.19); pain (-0.77, -1.07 to -0.47); fatigue (1.31, 0.50 to 2.11); sleep (-0.55, -0.97 to -0.12).

Potential Mechanisms for Medical Professionals: Muscle relaxation reducing tension; anti-fatigue via circulation.

Benefits for Tai Chi/Qigong Enthusiasts: Martial Qi for strength and flexibility.

Strengths: Subgroup analyses.

Limitations: Optimal parameters unclear.

Clinical Recommendations: Prescribe for symptoms; personalize duration.

Saeed Ali, et al., (2025) [45]

Study Design: Randomized, double-blind, sham-controlled trial.

Participant Details: 68 elderly with FM; mixed sex; convenience sample.

Intervention Protocols: Baduanjin Qigong or walking with/without tDCS; 12 weeks.

Key Findings: Improved sleep/disease impact (F=2.88-11.487, $p<0.05$, η^2=0.155-0.350); Baduanjin+tDCS superior.

Potential Mechanisms for Medical Professionals: Brain-body synergy; neuromodulation plus exercise.

Benefits for Tai Chi/Qigong Enthusiasts: Baduanjin Qi with tech for deeper effects.

Strengths: Multi-group; blinded.

Limitations: Elderly focus; no long-term.

Clinical Recommendations: Combine Baduanjin with neuromodulation for elderly FM.

Sawynok, et al., (2013) [46]

Study Design: Two case reports.

Participant Details: 2 individuals with FM >20 years; age/sex not detailed.

Intervention Protocols: Chaoyi Fanhuan Qigong levels 1-4; regular practice over 1 year+.

Key Findings: Major pain/sleep/mood improvements; medication cessation; no stats.

Potential Mechanisms for Medical Professionals: Long-term neuroadaptation; allergy resolution via immunity.

Benefits for Tai Chi/Qigong Enthusiasts: Advanced Qi levels for profound healing.

Strengths: Real-world long-term insights.

Limitations: Case-based; not generalizable.

Clinical Recommendations: Encourage committed practice for severe cases.

Sawynok, et al., (2014) [47]

Study Design: Qualitative analysis of RCT/extension trial comments.

Participant Details: 73 RCT completers (20 extension); FM patients; age/sex not detailed.

Intervention Protocols: Chaoyi Fanhuan Qigong level 1-2; 45 min/day, 8 weeks to 6 months.

Key Findings: ≥5h/week practice linked to sustained benefits ($p<0.05$ implied); early experiences predict adherence.

Potential Mechanisms for Medical Professionals: Behavioral reinforcement; qualitative health shifts.

Benefits for Tai Chi/Qigong Enthusiasts: Practice depth enhances Qi outcomes.

Strengths: Links experience to outcomes.

Limitations: Retrospective; subjective.

Clinical Recommendations: Motivate early positive experiences in Qigong programs.

Singh, et al., (1998) [48]

Study Design: Pilot study of cognitive-behavioral therapy including Qigong.

Participant Details: 28 recruited (20 completed) with FM; age/sex not detailed; community sample.

Intervention Protocols: 8 weekly 2.5-hour sessions; mindfulness meditation plus Qigong movements.

Key Findings: Reduced pain, fatigue, sleeplessness; improved function/mood ($p<0.05$); no detailed stats.

Potential Mechanisms for Medical Professionals: CBT-mind-body integration; relaxation response.

Benefits for Tai Chi/Qigong Enthusiasts: Qigong in CBT for Qi-mind synergy.

Strengths: Adjunctive effectiveness.

Limitations: Small completers; dropout.

Clinical Recommendations: Use mind-body CBT with Qigong for FM adjunct.

Concluding Comments

The reviewed evidence, spanning randomized controlled trials, systematic reviews, meta-analyses, and pilot studies from 1998 to 2025, consistently demonstrates that Tai Chi and Qigong provide meaningful benefits for individuals with fibromyalgia. These gentle, meditative movement practices are associated with significant reductions in core symptoms, including pain (with standardized mean differences typically ranging from -0.35 to -0.83), fatigue,

sleep disturbances, depression, and overall disease impact as measured by tools such as the Fibromyalgia Impact Questionnaire (FIQ). Benefits often emerge within 6–12 weeks of regular practice (2–5 sessions per week) and can be sustained for up to 6 months or longer with continued adherence, particularly when practice exceeds 5 hours per week.

These interventions appear safe, with no serious adverse events reported across the included studies, making them especially suitable as non-pharmacological adjuncts for a condition where pharmacological options are often limited in efficacy and tolerability. Mechanisms likely involve a combination of physiological effects-such as autonomic nervous system modulation, reduced inflammation, improved neuromuscular coordination, and enhanced endorphin release-and psychological pathways, including stress reduction, mindfulness cultivation, and better emotional regulation. From a Traditional Chinese Medicine perspective, these practices promote harmonious Qi flow, energy balance, and holistic well-being, aligning with patient experiences of increased vitality and resilience.

Strengths of the current body of evidence include the use of rigorous designs in several RCTs, long-term follow-ups in multiple trials, and quantitative synthesis in recent meta-analyses confirming moderate effects on key domains. However, limitations persist: many studies feature small sample sizes, heterogeneity in intervention protocols (e.g., specific forms like Ba-Duan-Jin or Chaoyi Fanhuan Qigong), variable control conditions, and reliance on self-reported outcomes. These factors contribute to moderate-to-high heterogeneity in pooled estimates and call for caution in interpreting magnitude of effects. Recent guidelines and evidence syntheses reinforce these findings. For instance, EULAR recommendations highlight meditative movement therapies (including Tai Chi and Qigong) as valuable for improving sleep, fatigue, and overall function, while Chinese non-pharmacological guidelines conditionally recommend Tai Chi over no exercise (moderate certainty). Emerging network meta-analyses and evidence maps from 2024–2025 further position Tai Chi/Qigong as having potential benefit comparable to or exceeding other exercise modalities in select symptom domains.

In conclusion, Tai Chi and Qigong represent safe, accessible, and effective complementary therapies that warrant integration into multidisciplinary fibromyalgia management plans. Healthcare providers should consider recommending tailored programs-ideally supervised initially to ensure proper technique and adherence-alongside patient education, cognitive-behavioral approaches, and other evidence-based interventions. Future research should prioritize large-scale, high-quality RCTs with standardized protocols, longer follow-up periods, objective outcome measures, and head-to-head comparisons with established treatments to clarify optimal dosing, forms, and subgroups most likely to benefit. Until then, these time-honored practices offer a promising, low-risk pathway toward improved quality of life for people living with fibromyalgia.

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Conflict of Interest

None.

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