
Evidence Map of Tai Chi and Qigong: Update from 2014–2024

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PREFACE

The VA Evidence Synthesis Program (ESP) was established in 2007 to conduct timely, rigorous, and independent systematic reviews to support VA clinicians, program leadership, and policymakers improve the health of Veterans. ESP reviews have been used to develop evidence-informed clinical policies, practice guidelines, and performance measures; to guide implementation of programs and services that improve Veterans' health and wellbeing; and to set the direction of research to close important evidence gaps. Four ESP Centers are located across the US. Centers are led by recognized experts in evidence synthesis, often with roles as practicing VA clinicians. The Coordinating Center, located in Portland, Oregon, manages program operations, ensures methodological consistency and quality of products, engages with stakeholders, and addresses urgent evidence synthesis needs.

Nominations of review topics are solicited several times each year and submitted via the [ESP website](#). Topics are selected based on the availability of relevant evidence and the likelihood that a review on the topic would be feasible and have broad utility across the VA system. If selected, topics are refined with input from Operational Partners (below), ESP staff, and additional subject matter experts. Draft ESP reviews undergo external peer review to ensure they are methodologically sound, unbiased, and include all important evidence on the topic. Peer reviewers must disclose any relevant financial or non-financial conflicts of interest. In seeking broad expertise and perspectives during review development, conflicting viewpoints are common and often result in productive scientific discourse that improves the relevance and rigor of the review. The ESP works to balance divergent views and to manage or mitigate potential conflicts of interest.

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Operational Partners

Operational partners are system-level stakeholders who help ensure relevance of the review topic to the VA, contribute to the development of and approve final project scope and timeframe for completion, provide feedback on the draft report, and provide consultation on strategies for dissemination of the report to the field and relevant groups.

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Disclosures

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The findings and conclusions in this document are those of the author(s) who are responsible for its contents and do not necessarily represent the views of the Department of Veterans Affairs or the United States government. Therefore, no statement in this article should be construed as an official position of the Department of Veterans Affairs. The final research questions, methodology, and/or conclusions may not necessarily represent the views of contributing operational and content experts. No investigators have affiliations or financial involvement (eg, employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties) that conflict with material presented in the report.

Main Report

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ABBREVIATIONS TABLE

Abbreviation	Definition
AHRQ	Agency for Healthcare Research & Quality
CIH	Complementary and integrative health
CINeMA	Confidence in network meta-analysis
EPC	Evidence Practice Center
ESP	Evidence Synthesis Program
GRADE	Grading of Recommendations, Assessment, Development and Evaluation
TCC	Tai chi chuan

BACKGROUND

Tai chi (also “tai chi chuan,” “taijiquan,” or “taiji”) and qigong (also “baduanjin,” “yi jing jing,” “liu zi jue”) are mind-body exercises that originated from China. Tai chi and qigong have been part of Veterans’ standard medical benefits package under VHA Directive 1137.¹ The VA internal SharePoint for tai chi and qigong includes these definitions:

- “Tai Chi is a mind-body exercise combining slow-flowing intentional movements with breathing, awareness and visualization. Rooted in the Asian traditions of martial arts, Chinese medicine and philosophy, Tai chi enhances relaxation, vitality, focus, posture, balance, strength, flexibility, and mood.”
- “Qigong is an ancient Chinese healing art, older than, and similar to tai chi, with a focus of cultivating the body’s vital energy or qi. It involves the coordination of the breath, posture, awareness, visualization and focused movements. Qigong may be a stationary or moving meditation.”

Interest in tai chi and qigong among Veterans has been growing, and this interest is expected to continue to grow as the VA continues to expand the program by hiring more instructors. An evidence map of research on tai chi and qigong published in 2014 was widely used to assist referring providers in their medical decision-making regarding when to offer tai chi or qigong for certain conditions or wellbeing. VHA’s Office of Patient Centered Care & Cultural Transformation, Integrative Health Coordinating Center was interested in new evidence since publication of the earlier map; thus, we conducted an update of the previous report and present a new evidence map of tai chi and qigong. Findings from this report will be used by VA referring providers, site leadership, and policy makers to improve Veteran access to non-pharmacologic treatment approaches and improve outcomes for Veterans by utilizing evidence-based care pathways.

METHODS

TOPIC DEVELOPMENT

This topic was developed in response to a nomination from Juli Olson, DC, DACM, National Lead for Acupuncture, Integrative Health Coordinating Center; Alison Whitehead, MPH, C-IAYT, E-RYT200, National Lead, Integrative Health Coordinating Center; and Jonathan Loesch, BS, CTRS, National Tai Chi Lead for Integrative Health Coordinating Center. The scope was further developed with input from the topic nominator, the ESP Coordinating Center, and the review team. The scope of this report includes: 1) One or more evidence maps that provide a visual overview of the distribution of evidence for tai chi and qigong, and 2) an accompanying narrative that helps stakeholders interpret the state of the evidence to inform policy and clinical decision-making.

KEY QUESTIONS AND ELIGIBILITY CRITERIA

The aim of this synthesis is to develop evidence maps that provide a visual overview of the distribution of evidence for tai chi and qigong on various adult health conditions, with accompanying narrative that helps stakeholders interpret the state of the evidence to inform policy and clinical decision-making.

ELIGIBILITY CRITERIA

Study eligibility criteria are shown in the table below.

Domain	Eligibility Criteria
Population	Adults
Intervention	Tai chi or qigong
Comparator	Sham, active therapy/usual care/no treatment
Outcomes	Any
Study Design	Systematic reviews

SEARCHING AND SCREENING

Search strategies were developed in consultation with a medical librarian who is expert in literature reviews. We used a combination of MeSH keywords (eg, *tai ji*, *qigong*) and conducted searches from January 2014 to March 2024 in bibliographic databases (Allied and Complementary Medicine Database [AMED], Cumulated Index to Nursing and Allied Health Literature [CINAHL], Cochrane Database of Systematic Reviews [CDSR], OvidMEDLINE, PsychINFO, Scopus) (see [Appendix](#) for complete search strategies).

Four reviewers independently screened titles and abstracts in duplicate, with any discrepancies resolved by group discussion. All titles and abstracts were selected based on the eligibility criteria described in the section below.

We next restricted eligibility to reviews that used formal methods to assess the certainty (or strength or quality) of the evidence for conclusions. In most reviews, this involved use of the Grading of Recommendations, Assessment, Development and Evaluations (GRADE) approach.² However, other formal methods were accepted, such as the approach developed by the Agency for Healthcare Research & Quality (AHRQ) Evidence-based Practice Center (EPC) program³ and confidence in network meta-

analysis (CINeMA).⁴ Certainty of evidence ratings assess the certainty or confidence in the estimates of the effect of an intervention:

- High certainty: We are very confident that the true effect lies close to that of the estimate of the effect.
- Moderate certainty: We are moderately confident in the effect estimate: the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.
- Low certainty: Our confidence in the effect estimate is limited: the true effect may be substantially different from the estimate of the effect.
- Very low certainty: We have very little confidence in the effect estimate: the true effect is likely to be substantially different from the estimate of effect.

For example, a finding for benefit of an intervention with a very low certainty rating means it is not very likely that the evidence of benefit is the true effect. Conversely, a finding for benefit of an intervention with high certainty of evidence means it is very likely that the beneficial effect of the intervention is the true effect.

To remain eligible, a systematic review had to 1) state or cite the method used to formally assess the certainty (or strength or quality) of included evidence, and 2) report the certainty (or strength or quality) of evidence for the effect of tai chi or qigong on an adult health condition.

After applying this restriction, we abstracted health conditions. Any conditions with only a single eligible systematic review were included in the map: Cancer-related symptoms, chronic low back pain, chronic mechanical neck pain, chronic obstructive pulmonary disease, diabetes, falls prevention, fibromyalgia, hypertension, osteoarthritis, osteoporosis, post-stroke rehabilitation/non-motor outcomes, and sarcopenia were the health conditions with multiple reviews meeting eligibility criteria. For these conditions, we first assessed whether the review differed in some other feature used to classify reviews on our map. For example, 1 systematic review on disease-specific quality of life of women with breast cancer employed tai chi as intervention⁵ and a second review also about disease-specific quality of life of women with breast cancer employed qigong.⁶ In such cases, we included both reviews in the map, with the appropriate designations for the interventions. If there were multiple reviews on the same condition and they did not differ in some other feature, we mapped the review that was judged as being most informative to stakeholders. In general, this was the most recent review or the review with the greatest number of included studies. Systematic reviews otherwise meeting eligibility criteria that were not included in the map for this reason are listed in the [Appendix](#).

DATA ABSTRACTION

Each included systematic review had data abstracted by 1 reviewer and verified by a second reviewer. Abstracted data included number of studies included in the review that had tai chi or qigong as the intervention, treated condition, type of tai chi or qigong, comparators, certainty of evidence rating, and certainty of evidence conclusion(s) relevant to the effect of tai chi or qigong on an adult health condition.

STUDY SELECTION

Eligible publications were systematic reviews of studies that examined the efficacy or effectiveness of tai chi or qigong in adult health conditions. In general, any intervention described as “tai chi” or “qigong” was considered eligible; these included Traditional Chinese Exercises, mind-body exercise, baduanjin.

Studies were required to compare tai chi or qigong to a sham/placebo, usual care, or other active therapies. An active therapy is defined as a therapy intended to have an intervention-specific effect that is not sham or placebo. Reviews that included studies of other interventions were eligible if results for tai chi or qigong were reported separately. Examples of such reviews are: *Effect of Exercise for Depression: Systematic Review and Network Meta-Analysis of Randomized Controlled Trials*⁷ or *Noninvasive Nonpharmacological Treatment for Chronic Pain: A Systematic Review Update*.⁸

SYNTHESIS

Our evidence mapping process resulted in a visual depiction of the evidence for tai chi or qigong, as well as an accompanying narrative with an ancillary figure and table. The visual depiction or evidence map uses a bubble plot format to display information on 4 dimensions: bubble size, bubble label, x-axis, and y-axis. This allowed us to provide the following types of information about each included systematic review, as follows:

Number of articles in systematic review (bubble size): The size of each bubble corresponds to the number of relevant primary research studies included in a systematic review. Relevant means studies contributing to the conclusions and certainty of evidence that were included on the map.

Condition (bubble label): Each bubble is labeled with the condition discussed by that systematic review.

Shapes and colors: Intervention characteristics for each condition are presented in the form of colors (type of intervention) and shapes (comparators). For type of intervention, blue for tai chi only, orange for qigong only, and green for mixed tai chi and qigong. Shapes are used to distinguish between the types of comparison treatments: circle for conclusions about comparisons to active therapy/usual care and triangle for conclusions about sham and active therapy/usual care.

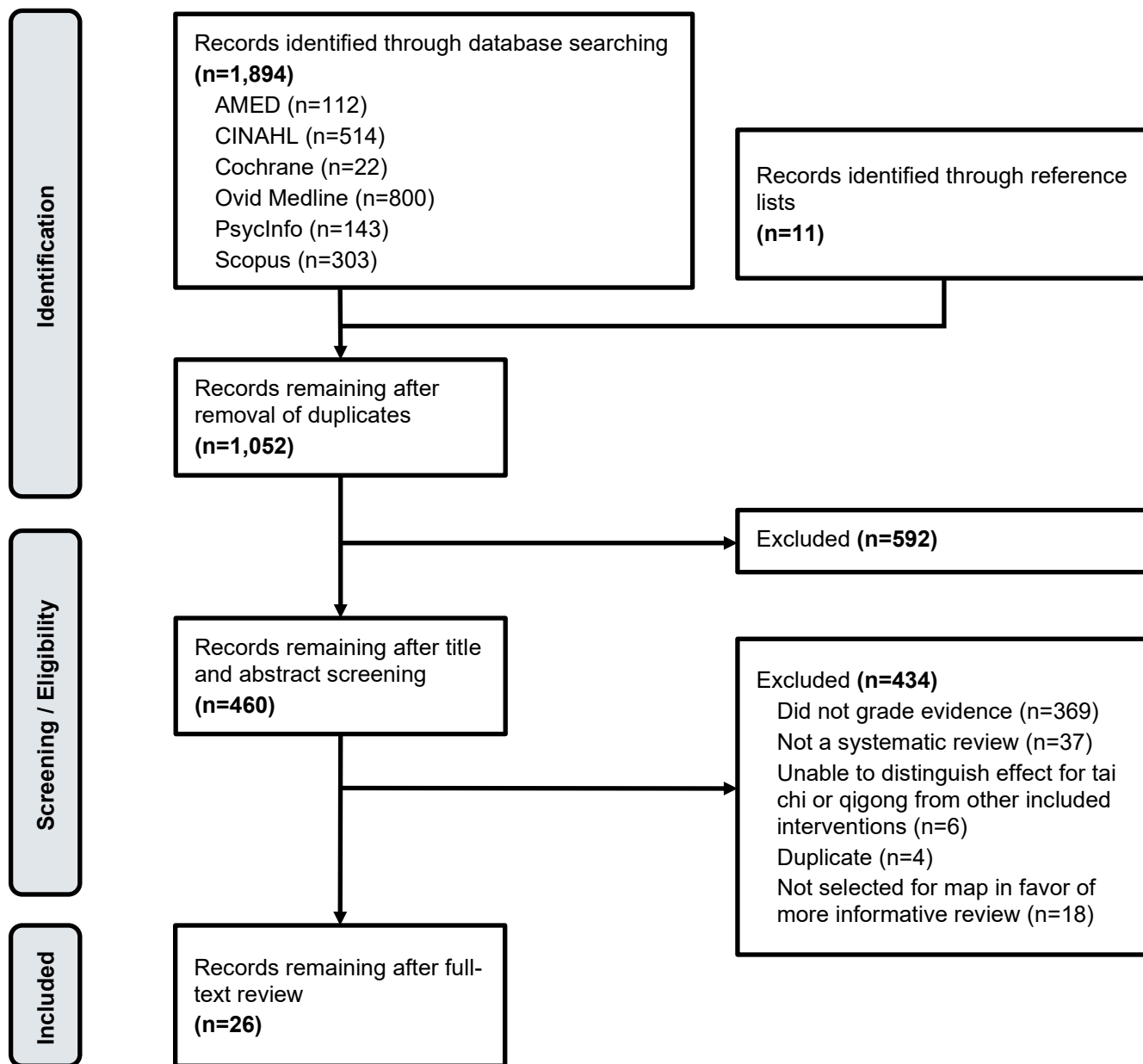
Strength of findings (rows): Each condition is plotted on the map based on the certainty of evidence statement as reported in the systematic review. We have 3 categories: “all conclusions are rated as low or very low certainty,” “at least 1 conclusion is rated moderate certainty,” and “at least 1 conclusion is rated as high or strong certainty.”

Effect of tai chi or qigong (columns): Each condition is plotted in either “potential benefit” or “no benefit” as effect of tai chi or qigong based on conclusion of systematic review.

RESULTS

LITERATURE FLOW DIAGRAM

The literature flow diagram summarizes the results of the study selection process. A full list of excluded studies is provided in the [Appendix](#).



OVERVIEW OF INCLUDED STUDIES

We identified 1,894 potentially relevant citations from database searches. After deduplicating these titles and including 11 titles recommended by experts, we had a total of 1,052 titles for initial screening (see [Literature Flow Diagram](#)). We applied the inclusion and exclusion criteria to these titles and abstracts and excluded 591 publications. We reviewed 460 publications at full-text stage. A total of 434 publications were excluded at this stage for the following reasons: not a systematic review ($N = 37$), did not formally assess the certainty or strength or quality of the evidence ($N = 369$), unable to distinguish effect for tai chi or qigong from other included interventions ($N = 6$), duplicate ($N = 4$), and not selected for map in favor of more informative review ($N = 18$). See [Appendix](#) for a full list of excluded reviews and a list of reviews not selected for the map by condition. We included 26 publications in this map. See Table 1 for more details about the included reviews.

Table 1. Characteristics of Included Studies

Author, Year Country	Condition (Outcome)	Intervention Comparator Number of Included Studies	Certainty of Evidence Rating	Certainty of Evidence Conclusion
Li, 2023 ⁵ China	Breast cancer (Disease-specific quality of life)	Tai chi Sham, Active therapy/Usual care 15	Moderate	Compared to sham, active therapy, or usual care, "Tai chi Chuan-based exercise is helpful for improving QOL [quality of life], anxiety, and fatigue in patients with breast cancer."
Ye, 2022 ⁶ China, Iran, USA	Breast cancer (Disease-specific quality of life)	Qigong Active therapy/Usual care 7	Low/Very low	"Baduanjin is an effective exercise, which can significantly improve the quality of life and psychological health of breast cancer patients after operation."
Sun, 2024 ⁹ China	Cancer (Anxiety)	Mixed tai chi/qigong Active therapy/Usual care 11	Moderate	Compared to usual care or active therapy, "there was moderate certainty of evidence supporting the effect of tai chi/qigong on anxiety for adults with cancer."
Ni, 2019 ¹⁰ China, Australia	Cancer (Disease-specific quality of life)	Tai chi Sham, Active therapy/Usual care 22	Very low to moderate	"There is low-level evidence suggesting that Tai chi improves physical and mental dimensions of QOL [quality of life], and sleep. There is moderate-level evidence suggesting Tai chi reduces levels of cortisol...and improves limb function."
Bower, 2024 ¹¹ USA, Canada	Cancer-related fatigue	Mixed tai chi/qigong Active therapy/Usual care 5	Moderate	Tai chi and qigong "showed significant improvement in fatigue scores as compared to conventional care, waitlist controls, or light exercise groups in patients with a variety of cancer types."

Author, Year Country	Condition (Outcome)	Intervention Comparator Number of Included Studies	Certainty of Evidence Rating	Certainty of Evidence Conclusion
Kang, 2024 ¹² China	Chronic low back pain (Pain)	Tai chi Active therapy/Usual care 10	Moderate	Compared to routine care and active therapy, "tai chi can reduce the pain degree of patients with low back pain."
	Chronic low back pain (Disability)	Tai chi Active therapy/Usual care 4	Low	Compared to routine care and active therapy, "tai chi can reduce the pain degree of patients with low back pain [and] improve the lumbar disability...Tai chi is a relatively safe choice for patients with low back pain."
Gross, 2015 ¹³ USA, Canada, Netherlands	Chronic mechanical neck pain (Pain)	Qigong Active therapy/Usual care 2	Moderate	"Qigong exercises (Dantian Qigong) may improve pain and function slightly when compared with a wait list control at immediate and short-term follow-up" among patients with chronic mechanical neck pain.
Ngai, 2016 ¹⁴ China, Australia, Singapore	Chronic obstructive pulmonary disease (Pulmonary function)	Tai chi Active therapy/Usual care 7	Very low to moderate	"Evidence of very low to moderate quality suggests better functional capacity and pulmonary function in post-programme data for Tai chi versus usual care. When Tai chi in addition to other interventions was compared with other interventions alone, Tai chi did not show superiority and showed no additional effects on symptoms nor on physical and psychosocial function improvement in people with [chronic obstructive pulmonary disease]."
Noetel, 2024 ⁷ Australia, Spain, Denmark, Finland	Depression (Depressive symptoms)	Mixed tai chi/qigong Active therapy/Usual care 7	Low/Very low	"Compared with active controls, ... moderate reductions in depression were found... for tai chi or qigong."

Author, Year Country	Condition (Outcome)	Intervention Comparator Number of Included Studies	Certainty of Evidence Rating	Certainty of Evidence Conclusion
Wu, 2023 ¹⁵ China	Diabetes (Blood glucose/lipid levels)	Tai chi Active therapy/Usual care 13	Low/Very low	Compared to active therapy or usual care, "[Tai chi Chuan and Baduanjin] help to improve blood glucose and lipid levels in Type 2 Diabetes patients."
		Qigong Active therapy/Usual care 13	Low/Very low	Compared to usual care, baduanjin helped improve blood glucose and lipid levels in patients with type 2 diabetes.
Pillay, 2024 ¹⁶ Canada	Falls prevention (Rate of falls)	Tai chi Sham, Active therapy/Usual care 16	Moderate	Compared to sham, active therapy, or usual care, "long-duration tai chi interventions had some moderate certainty evidence [for benefit for falls]."
Skelly, 2020 ⁸ USA	Fibromyalgia (Pain)	Mixed tai chi/qigong Active therapy/Usual care 3	Low/Very low	For fibromyalgia, "qigong and tai chi were associated with moderately greater improvement in pain (0-10 scale) compared with waitlist and an attention control in the short term...[There] is slight improvement in function for qigong compared with waitlist and a large improvement for tai chi compared with attention control."
Buto, 2020 ¹⁷ Brazil	Frailty in older adults (Functional capacity/Quality of life)	Tai chi Active therapy/Usual care 8	Low to moderate	Compared to active therapy or usual care, "a very low to moderate level of evidence was found regarding the effectiveness of Tai Chi in terms of functional capacity (balance, mobility, gait speed, functional reach and lower limb muscle strength) and a low level of evidence was found regarding its effect on quality of life...among prefrail and frail older adults."

Author, Year Country	Condition (Outcome)	Intervention Comparator Number of Included Studies	Certainty of Evidence Rating	Certainty of Evidence Conclusion
Chen, 2020 ¹⁸ China, Sweden	Heart failure (Disease-specific quality of life/ Exercise capacity)	Tai chi Active therapy/Usual care 26	Moderate	"Evidence from RCTs indicated (with a moderate level of certainty) that the addition of Tai chi and Qigong Practices into routine management was associated with a better quality of life, improved exercise capacity, increased [Left ventricular ejection fraction] (LVEF), and reduced [Brain natriuretic peptide] (BNP) level" as compared [with routine management alone]. Low evidence certainty showed that Tai chi and Qigong Practices were associated with a larger improvement in the quality of life and exercise capacity than general exercise."
Ching, 2021 ¹⁹ Malaysia	Hypertension (Blood pressure)	Qigong Active therapy/Usual care 7	Low/Very low	"Significant reductions in [blood pressure] is seen with the use of qigong as compared with the control group."
Zhong, 2020 ²⁰ China	Hypertension (Blood pressure)	Tai chi Active therapy/Usual care 9	High	"The results demonstrated that Tai chi [versus active therapies] significantly reduced systolic blood pressure and diastolic blood pressure" in hypertensive patients.
Yang, 2023 ²¹ China	Insomnia (Sleep quality)	Tai chi Active therapy/Usual care 16	Very low to moderate	"Tai chi exercise has a good preventive and ameliorating effect on insomnia, which can relieve patients' depression and anxiety, simultaneously enhancing various functions of the body."
Hu, 2021 ²² China	Knee osteoarthritis (Physical/Mental health)	Tai chi Active therapy/Usual care 16	Low to moderate	"Tai chi exercise was beneficial for ameliorating physical and mental health of patients with knee osteoarthritis."

Author, Year Country	Condition (Outcome)	Intervention Comparator Number of Included Studies	Certainty of Evidence Rating	Certainty of Evidence Conclusion
Wang, 2022 ²³ China	Mild Cognitive Impairment (Cognitive function)	Mixed tai chi/qigong Active therapy/Usual care 23	Low/Very low	Compared to active therapy or usual care, "Tai chi and Qigong were effective interventions to improve cognition in patient with Parkinson's Disease [and] mild cognitive impairment."
	Parkinson's Disease (Cognitive function)	Mixed tai chi/qigong Active therapy/Usual care 2	Moderate	Compared to usual care or no intervention, tai chi or qigong had no effect on executive function of patients with Parkinson's disease.
Liu, 2024 ²⁴ China	Osteoporosis (Postmenopausal bone mineral density)	Mixed tai chi/qigong Active therapy/Usual care 32	Moderate to high	Compared with usual care or drug therapy, "Traditional Chinese fitness exercises can significantly improve the bone mineral density levels of postmenopausal women."
Su, 2024 ²⁵ China, USA, Czech Republic, Greece	Post-stroke (Disease-specific quality of life)	Tai chi Active therapy/Usual care 6	Low	Compared to usual care and active therapy, tai chi was "effective in improving quality of life for post-stroke patients."
		Qigong Active therapy/Usual care 3	Moderate	Compared to usual care and active therapy, qigong was "effective in improving quality of life for post-stroke patients."
Lyu, 2021 ²⁶ China	Post-stroke non-motor disorders (Cognitive/Sleep disorders)	Tai chi Active therapy/Usual care 6	Low to moderate	"Tai chi may alleviate post-stroke depression in stroke survivors but has no clear effects on post-stroke cognitive and sleep disorders."
Lyu, 2018 ²⁷ China	Post-stroke rehabilitation (Functional movement)	Tai chi Active therapy/Usual care 21	Low/Very low	"Tai chi has an overall beneficial effect on [activities of daily living], balance, limb motor function, and walking ability among stroke survivors, based on very low quality evidence, and may also improve sleep quality, mood, mental health, and other motor function."

Author, Year Country	Condition (Outcome)	Intervention Comparator Number of Included Studies	Certainty of Evidence Rating	Certainty of Evidence Conclusion
Mudano, 2019 ²⁸ USA, Canada	Rheumatoid arthritis (Pain/function)	Tai chi Active therapy/Usual care 7	Low/Very low	"It is uncertain whether Tai chi has any effect on clinical outcomes (joint pain, activity limitation, function) in rheumatoid arthritis."
Niu, 2022 ²⁹ China	Sarcopenia (Muscle strength/ Physical functioning)	Mixed tai chi/qigong Active therapy/Usual care 13	Low to moderate	Tai chi and/or qigong "had a greater clinical effect in improving the severity of sarcopenia compared with no training or health education."
Zheng, 2016 ³⁰ China	Schizophrenia (Negative symptoms)	Tai chi Active therapy/Usual care 5	Very low	Compared with active therapy, "Tai chi activity significantly improved negative symptoms" among patients with schizophrenia.
	Schizophrenia (Positive symptoms)	Tai Chi Active therapy/Usual care 4	Very low	Compared with active therapy, "Tai chi activity... had no obvious effects on positive symptoms" among patients with schizophrenia.

Characteristics of Included Reviews

The number of primary studies about tai chi and qigong in the included reviews ranged from 2 studies to 32 studies. Four reviews included 2 to 5 studies,^{8,11,13,30} 9 reviews included 6 to 9 studies,^{6,7,14,17,19,20,25,26,28} and 13 reviews included more than 10 studies.^{5,9,10,12,15,16,18,21-24,27,29}

The country of origin for reviews varied, with the largest number of reviews originating from China ($N = 13$),^{5,9,12,15,20-24,26,27,29,30} followed by the US ($N = 1$),⁸ Canada ($N = 1$),¹⁶ Brazil ($N = 1$),¹⁷ and Malaysia ($N = 1$).¹⁹ Nine reviews were conducted by authors from multiple countries: US and Canada ($N = 2$);^{11,28} China and Sweden;¹⁸ China and Australia;¹⁰ China, Australia, and Singapore;¹⁴ US, Canada, and the Netherlands;¹³ China, Iran, and US;⁶ China, US, Czech Republic, and Greece;²⁵ and Australia, Spain, Denmark, and Finland.⁷

Of the 26 included reviews, 14 reviews were focused on tai chi only;^{5,10,12,14,16-18,20-22,26-28,30} 3 reviews about qigong only,^{6,13,19} of which 1 review was about baduanjin;⁶ and 7 reviews about tai chi and/or qigong (*ie*, outcomes reported together),^{7-9,11,23,24,29} of which 2 reviews were about traditional Chinese exercises.^{24,29} Two reviews about post-stroke disease-specific quality of life²⁵ and diabetes¹⁵ reported outcomes for tai chi and qigong separately.

Every review included another active therapy as a comparator. Three reviews included sham in addition to active therapy/usual care as comparators.^{5,10,16} Examples of active therapy comparators included general exercises,¹⁸ health education,²⁰ and medication.³⁰

Over half of the included reviews reported the length of the intervention, from 6 weeks to 96 weeks. About one-third of reviews reported the frequency of sessions, from once a week to 18 sessions per week. A few reviews reported the duration of sessions, from 15 minutes to 90 minutes per session. Several reviews included details about the style of tai chi. For example, a review about knee osteoarthritis reported, “Yang style tai chi ($N = 7$, 43.75%), Sun style tai chi ($N = 3$, 18.75%), tai chi qigong ($N = 1$, 6.25%) and ambiguous style tai chi ($N = 5$, 31.25%).”²² Another review about the effects of tai chi chuan (TCC) training on the disease-specific quality of life and psychological wellbeing in female patients with breast cancer reported that the “included RCTs were different types of TCC (Yang-style TCC, Chen-style TCC, 24-form simplified TCC, 20-form TCC, 18-form TCC, 8-form TCC, and Tai chi Cloud Hands).”⁵

The included 26 reviews were categorized into the following 21 health conditions: breast cancer,^{5,6} cancer outcomes,⁹⁻¹¹ chronic low back pain,¹² chronic mechanical neck pain,¹³ chronic obstructive pulmonary disease,¹⁴ depression,⁷ diabetes,¹⁵ falls prevention,¹⁶ fibromyalgia,⁸ frailty in older adults,¹⁷ heart failure,¹⁸ hypertension,^{19,20} insomnia,²¹ knee osteoarthritis,²² mild cognitive impairment (cognitive function),²³ osteoporosis,²⁴ Parkinson’s disease (cognitive function),²³ post-stroke (non-motor disorders, rehabilitation, disease-specific quality of life),²⁵⁻²⁷ rheumatoid arthritis,²⁸ sarcopenia,²⁹ and schizophrenia.³⁰

Five reviews were mapped more than once.^{12,15,23,25,30} Wang et al discussed the effect of tai chi or qigong on mild cognitive impairment as well as Parkinson’s disease.²³ Diabetes was the focus of Wu et al’s review, and the authors reported outcomes for tai chi and qigong separately.¹⁵ Authors of a review about schizophrenia reported tai chi had a beneficial effect on negative symptoms, but found no difference for positive symptoms.³⁰ Kang et al’s review about chronic low back pain reported tai chi had a beneficial effect on pain and disability.¹² A review about post-stroke disease-specific quality of life reported outcomes for tai chi and qigong separately.²⁵

We mapped conclusion(s) for the effect of tai chi or qigong on conditions that were also included in the previous evidence map: cancer, chronic mechanical neck pain, chronic obstructive pulmonary disease, dementia, depression, diabetes, falls prevention, hypertension, insomnia, muscle strength (*ie*, sarcopenia), osteoarthritis, osteoporosis, Parkinson's disease, rheumatoid arthritis, and stroke rehabilitation (Table 2).

Table 2. Conditions or Topic Areas and Effects in 2014 and 2025 Evidence Maps

Condition (2014)	Effect (2014)	Condition (2025)	Effect (2025)
Chronic Obstructive Pulmonary Disease	Potential positive effect	Chronic Obstructive Pulmonary Disease	Potential benefit
Depression	Potential positive effect	Depression	Potential benefit
Falls - general	Potential positive effect	Falls prevention	Potential benefit
Hypertension	Potential positive effect	Hypertension	Potential benefit
Muscle strength	Potential positive effect	Sarcopenia (muscle strength)	No benefit
		Sarcopenia (physical functioning)	Potential benefit
Cancer	Unclear evidence	Cancer	Potential benefit
Dementia	Unclear evidence	Mild Cognitive Impairment - Cognitive function	Potential benefit
Fibromyalgia	Unclear evidence	Fibromyalgia	Potential benefit
Insomnia	Unclear evidence	Insomnia	Potential benefit
Osteoporosis	Unclear evidence	Osteoporosis	Potential benefit
Parkinson's disease	Unclear evidence	Parkinson's disease - cognitive function	No benefit
Rheumatoid arthritis	Unclear evidence	Rheumatoid arthritis	No benefit
Stroke rehabilitation	Unclear evidence	Post-stroke rehabilitation	Potential benefit
Diabetes	No effect	Diabetes	Potential benefit

We identified evidence for 11 new conditions in the updated search (Table 3).

Table 3. Newly Identified Conditions in 2025 Evidence Map

Condition	Effect
Breast cancer (disease-specific quality of life)	Potential benefit
Cancer (anxiety)	Potential benefit
Cancer-related fatigue	Potential benefit
Chronic low back pain (pain/disability)	Potential benefit
Chronic mechanical neck pain (pain)	Potential benefit
Frailty in older adults	Potential benefit
Heart failure (disease-specific quality of life/exercise capacity)	Potential benefit
Knee osteoarthritis (physical/mental health)	Potential benefit
Post-stroke (disease-specific quality of life)	Potential benefit
Post-stroke non-motor disorders (cognitive/sleep disorders)	No benefit
Schizophrenia (positive and negative symptoms)	No benefit

There were 18 conditions or topic areas in the previous evidence map that we did not identify evidence for in the 2025 evidence map (Table 4).

Table 4. Selected Conditions or Topic Areas in Previous Evidence Map Not in 2025 Evidence Map

Condition	Effect
Aerobic capacity	No effect
Life participation	No effect
Asthma	Unclear evidence
Cardiopulmonary	Unclear evidence
Cardiovascular disease	Unclear evidence
Chronic conditions	Unclear evidence
Cystic fibrosis	Unclear evidence
Health	Unclear evidence
Heart disease	Unclear evidence
Infections	Unclear evidence
Menopause	Unclear evidence
Metabolic syndrome	Unclear evidence
Multiple sclerosis	Unclear evidence
Pregnancy - anxiety	Unclear evidence
Psychological wellbeing	Unclear evidence
Post traumatic stress disorder	Unclear evidence
Urinary incontinence	Unclear evidence
Vestibulopathy	Unclear evidence

EVIDENCE MAP

In the evidence map, columns correspond to whether a conclusion of the review was that 1) there was a potential benefit of tai chi or qigong relative to a comparison treatment, or 2) there was no benefit of tai chi or qigong relative to the comparison treatment. Columns *are not* mutually exclusive: a review could have more than 1 conclusion for separate comparators or type of tai chi or qigong, and those conclusions could differ in the potential benefit of tai chi or qigong.

Rows correspond to GRADE ratings of certainty of evidence:

- High certainty: We are very confident that the true effect lies close to that of the estimate of the effect.
- Moderate certainty: We are moderately confident in the effect estimate: the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.
- Low certainty: Our confidence in the effect estimate is limited: the true effect may be substantially different from the estimate of the effect.
- Very low certainty: We have very little confidence in the effect estimate: the true effect is likely to be substantially different from the estimate of effect.

In contrast to columns, all rows *are* mutually exclusive. The top row indicates that at least 1 of the review's conclusions about tai chi or qigong as rated by its authors has high (or strong) certainty of evidence. The middle row indicates that at least 1 of the review's conclusions about tai chi or qigong was rated as moderate certainty of evidence (and none rated as high or strong, in which case it would be in the top row). The bottom row indicates that all of the review's conclusions about tai chi or qigong were rated as low or very low certainty of evidence. Since GRADE assesses certainty of evidence, it is possible for a body of evidence to demonstrate low or moderate estimates of effect but with high certainty of evidence; conversely, it is possible to have evidence with large effect sizes but with low certainty.

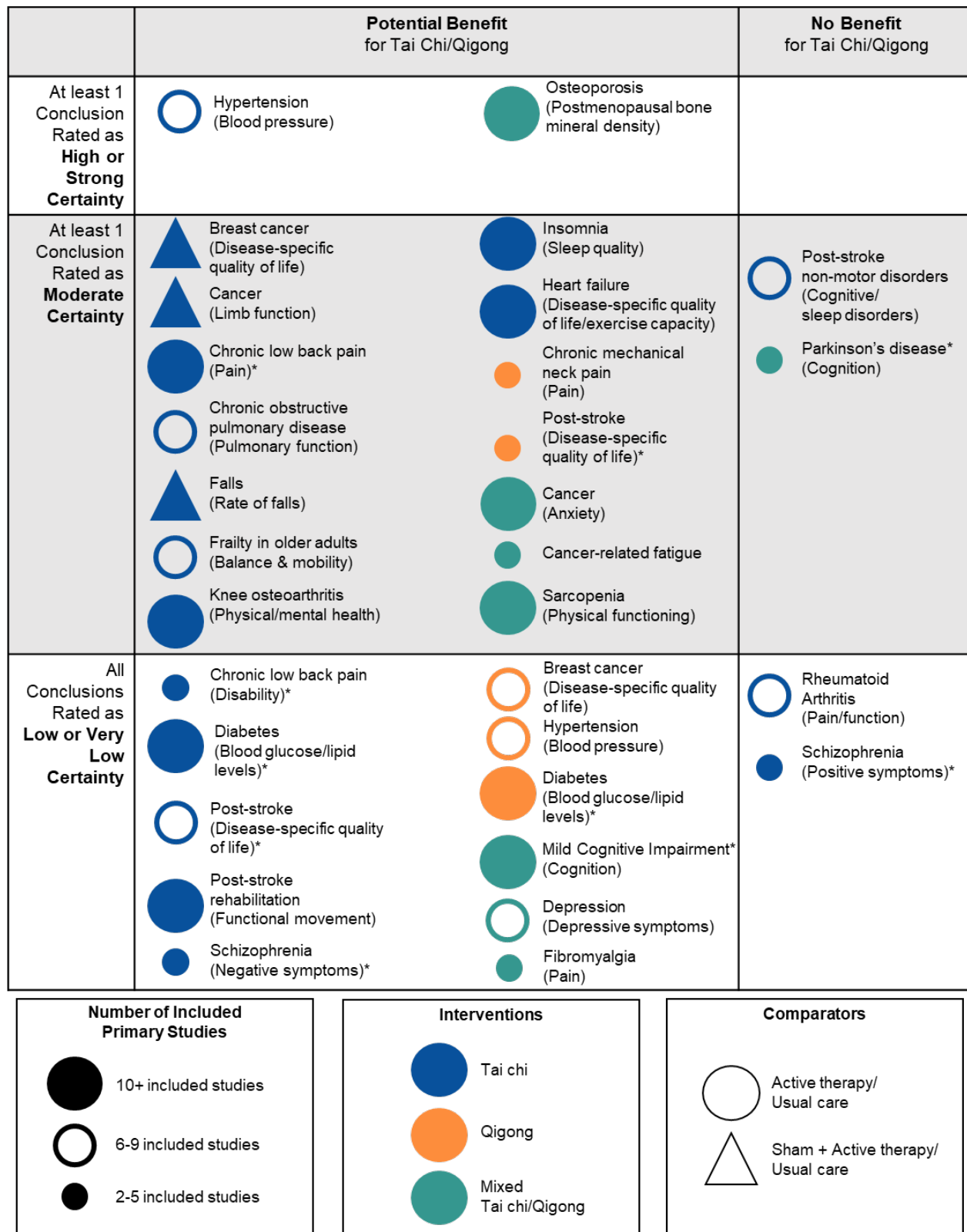
Each conclusion is then mapped onto this framework and identified by the name of the condition, *eg*, "chronic low back pain," "fibromyalgia," "schizophrenia," *etc*. Shapes are used to distinguish between the types of comparison treatments: circle for conclusions about comparisons to active therapy/usual care and triangle for conclusions about sham and active therapy/usual care. Colors are used to identify the conclusions specific to tai chi or qigong: blue for tai chi only, orange for qigong only (including baduanjin), and green for mixed tai chi and qigong (including Traditional Chinese Exercises).

The size of the bubble is used to indicate how many original research studies were included in the review about tai chi or qigong: the smallest bubble denotes reviews with 2–5 primary studies included, the medium bubble with a pattern of diagonal lines denotes reviews with 6–9 primary studies included, and the largest bubble denotes reviews with 10 or more primary studies included.

For example, in Figure 1, the medium-sized, blue open circle in the right column bottom row indicates that there is a review about rheumatoid arthritis that included 6 to 9 original studies and had a conclusion rated as low or very low certainty of evidence and that it is unclear whether tai chi has any effect on clinical outcomes for individuals with rheumatoid arthritis compared to active therapy or usual care. In the same figure, the large, green circle in the middle column of the middle row indicates a review about sarcopenia that included more than 10 original studies and had a conclusion rated as

moderate certainty of evidence that tai chi and/or qigong were better than the comparison treatment of active therapy or usual care.

Figure 1. Evidence Map



*This review included distinct conclusions about separate conditions and comparators, and so it appears in this map more than once.

There were 5 reviews with more than 1 conclusion about the effect of tai chi or qigong and they were mapped twice, denoted by an asterisk after the health condition.^{12,15,23,25,30}

In addition to this map, we collected all certainty of evidence conclusions about tai chi or qigong in Table 5. There are 2 systematic reviews that described conditions (*ie*, osteoporosis,²⁴ hypertension²⁰) that had high certainty of evidence conclusions for the potential benefit of tai chi or qigong rated by the original review authors. There are 16 systematic reviews that described conditions that had moderate certainty of evidence conclusions for the potential benefit of tai chi or qigong rated by the original review authors.^{5,9-14,16-18,21-23,25,26,29} All remaining conclusions were judged by the original authors as being low or very low certainty of evidence, meaning, “Our confidence in the effect estimate is limited. The true effect may be substantially different from the estimate of effect” or “We have very little confidence in the effect estimate.”

Table 5. Certainty of Evidence Conclusions from Systematic Reviews Included in the Evidence Map*High Certainty of Evidence Conclusions (N = 2)*

Author, Year	Condition	Certainty of Evidence Conclusion
Zhong, 2020 ²⁰	Hypertension	"The results demonstrated that Tai chi vs health education or no treatment...significantly reduced diastolic blood pressure" in hypertensive patients.
Liu, 2024 ²⁴	Osteoporosis	Compared to active therapy and usual care, "Traditional Chinese fitness exercises can significantly improve the bone mineral density levels of postmenopausal women."

Moderate Certainty of Evidence Conclusions (N = 16)

Author, Year	Condition	Certainty of Evidence Conclusion
Li, 2023 ⁵	Breast cancer (disease-specific quality of life)	Compared to sham, active therapy, or usual care, "Tai chi Chuan-based exercise is helpful for improving quality of life, anxiety, and fatigue in patients with breast cancer."
Ni, 2019 ¹⁰	Cancer (limb function)	Compared to sham, active therapy, and usual care, "there is moderate-level evidence suggesting Tai chi reduces levels of cortisol and improves limb function" among cancer survivors.
Sun, 2024 ⁹	Cancer (anxiety)	Compared to usual care or active therapy, "there was moderate certainty of evidence supporting the effect of tai chi/qigong on anxiety for adults with cancer."
Bower, 2024 ¹¹	Cancer-related fatigue	Tai chi and qigong "showed significant improvement in fatigue scores as compared to conventional care, waitlist controls, or light exercise groups in patients with a variety of cancer types."
Kang, 2024 ¹²	Chronic low back pain	Compared to routine care and active therapy, "tai chi can reduce the pain degree of patients with low back pain."
Gross, 2015 ¹³	Chronic mechanical neck pain	"Qigong exercises (Dantian Qigong) may improve pain and function slightly when compared with a wait list control at immediate and short-term follow-up" among patients with chronic mechanical neck pain.
Ngai, 2016 ¹⁴	Chronic obstructive pulmonary disease	"Participants in the Tai chi group, when compared to those in the usual care alone group, may have showed better pulmonary function" among patients with chronic obstructive pulmonary disease.
Pillay, 2024 ¹⁶	Falls prevention	Compared to sham, active therapy, or usual care, "long-duration tai chi interventions had some moderate certainty evidence [for benefit for falls prevention]."
Buto, 2020 ¹⁷	Frailty in older adults (balance and mobility)	Compared to active therapy, "a moderate level of evidence related to the effectiveness of Tai chi in improving balance and mobility" among prefrail and frail older adults.
Chen, 2020 ¹⁸	Heart failure (disease-specific quality of life)	Compared to active therapy, "the addition of Tai chi Qigong Practices was associated with a better quality of life, improved exercise capacity, increased [Left ventricular ejection fraction] (LVEF), and reduced [Brain natriuretic peptide] (BNP) level."
Yang, 2023 ²¹	Insomnia	"Tai chi exercise has a good preventive and ameliorating effect on insomnia, which can relieve patients' depression and anxiety, simultaneously enhancing various functions of the body."

Author, Year	Condition	Certainty of Evidence Conclusion
Hu, 2021 ²²	Knee osteoarthritis	Compared to active therapies or usual care/no treatment, “tai chi exercise was beneficial for ameliorating physical and mental health of patients with knee osteoarthritis.”
Wang, 2022 ²³	Parkinson’s disease (cognitive function)	Compared to usual care or no intervention, “Tai chi and Qigong were effective interventions to improve cognition in patients with Parkinson’s disease.”
Su, 2024 ²⁵	Post-stroke (disease-specific quality of life)	Compared to usual care and active therapy, qigong was “effective in improving quality of life for post-stroke patients.”
Lyu, 2021 ²⁶	Post-stroke non-motor disorders	Compared to active therapy, “there were no differences between Tai chi and conventional rehabilitation therapy in terms of improvements in post-stroke mental disorders.”
Niu, 2022 ²⁹	Sarcopenia	Compared with no training or health education, “Traditional Chinese Exercises has no significantly greater clinical effects in improving grip strength, but had significantly greater clinical effects in physical function” among patients with sarcopenia.

Three high-level observations can be made from the evidence mapping process to suggest that there is a stronger evidence base for the potential benefit of tai chi or qigong for some adult health conditions since the last synthesis of literature.

First, our update search identified 2 reviews describing conditions with high certainty of evidence and 16 reviews with moderate certainty of evidence of potential benefit of tai chi or qigong from reviews published since 2014. This is different from the last review, where tai chi or qigong had either no effect or unclear evidence of effect in most conditions.

Reviews with high certainty of evidence conclusions are for osteoporosis (bone mineral density) and hypertension (blood pressure). Reviews with moderate certainty of evidence conclusions are for breast cancer (disease-specific quality of life), cancer (anxiety), cancer (limb function), cancer-related fatigue, chronic low back pain (pain), chronic mechanical neck pain (pain), chronic obstructive pulmonary disease (pulmonary function), cognition - Parkinson’s disease, falls prevention (rate of falls), frailty in older adults (balance and mobility), heart failure (disease-specific quality of life/exercise capacity), insomnia (sleep quality), knee osteoarthritis (physical/mental health), post-stroke (disease-specific quality of life), post-stroke non-motor disorders (cognitive/sleep disorders), and sarcopenia (physical functioning).

Second, more than half of the 15 conditions identified to have high or moderate certainty of evidence conclusions for benefit of tai chi and qigong had included more than 10 primary studies as the basis for their conclusions.

Third, every review compared tai chi or qigong with another active therapy comparator. There were conditions or topic areas included in the last evidence map that had included reviews that did not have information about comparators. Lack of information about comparators significantly limits the ability to adequately interpret the effect of an intervention.

Adverse Events

Evidence about adverse events was collected by 18 of 26 (69%) reviews, with no serious adverse events reported. Two reviews included certainty of evidence for adverse events.^{8,16} The first review about falls prevention reported “moderate certainty for small harms (possibly 5-8 per 100 people) from any [adverse event], whereas there was low certainty for little-to-no harm for the more serious outcomes” in supervised, long-term group setting.¹⁶ Long term was defined in this review as “≥3 months or longer in duration.”¹⁶ The second review about fibromyalgia reported “2 adverse events (in 2 patients) judged to be possibly related to qigong practice: an increase in shoulder pain and plantar fasciitis” and “1 trial of tai chi reported no adverse events while the second trial reported that, across all intensities of tai chi versus aerobic exercise, there were no severe treatment-related adverse events and 5.3% (8/151) versus 5.3% (4/75) mild-moderate treatment-related adverse events.”⁸ Certainty of evidence for the first review was moderate and was insufficient for the second review.

Three other reviews provided additional details: One review about rheumatoid arthritis mentioned 2 primary studies provided “some narrative description of joint and muscle soreness and cramps; long-term adverse events were not reported.”²⁸ Another review about knee osteoarthritis reported “only 2 studies reported minor muscle soreness and lower extremity pain in individual patients during the first days of tai chi exercise.”²² The third review about chronic mechanical neck pain provided details about adverse events “reported by 23 patients in qigong group including: muscle soreness ($N = 17$), myogelosis ($N = 12$), vertigo ($N = 10$), other pain ($N = 4$), headache ($N = 3$), thirst ($N = 1$), engorged hands ($N = 1$), twinge in the neck ($N = 1$), urinary urgency ($N = 1$), bursitis of left shoulder ($N = 1$), nausea ($N = 2$), muscle tension ($N = 1$).”¹³

DISCUSSION

Our evidence map includes 26 systematic reviews published since January 2014, and from these, 2 reviews reported high certainty of evidence and 16 reviews reported moderate certainty of evidence for beneficial effect of tai chi or qigong. While many of these conditions were also represented in the previous evidence map, our search identified reviews with higher certainty of evidence conclusions of effect of tai chi or qigong on several adult health conditions. This represents a stronger evidence base for the use of tai chi or qigong in health care settings since 2014.

Strengths and Limitations

A strength of this evidence map compared to our prior map is that to be eligible for this map we required the authors of systematic reviews to formally assess the certainty (or strength) of their conclusions. Too many systematic reviews conclude with words to the effect that tai chi “may be an effective therapy for condition X, but more research is needed.” Such conclusions leave readers wondering how much certainty is contained in the word “may.” A strength of this map is that only reviews where certainty was formally assessed are included.

There are three main limitations. The first, common to all systematic reviews, is that we may not have identified all the potentially eligible evidence. If a systematic review was published in a journal not indexed in any of the 6 databases we searched, and we did not identify it as part of our search of references of included publications, then we would have missed it. Nevertheless, our search strategy did identify more than 450 publications about tai chi and qigong published since 2014, so we did not suffer from a lack of potential reviews to evaluate.

The second limitation, common to evidence maps, is that we did not independently reevaluate the primary studies included in eligible systematic reviews; in other words, we took the conclusions of the authors of included systematic reviews “at face value.” Particular to this application of the mapping process, for the health conditions that had more than 1 eligible review (*ie*, falls prevention, back pain), we only mapped the review we deemed most informative. This necessarily requires judgment, and others could disagree with that judgment. We included the citation for the review excluded from the map for this “overlap” reason in [Appendix](#), and interested readers can review it for additional information. As in all evidence-based products, and particularly in one such as this covering a large and complex evidence base, it is possible that there are errors of data extraction and compilation. We used dual review to minimize the chance of such errors, but if we are notified of errors, we will correct them.

Lastly, readers should note that the interpretation of the effect of tai chi or qigong for some health conditions may be limited by certain patient characteristics in some instances. For example, in the case of osteoporosis, it would appear that many studies were conducted in China, with Asian women as the focus of these studies. Since Asian women have different bone turnover metabolisms compared to other racial group/ethnicities (e.g., Caucasian, Hispanic, African American), findings may not be applicable and therefore should be interpreted with these differences in mind. Another example is falls prevention, with respect to applicability of findings to specific populations (*eg*, healthy ambulatory older adults, higher risk fallers, Parkinson’s disease, stroke, mild cognitive impairment, older adults living in assisted living facilities).

FUTURE RESEARCH

Although more conclusions with high or moderate certainty of evidence were identified in the current search, signaling a stronger evidence base for tai chi or qigong, 21 conditions were represented by 26 reviews, indicating that the most critical research need is for more high-quality primary studies about tai chi or qigong to be conducted about a wider range of conditions. For conditions of priority to the VA that currently do not have at least moderate-certainty evidence supporting use of tai chi or qigong, new studies that address limitations of existing research are needed.

More research on long-term effects will also increase the evidence base for tai chi and qigong. Moreover, it is critical to examine the effect of different styles of tai chi or qigong, as well as the effect of duration of practice. Since well-designed back-to-back comparisons of relative effectiveness of styles/forms are rare, it is unclear from the included reviews how readers are supposed to use or interpret findings in the context of style, and caution should be applied in interpreting statements of superiority of one form versus another. In addition, very few RCTs include formal protocols for systematically monitoring adverse events;³¹ thus, safety data should be interpreted cautiously. Future research should address these gaps.

CONCLUSIONS

This evidence map about tai chi and qigong included reviews published since 2014 and showed that tai chi and qigong's benefit on a few conditions is strong but remains relatively sparse for others. More high-quality randomized controlled trials are needed to provide an even stronger evidence base to assess the effect of tai chi and qigong on a wider range of adult health conditions.

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