Evidence on the benefits of mind-body Qigong exercise in women with breast cancer

Evidências sobre os benefícios do exercício mente-corpo Qigong em mulheres com câncer de mama

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Abstract

Introduction: Despite advancements in the diagnosis, treatment, and prognosis of breast cancer, many survivors experience a decline in psycho-emotional well-being and overall quality of life. Integrative practices, such as mind-body Qigong exercises, may positively influence factors that affect the quality of life in these patients. **Objective:** To synthesize evidence on the impact of Qigong practice on the quality of life of patients diagnosed with breast cancer. **Methods:** A systematic review and meta-analysis of randomized controlled trials was conducted, focusing on the effects of body-mind Qigong exercises in women with breast cancer. For relevant studies, we searched PubMed, Web of Science, Embase, and Cochrane Library databases. Eligible trials evaluated different Qigong techniques for outcomes related to improvements in quality of life. **Results:** Eight studies met the inclusion criteria, examining various Qigong exercise techniques in women with breast cancer. Reported outcomes included improved quality of life, mental health, fatigue, cognitive function, and physical capacity. Positive effects were observed across all variables. **Conclusion:** The findings suggest that Qigong has the potential to enhance the quality of life in breast cancer patients, whether in active treatment or remission. However, the integration of Qigong into standard oncology care requires further evidence from more robust studies.

Keywords: Qigong therapy. Complementary therapies. Evidence-based clinical practice. Holistic health. Breast cancer.

Resumo

Introdução: *Apesar dos avanços no diagnóstico, tratamento e prognóstico do câncer de mama, muitas sobreviventes apresentam declínio no bem-estar psicoemocional e na qualidade de vida geral. Práticas integrativas, como exercícios de Qigong mente-corpo, podem influenciar positivamente fatores que afetam a qualidade de vida dessas pacientes.* ***Objetivo:*** *Sintetizar evidências sobre o impacto da prática de Qigong na qualidade de vida de pacientes diagnosticadas com câncer de mama.* ***Métodos:*** *Realizou-se uma revisão sistemática e meta-análise de ensaios clínicos randomizados, com foco nos efeitos dos exercícios de Qigong corpo-mente em mulheres com câncer de mama. Para estudos relevantes, realizaram-se buscas nas bases de dados PubMed, Web of Science, Embase e Cochrane Library. Os ensaios clínicos elegíveis avaliaram diferentes técnicas de Qigong em busca de desfechos relacionados à melhoria da qualidade de vida.* ***Resultados:*** *Oito estudos preencheram os critérios de inclusão, examinando diversas técnicas de exercícios de Qigong em mulheres com câncer de mama. Os desfechos relatados incluíram melhora na qualidade de vida, saúde mental, fadiga, função cognitiva e capacidade física. Efeitos positivos foram observados em todas as variáveis.* ***Conclusão:*** *Os resultados sugerem que o Qigong tem o potencial de melhorar a qualidade de vida de pacientes com câncer de mama, seja em tratamento ativo ou em remissão. No entanto, a integração do Qigong ao tratamento oncológico padrão requer mais evidências de estudos mais robustos.*

Palavras-chave: *Terapia com Qigong. Terapias complementares. Prática clínica baseada em evidências. Saúde holística. Câncer de mama.*

Introduction

Breast cancer (BC) encompasses a group of neoplastic diseases originating in the breast tissue. These malignancies arise from the epithelial cells lining the mammary glands' ducts (85%) or lobules (15%). Initially, the cancer remains localized within the duct (ductal carcinoma in situ) or lobule (lobular carcinoma in situ), typically presenting with no symptoms and minimal risk of metastasis.[1,2]

BC is the most common malignancy among women in the Western world and the leading cause of cancer-related deaths in women aged 20 to 50, with a mortality rate of 15.9 per 100,000 inhabitants.[3-5] Globally, 2.3 million new cases and 670,000 deaths from female breast cancer occurred in 2022, with 1 in 4 cancer diagnoses and 1 in 6 cancer deaths among women being attributed to this disease.[6] While incidence rates are higher in developed countries, poorer clinical outcomes are often seen in low-income countries, where limited access to early detection and treatment plays a significant role.[7]

In recent years, advances in breast cancer diagnosis and treatment have led to substantial improvements in prognosis, with 5-year survival rates around 90% and 10-year survival at approximately 80%.[8] Despite these advances, many survivors experience deteriorations in their psychological well-being and overall quality of life, often linked to symptoms such as post-mastectomy edema, pain, fatigue, and neurological issues.[9,10] Factors like younger age at diagnosis and lower socioeconomic status are also associated with poorer mental health and quality of life outcomes.[11,12]

Given the increasing need for comprehensive care that addresses both the physical and psychological aspects of survivorship, integrative oncology has gained prominence. This approach combines conventional treatments with lifestyle interventions, mind-body practices, and evidence-based complementary therapies to improve patient's well-being and quality of life while mitigating treatment-related side effects.[13,14] In low- and middle-income countries, these complementary therapies are often more familiar, affordable, and accessible to patients.[15,16]

One such complementary therapy is Qigong, a traditional Chinese practice that has been used for over 5,000 years and is now gaining popularity in the West as a method for promoting physical and mental health.[17] Qigong and Tai Chi involve slow, intentional movements, coordinated breathing, and mental focus to strengthen the mind-body connection.[18,19] Recent meta-analyses have demonstrated Qigong's potential to alleviate fatigue, improve sleep, reduce depression, and enhance overall quality of life in cancer patients.[20]

Breast cancer survivors often face ongoing challenges such as reduced quality of life, decreased physical fitness, and altered body composition following treatment.[21] As the incidence of breast cancer continues to rise and patient survival increases, there is a growing need for new care strategies that address both the symptoms of the disease and the side effects of treatment.

This study aims to synthesize the evidence on the impact of Qigong practice on the quality of life of breast cancer patients.

Methods

This systematic review and meta-analysis followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines,[22] and adhered to the recommendations of the Cochrane Handbook for Systematic Reviews of Interventions (Version 6.2).[23] The review was registered in the PROSPERO database (CRD42023410156).

Research question and eligibility criteria

We applied the PICO framework to define the research question. The formulated question was: How effective is health Qigong compared to other exercise techniques or interventions in improving outcomes related to the quality of life in women with breast cancer (either in remission or undergoing active treatment)?

Eligibility criteria included: 1) randomized clinical trials as a methodological design, published or not; 2) studies with one intervention arm involving Qigong practice for women diagnosed with breast cancer (under treatment or in post-cancer rehabilitation) with outcomes related to quality of life, immune system changes, hemodynamic changes, fatigue, mental health, cognitive function, or physical capacity; 3) various forms of Health Qigong, including Yijinjing, Wuqinxi, Liuzijue, Baduanjin, and Six Healing Sounds. Other forms of Qigong were considered based on reviewer assessment. Exclusion criteria were studies where the intervention was applied in clinical contexts unrelated to breast cancer and those not available in full text.

Search strategy

We conducted a comprehensive search using Pub Med, Cochrane Library, Embase, and Web of Science databases. The search strategy included terms related to Qigong and breast cancer, combined with filters for clinical trials and randomized controlled trials, as presented in Table 1.

A manual search for gray literature was also performed in Google Scholar, ClinicalTrials.gov, medRxiv, and Gray Literature Report. We also reviewed reference lists of retrieved studies for additional eligible articles.

Table 1 - Databases and corresponding search strategies

Pubmed MEDLINE	((((((((((((((((((Qi Gong) OR (Qi Gong[Title/Abstract])) OR (Ch'i Kung)) OR (Ch'i Kung[Title/Abstract])) OR (Yijinjing)) OR (Yijinjing[Title/Abstract])) OR (Wuqinxi)) OR (Wuqinxi[Title/Abstract])) OR (Liuzijue)) OR (Liuzijue[Title/Abstract])) OR (Baduanjin)) OR (Baduanjin[Title/Abstract])) OR (Six Healing Sounds)) OR (Six Healing Sounds[Title/Abstract]))) AND (Breast Cancer)) OR (Breast Cancer[Title/Abstract])) OR (Breast Neoplasms)) OR (Breast Neoplasms[Title/Abstract]) . Filters applied: Clinical Trial, Randomized Controlled Trial.
Web of Science	TS("Qi Gong" OR "Ch'i Kung" OR "Yijinjing" OR "Wuqinxi" OR "Liuzijue" OR "Baduanjin" OR "Six Healing Sounds") AND TS("Breast Cancer" OR "Breast Neoplasms") AND TS ('Clinical Trial" OR "Randomized Controlled Trial" OR Trial). Limits: All Languages. All document types.
Cochrane CENTRAL	*("Qi Gong" OR "Ch'i Kung" OR "Yijinjing" OR "Liuzijue" OR "Baduanjin" OR "Six Healing Sounds") in Title Abstract Keyword AND ("Breast Cancer" OR "Breast Neoplasms") in Title Abstract Keyword - (Word variations have been searched).
Embase	("Qi Gong"/exp OR "Ch'i Kung"/exp OR "Yijinjing"/exp OR "Baduanjin"/exp OR "Liuzijue"/exp OR "Six Healing Sounds"/exp) AND (Breast Cancer /exp" OR "Breast Neoplasms"/exp) AND [randomized controlled trial]/lim.

Study selection and data extraction

Two reviewers independently assessed all articles identified through the search, extracting data and cross-referencing their results. After applying the eligibility criteria, each reviewer compiled a list of eligible studies and excluded those not meeting the inclusion criteria. Any discrepancies in the inclusion or exclusion of studies were resolved through consultation with a third reviewer. The screening process was conducted in two stages: an initial screening based on the titles of studies and a full-text review of studies that passed the first stage.

Data were extracted for both qualitative and clinical variables from the final list of included studies. Qualitative data included authors, year of publication, country of origin, journal, and publication database. Clinical data included the total number of participants in each study, details of the intervention group (such as the number of individuals and the type of Qigong practiced), details of the control group, and the outcomes analyzed, including any reported adverse events.

Risk of bias assessment

The Cochrane Risk of Bias Tool was applied using the Review Manager software (version 5.3) to assess the internal validity of the studies. Studies were evaluated for potential biases in the following domains: selection (random sequence generation), performance (blinding of participants and professionals), detection (blinding of outcome assessors), attrition (loss of participants that could lead to heterogeneity between groups), and reporting (selective outcome reporting). Each domain was classified as presenting low, high, or unclear risk of bias.

Additionally, studies were categorized based on the method of allocation concealment, as defined by the Cochrane Handbook. Category A was assigned to studies with an adequate description of the allocation process, Category B to those where randomization was evident despite a lack of detailed description, Category C to studies where allocation secrecy was inadequately conducted (for example, by using an arrival list), and Category D to those where no evidence of randomization was provided.

Results

A total of 341 studies were identified through the search strategy. After removing duplicates, 331 studies were screened based on their titles and abstracts. From this first screening, 290 studies were excluded due to irrelevance or failure to meet inclusion criteria. After the second screening, which involved full-text reading, eight studies were included in the final qualitative synthesis (Figure 1).

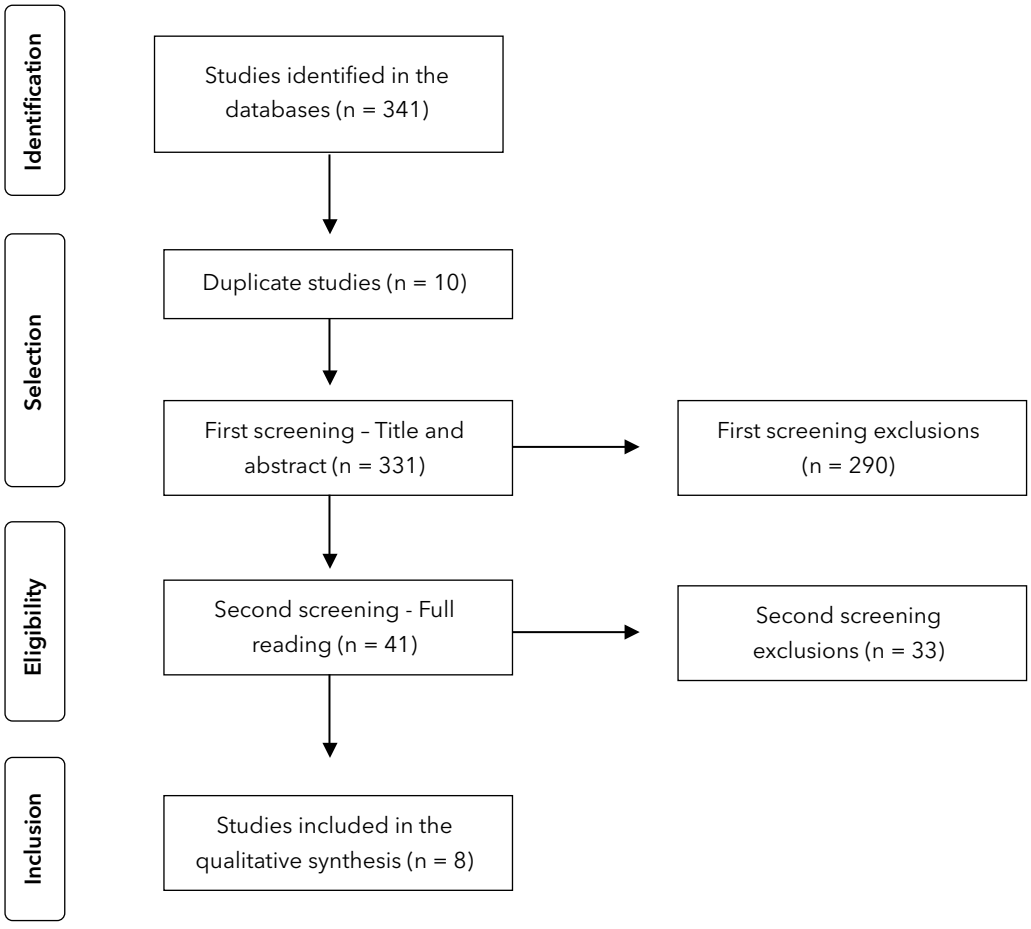

Figure 1 - Prisma flowchart (identification, sorting, selection, and inclusion) of retrieved studies.

Study characteristics and synthesis

Table 2 provides a narrative summary of the eight studies in the review, detailing their authors, methodologies, countries of origin, and publication sources. Most studies employed randomized clinical trial designs, providing an evidence base for assessing the efficacy of Qigong interventions. The included studies highlight the global reach of Qigong as a therapeutic intervention. Studies were conducted across multiple countries, including China,[24,25] Hong Kong,[26,27] the United States,[28-30] and Brazil.[31] This geographic diversity underscores the growing global interest in Qigong for cancer recovery.

Table 3 summarizes the clinical data from the randomized trials, detailing participant numbers, intervention types, control groups, and primary outcomes. Various Qigong forms, including Eight Strands of the Brocade Qigong,[31] Baduanjin,[24,25] the Six Healing Sounds,[28] Guolin-Qigong,[26] and Tai Chi Qigong [27,29,30] were employed across the studies. These interventions, though diverse, generally demonstrated positive effects on breast cancer survivors, improving physical and mental health outcomes.

Quixadá et al.[31] showed that Eight Strands of the Brocade Qigong reduced post-surgical pain and fatigue after a 12-week intervention. Similarly, studies on Baduanjin by Liao et al.[24] and Ying et al.[25] reported significant improvements in sleep quality, heart rate variability, and depression reduction. Liu et al.[26] found that Guolin-Qigong improved emotional well-being and reduced anxiety, while Fong et al.[27] demonstrated that Tai Chi Qigong enhanced blood oxygenation and quality of life with no adverse effects. Larkey et al.[29,30] also explored Qigong's impact on quality of life and cognitive function, though variability in interventions limited statistical significance in some comparisons. Due to substantial heterogeneity in the intervention protocols (e.g., different forms of Qigong, varying durations, and frequencies) and differences in the primary outcomes reported, it was not feasible to conduct a meta-analysis.

Table 2 - Summary of study characteristics and general data

Author/ Year	Country	Title	Methodology	Journal/Database
Quixadá et al. (2022)[31]	Brazil	Qigong training positively impacts both posture and mood in breast cancer survivors with persistent post-surgical pain: support for an embodied cognition paradigm	Single-arm pilot clinical trial	Front Psychol/Pubmed
Liao et al. (2022)[24]	China	Baduanjin's impact on quality of life and sleep quality in breast cancer survivors receiving aromatase inhibitor therapy: a randomized controlled trial	Randomized clinical trial	Front Oncol/Pubmed
Myers et al. (2019)[28]	United States	Qigong intervention for breast cancer survivors with complaints of decreased cognitive function	Randomized clinical trial	Support Care Cancer/ Pubmed
Ying et al. (2019)[25]	China	The health effects of Baduanjin exercise (a type of Qigong exercise) in breast cancer survivors: A randomized, controlled, single-blinded trial	Randomized clinical trial	Eur J Oncol Nurs/ Pubmed
Liu et al. (2017)[26]	Hong Kong	The efficacy of Guolin-Qigong on the body-mind health of Chinese women with breast cancer: a randomized controlled trial	Randomized clinical trial	Qual Life Res/Pubmed
Fong et al. (2017)[27]	Hong Kong	Tai Chi Qigong for survivors of breast cancer: a randomized controlled trial	Single-arm pilot clinical trial	The Lancet/ Google Scholar
Larkey et al. (2016)[29]	United States	Exploratory outcome assessment of Qigong/Tai Chi Easy on breast cancer survivors	Randomized clinical trial	Complement Ther Med/ Pubmed
Larkey et al. (2015)[30]	United States	Randomized controlled trial of Qigong/ Tai Chi easy on cancer-related fatigue in breast cancer survivors	Randomized clinical trial	Ann Behav Med/ Pubmed

Table 3 - Summary of clinical data from randomized trials

Author/ Year	Intervention	Comparison	Main Findings
Quixadá et al. (2022)[31]	Single arm: 12 weeks of therapeutic Qigong mind-body training Brocade Eight Strands Qigong focuses on a sequence of eight movements involving the upper and lower extremities and the upper body (n = 21)	–	There was a reduction in pain intensity (with persistent post-surgical pain) and fatigue.
Liao et al. (2022)[24]	Baduanjin exercises for 12 weeks. Two supervised 90-minute sessions per week (n = 33)	Waiting list (n= 35)	Baseline values for quality of life did not differ between groups. Quality of life and physical functioning global scores significantly increased by 12.39 ($p < 0.001$) and 8.48 ($p < 0.001$) in the Baduanjin exercise group compared with those in the control group. Baduanjin exercise training led to improvement in quality of life and sleep quality.
Myers et al. (2019)[28]	8 weekly sessions of 60 minutes Qigong (n = 19) Light exercise (n = 20) Support group (n = 11)	–	Self-reported cognitive function improved more for the Qigong group ($p = 0.01$). Qigong participants reported the greatest reduction in distress ($p = 0.02$). There was an overall dropout rate of 28%.
Ying et al. (2019)[25]	Baduanjin exercise (a type of Qigong) 3 days/week in the hospital and another 4 days/week at home for 6 months (n = 46)	Original physical activity (n = 40)	After 6 months, heart rate variability and shoulder range of motion significantly improved in the Baduanjin group compared with the control group ($p < 0.05$).
Liu et al. (2017)[26]	Guolin-Qigong twice a week for 24 weeks (n=79)	Physical stretching program (n= 79)	Improvements in quality of life were evident in both groups. However, the Qigong group fared better than the control group at week twelve ($p < 0.01$) and particularly in emotional well-being ($p < 0.01$) and breast cancer-specific well-being ($p < 0.001$). The intervention group showed a reduction in anxiety ($p < 0.01$).
Fong et al. (2017)[27]	Tai Chi Qigong (TCQ) (n = 33)	No training (n = 21)	The TCQ programme improved blood oxygenation and quality of life. No adverse events were reported.
Larkey et al. (2016)[29]	A set of 10 Qigong exercises based on Tai Chi Easy (TCE) practices (n = 42)	Sham Qigong (SQG) Smooth movement control similar to SQG/ TCE, but without the focus on breathing and meditative state (n = 45)	Practices that include gentle movement among women with a history of breast cancer can improve many facets of the cancer experience, including quality of life, cognitive function, and physical activity patterns. There was no statistical difference between the groups for the analyzed outcomes.
Larkey et al. (2015)[30]	12 weeks of Qigong/ Tai Chi Easy (QG/TCE) (n = 42)	Sham Qigong (n = 45)	Fatigue significantly decreased in the QG/TCE group compared with post-intervention control ($p = 0.005$) and 3-month follow-up ($p = 0.024$), but not depression and sleep quality.

Methodological quality and bias assessment

The methodological quality of the included studies was critically assessed using five domains of bias (Figure 2). Regarding allocation concealment, four studies were classified as Category A, meaning they used a robust randomization process such as computer-generated random numbers or a randomization schedule.[24,25-27] One study was assigned Category B, which mentioned participant randomization without clear details.[28] Two studies were categorized as Category C, as they used inappropriate participant allocation methods.[29,30] One study fell into Category D, indicating a complete absence of randomization methods.[31]

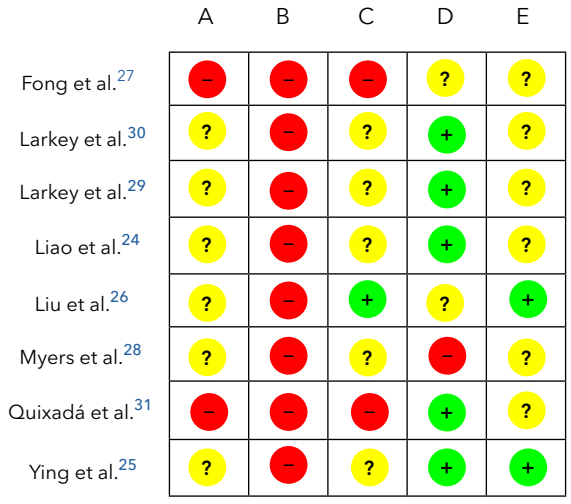

Figure 2 - Risk bias summary - Review Manager 5.3.

Note: A = selection bias (allocation concealment). B = performance bias (bliding of participants and personel). C = detection bias (bliding of outcomes assessment. D = atrition bias = incomplete outcome data. E = reporting bias (selective reporting). + Low risk of bias. - High risk of bias. ? Undetermined risk of bias.

Discussion

Physical practices such as Qigong, recognized for their psychological and social rehabilitation benefits, are increasingly seen as vital for enhancing mood, self-confidence, and physical function in breast cancer survivors.[32-34] Evidence suggests that Qigong, which integrates gentle movements, breathing, and meditation, can serve as a complementary therapy for improving quality of life and alleviating symptoms such as depression, anxiety, and fatigue in cancer patients.[35] The main components of Qigong – awareness, breathing, body movement, and qi regulation – are especially suited to the holistic needs of breast cancer survivors, making it a promising tool for recovery.[34,36,37]

Breast cancer treatments like surgery, chemotherapy, and radiotherapy, though effective, often lead to side effects that significantly affect quality of life. Symptoms such as fatigue, anxiety, depression, and sleep disorders impact about 50% of cancer patients, leading to emotional distress and diminished well-being.[25,29,38] Physical activity, including Qigong, has been shown to alleviate these symptoms, improving mood and social engagement by releasing neurotransmitters associated with well-being.[39]

Several studies reviewed indicate that Qigong techniques can significantly enhance physical and mental health in breast cancer survivors.[24,26,27,29] These techniques have been linked to improved social functioning, emotional stability, and overall well-being. Additionally, Qigong promotes spiritual well-being, which is associated with reduced depressive symptoms and improved psychological health.[40] Although systematic reviews and meta-analyses support the use of Qigong in cancer recovery, these recommendations are based on low-quality evidence imposed by clinical heterogeneity and different treatment protocols.[19,41,42] More rigorous, standardized research is needed to understand better the full benefits of Qigong for breast cancer survivors.

Fatigue is a common and persistent symptom in breast cancer survivors, often lasting years after treatment.[43] Up to one-third of survivor's experience fatigue long after treatment ends, and it is often accompanied by sleep disturbances and autonomic dysfunction, increasing morbidity and mortality rates.[24,44,45] In addition, fatigue, sleep disorders, and autonomic nervous system disorders are related to increased morbidity and mortality rates in breast cancer patients.[46]

Mind-body therapies like Qigong have been shown to alleviate fatigue and related symptoms in cancer survivors.[47,48] Studies indicate that regular Qigong practice – 20 minutes a day, three times a week for 12 weeks – can significantly reduce fatigue and improve both mood and physical capacity.[49,50] Qigong may also regulate biological markers like cortisol, which are linked to fatigue, stress, and inflammation.[51] The literature shows that increased levels of IL-6 and cortisol are associated with adverse outcomes such as depression, anxiety, fatigue, and sleep disturbances. Different Qigong techniques can regulate cortisol levels in the body.[30,45] However, the varied protocols used in different studies result in inconsistent outcomes. Standardizing Qigong interventions across trials would help clarify its impact on fatigue and other cancer-related symptoms.

Breast cancer treatments can lead to physical inactivity and decreased muscle strength, resulting in long-term disability and fatigue. Reduced physical capacity limits daily functioning and negatively impacts overall well-being.[24,34] A smooth training program of Qigong exercises provides an alternative option to increase physical activity levels and reduce fatigue in cancer survivors. The results indicated that the Qigong practice improves the body's overall disposition and functionality.[17,25,29]

Several physical benefits have been described, such as reduction of physical tension, improvement in strength, flexibility, and balance,[17] and reduced heart rate.[44] In addition, as an indirect effect, Qigong can improve the body's adaptation to relieve negative emotions and overall quality of life.[44]

The reviewed studies suggest that Qigong can improve cardiovascular health, reduce heart rate, and enhance shoulder mobility in patients undergoing breast cancer treatments.[17,27] It has also been shown to improve postural balance and reduce functional loss, with benefits extending to static and dynamic balance control.[52,53]

A growing body of evidence supports Qigong as a valid and safe alternative or complementary therapeutic exercise.[54,55] In addition, exercise may benefit functional capacity in patients with advanced cancer, especially if supervised.[56] However, future trials are needed to consolidate the effect of the practice on breast cancer.[41,55]

Cognitive impairment, often referred to as "chemobrain," is a common issue among breast cancer survivors, affecting memory, attention, and executive function. These deficits interfere with daily functioning and reduce overall quality of life, leading many survivors to seek non-pharmacological interventions to manage cognitive decline.[44,57,58]

Physical exercise, particularly mind-body exercises like Qigong, has shown a potential to improve breast cancer patient's cognitive function. Qigong's emphasis on mindfulness and concentration may enhance cognitive abilities and reduce distress, setting it apart from other forms of exercise.[28,31] Exercises based on mindfulness (Qigong) may be superior to other exercise modalities, considering the improvement in cognitive function and distress after treatment for breast cancer.[17,28] In addition, the focus and concentration required in Qigong are indicators that differentiate the positive results from other exercises.[30] Therefore, these exercises may be a promising intervention to address complex biopsychosocial interventions.[31]

Despite these promising results, the evidence for Qigong's impact on cognitive function is still limited. Future research should focus on both objective and self-reported cognitive outcomes to better understand the role of Qigong in managing cognitive impairments in cancer survivors.[57,59]

This review contributes to the ongoing discourse in integrative oncology by highlighting both the potential benefits and limitations of Qigong as a complementary therapy for women with breast cancer. A strength of this study is its comprehensive examination of diverse Qigong interventions and their impact on physical and mental health outcomes. Including multiple randomized trials offers valuable insights into the global application of Qigong for cancer survivors.

However, the study is limited by significant heterogeneity in intervention protocols, making direct comparisons across studies challenging and preventing a meta-analysis. Moreover, excluding Chinese-language studies may have led to an incomplete representation of relevant research. Small sample sizes and variable outcome measures further limit the generalizability of the findings, underscoring the need for more robust and standardized research.

Additionally, the included studies described female survivors of stage 0-III breast cancer after completion of primary treatment (including surgery, radiotherapy or chemotherapy). It is important to note that no data were identified on the specific types of surgical interventions performed. This represents a potential source of clinical heterogeneity, since different types of surgeries may result in different levels of movement limitations.

While complementary and alternative medicine, including traditional Chinese exercises like Qigong, shows promise as a holistic care option, its integration into oncological treatment protocols requires more robust evidence. Future research should prioritize larger, well-designed clinical trials with standardized Qigong protocols and reduced variability to more accurately assess its efficacy and ensure broader applicability in clinical practice.

Conclusion

This systematic review highlights the potential benefits of Qigong in improving the quality of life for breast cancer patients, whether undergoing active treatment or in remission. Regular practice of Qigong exercises was associated with improvements in key variables such as fatigue, sleep quality, physical conditioning, and cognitive function. However, the current evidence is insufficient to recommend the routine use of mind-body Qigong exercises as an adjuvant therapy for breast cancer treatment. This conclusion is due to the low methodological quality of the included studies, small sample sizes, and the clinical heterogeneity that prevented synthesis and grading of evidence across different study types.

Authors' contributions

MMD was responsible for the project design, methodological outline and writing; JACR and JLSA, for the search strategy, selection and evaluation of articles and narrative synthesis; PPO, for data analysis, manuscript standardization and preparation of tables and figures; PKH, for the review and final writing, article curation, and translation; SOI, for supervising and coordinating the project, administrative and financial support.

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