MIND-BODY EXERCISES FOR CANCER RELATED SYMPTOMS MANAGEMENT: A SCOPING REVIEW INCLUDING ONE HUNDRED AND TWENTY-NINE META-ANALYZES

María Jesús Casuso-Holgado PhD [a,b]; Alberto Marcos Heredia-Rizo PhD [a,b]; Paula Gonzalez-Garcia PhD [a]; María Jesús Muñoz-Fernández PhD [b,c*]; Javier Martinez-Calderon PhD [a,b]

[a] Department of Physiotherapy, Faculty of Nursing, Physiotherapy and Podiatry, University of Seville, 41009 Seville, Spain.

[b] Uncertainty, Mindfulness, Self, Spirituality (UMSS) Research Group, University of Seville, Seville, Spain.

[c] Department of Physiotherapy, University School Francisco Maldonado, Avd. de los Cipreses s/n, 41640 Osuna, Spain.

*Corresponding author. Department of Physiotherapy, University School Francisco Maldonado, Avd. de los Cipreses s/n, 41640 Osuna, Spain. Tlf.: +34 673481710 Email address: mariajmf@euosuna.org

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ABSTRACT

Purpose: Mind-body exercises (e.g yoga, tai chi, qigong) are interesting approaches that combine physical movements, deep breathing, and mental strategies to improve the way people self-care. To summarize the available evidence supported by systematic reviews with meta-analysis on the effectiveness mindful exercises for symptoms management in adults with different cancer diagnoses. **Methods**: A scoping review was developed. CINHAL, EMBASE, PsycINFO, PubMed, and the Cochrane Plus Library were searched until March 2022. Cancer-related fatigue, pain, psychological factors, and overall quality of life were the outcomes of interest. The AMSTAR 2 tool was used to evaluate the methodological quality of each included review. Citation matrices and the corrected covered area were developed and calculated to explore the potential overlap between reviews. **Results:** A total of 38 systematic reviews including one hundred and twenty-nine meta-analyzes meeting our selection criteria were included. Some items of the AMSTAR 2 tool were poorly satisfied. The overlap was moderate for the qigong trials and high for both the tai chi trials and the yoga trials. Qigong may be an interesting approach to reduce cancer-related fatigue. Tai chi appears to produce great benefits in reducing anxiety. Yoga has been found to be superior to controls in improving overall quality of life and psychological factors such as anxiety, depression, distress, and stress. **Conclusions**: Qigong, tai chi, and yoga could be effective approaches to reduce concrete outcomes in people with cancer. Clinical and methodological considerations are discussed.

Keywords: cancer; qigong; meta-analysis; systematic review; tai chi; yoga.

INTRODUCTION

Cancer worldwide affects almost 20 million people every year [1]. Although its survival rates have improved in recent decades particularly when an early diagnosis is possible [1–3], many symptoms remain after interventions, causing chronicity emerge [4,5]. Physical and psychological problems provoke enormous suffering to cancer survivors [6–9], which affects the way they cope with daily activities, social and family relationships, and their own sense of being [10]. Cancer survivorship care plans should aim to include multimodal interventions that focus on improving biopsychosocial well-being and self-care skills [11–13]. Mindful exercises are an interesting approach to achieve it. These exercises combine physical movements, deep breathing, and mental strategies (e.g., meditation) to improve motivation [14], self-management [15], self-states (e.g. self-efficacy) [16], and spiritual well-being [17].

Qigong, tai chi, and yoga are the most common mindful exercises in health research. These approaches have shown positive effects on brain health [18,19] in different populations and greater benefits in managing chronic symptoms [20–23]. Systematic reviews have been published evaluating whether these interventions are effective to improve outcomes in people with cancer [24–29]. However, no specific scoping or umbrella reviews have been conducted on this topic. This type of reviews present attractive content to summarize large amounts of evidence [30]. This design helps to achieve higher-level synthesis and recognize potential uncertainties, biases, and knowledge gaps [30]. This review aims to synthesize the available evidence on the effectiveness of qigong, tai chi, and yoga on cancer-related fatigue, pain, psychological factors, and overall quality of life in people with different cancer diagnoses.

METHODS

This umbrella review followed the Preferred Reporting Items for Overviews of Systematic Reviews (PRIO-harms) [31]. The review protocol was prospectively registered on the Open Science Framework (OSF) registries (https://doi.org/10.17605/OSF.IO/9HUCR).

Protocol Deviations

Some information that was published in our review protocol was not included in this umbrella review: mean age and sex distribution. Consensus in the review selection process was only discussed with one researcher.

Data Sources and Search Strategy

One researcher (MJMF) searched the following electronic databases from inception until March 15, 2022: CINHAL, EMBASE, PsycINFO, PubMed, and the Cochrane Plus Library. Medical Subject Headings (MeSH) terms related to the intervention (e.g., qigong, tai chi, yoga) and condition (e.g., cancer, neoplasm) were combined to develop a comprehensive search strategy for each database. Another researcher (MJCH) manually checked the reference lists of similar overviews after our review selection process was completed. The detailed strategy search is found in **Supplementary File A**.

Eligibility Criteria

The PICO framework (Population, Intervention, Comparison, Outcome) [32] was followed to develop our eligibility criteria:

Inclusion criteria

Systematic reviews [33] written in English or Spanish with meta-analysis of at least two randomized controlled trials (RCTs) including:

(P): Adults with any cancer diagnosis at any stage of treatment or disease.

(I): Any qigong, tai chi, or yoga style.

(C): There are no restrictions with respect to the control group.

(O): Cancer-related fatigue, pain, psychological factors (e.g., anxiety), and overall quality of life.

Only publications in peer review journals were included. Ethnicity, gender, or setting restrictions were not imposed.

Exclusion Criteria

Systematic reviews where their meta-analyzes did not separately evaluate qigong, tai chi, or yoga from other interventions (e.g., other types of exercises); cancer from other chronic disease; or randomized from

nonrandomized trials. Meta-analyzes based on indirect comparisons (network meta-analysis) were also excluded.

Review Selection

Duplicates were removed using the Mendeley desktop citation management software v1.19.8 and manually checked (MJCH). All records were screened by the same researcher based on title/abstract. Subsequently, the full texts of those studies that were potentially eligible or with unavailable abstracts were revised following our eligibility criteria. Consensus was reached with JMC, when necessary.

Data extraction

The following information was extracted from each review: first author and year of publication, implemented risk of bias tools, availability or not of the Grading of Recommendations, Assessment, Development and Evaluations (GRADE) approach [34], RCTs that we selected in our umbrella from the included reviews, the number and diagnoses of participants, experimental and control groups, main findings (effects sizes). We tried to extract the information from meta-analyzes based on their overall effects. When a review did not report an overall effect or this did not satisfy our inclusion criteria, we decided to extract the information from subgroup analysis in the following order: time-point effects, health conditions, type of experimental group, type of control group.

Methodological quality

Two researchers (PGG, AMHR) independently used the AMSTAR-2 tool [35] to evaluate the methodological quality of the included reviews. This instrument is composed of 16 items that are rated as 'yes', 'no' or 'partial yes'. In this umbrella review, an overall confidence score was not built following the recommendations of the tool developers [35]. We considered the potential impact of an inadequate score of each item, particularly for those labeled as critical domains (items 2, 4, 7, 9, 11, 13, 15) [35]. Disagreements were resolved by consensus.

Data Synthesis

The available evidence was narratively synthesized according to the type of experimental group (qigong, tai chi, or yoga) and the outcomes of interest (cancer-related fatigue, pain, psychological factors, and overall quality of life). We also organized this information into three different data synthesis tables. Citation matrices were developed to calculate the “Corrected Covered Area” (CCA) [36] that is needed to detect the presence of potential overlap between the included reviews. The overlap can be slight (CCA<6%), moderate (6-10%), high (11-15%), and very high (CCA>15%) [36]. Finally, a co-occurrence analysis and

bibliometric mapping were performed with the software VOS Viewer v. 1.6.18 (www.vosviewer.com/), using the keywords reported by the included reviews through a complete counting method. This analysis aimed to identify the most relevant terms in all reviews.

RESULTS

The electronic databases retrieved 1,266 references. A total of 1,078 titles and abstracts were checked after removing duplicates. Finally, 124 full texts were evaluated, including 38 systematic reviews including one hundred and twenty-nine meta-analyses of our interest (**Figure 1**). The reasons for exclusion in the last screening process (n = 86) are listed **Supplementary File B**. Some meta-analyses were not included in our umbrella review. **Supplementary file C** lists the reason to exclude from this umbrella review some potential meta-analyzes that were performed in the included reviews.

A total of six additional reviews were found during the manual search. Any of them met our inclusion criteria (**Figure 1**). A total of 134 original trials were retrieved from included reviews without double counting. Breast cancer was the most common diagnosis in all reviews. Yoga was often evaluated in the included reviews. The included reviews often used the Cochrane Risk of Bias Tool [37] to assess the risk of bias of their included trials. The GRADE approach was only applied for 18.42% of the included reviews to judge the overall certainty of the evidence.

Co-occurrence Analysis

The network and density visualizations found that some keywords were interrelated. The most common words were breast cancer, depression, fatigue, meta-analysis, qigong, quality of life, systematic review, tai chi, and yoga **(Figures 2 and 3).**

Overlapping

Included reviews returned 378 original trials. Of these, there were 134 trials without double counting. The overlap was moderate for the qigong trials (CCA = 9 %), high for both, the tai chi trials (CCA = 11%) and the yoga trials (CCA = 12%). S**upplementary files D-F** show all the citations matrices and the CCA calculations.

AMSTAR 2 Rating

The AMSTAR 2 tool found some concerns about the review protocol, how the review authors decided to include a determined research design, and the lack of information related to the excluded studies in the last

screening. Furthermore, information associated with the sources of funding was often unavailable for those clinical trials that were included in each review **(Supplementary G).**

Qigong for Cancer

Nine reviews [24,25,38–44] evaluated the effects of qigong on cancer **(Table 1).**

Qigong and Cancer-related fatigue

Qigong was often more effective than controls in improving cancer-related fatigue [25,38–40]. Only one review explored a specific cancer diagnosis, breast cancer [24], concluding that qigong was not more beneficial than controls. Mixed results were found in one review when findings were evaluated by subgroups of time-point effects [41].

Qigong and Anxiety

Mixed cancer diagnoses were explored in four reviews [24,39,40,42]. No differences were often observed between groups [39,40,42].

Qigong and Depression

Mixed cancer diagnoses were analyzed in five reviews [24,39–42]. Most reviews found no differences between groups [39–42].

Qigong and Stress

Qigong was not better than controls in decreasing stress between mixed cancer diagnoses [40].

Qigong and Overall quality of life

Two reviews showed positive effects of qigong on improving overall quality of life, including mixed cancer diagnoses [25,39]. However, qigong was not superior to controls in most reviews [40,42–44].

Tai Chi for Cancer

Twelve reviews [26,27,42,43,45–52] analyzed the effects of tai chi on cancer **(Table 2).**

Tai chi and Cancer-related fatigue

Inconclusive findings were found. Three reviews concluded that tai chi was superior to controls in reducing cancer-related fatigue [42,47,48], while two reviews found no differences between groups [26,49]. A review observed the presence of mixed results when the findings were analyzed by subgroups of time-point effects [27].

Tai chi and Cancer-related pain

A review showed that tai chi was not superior to controls in decreasing pain in people with breast cancer [50]. Another review found mixed results when the findings were evaluated by subgroups of time-point effects in the same clinical condition [48].

Tai chi and Anxiety

Tai chi was more beneficial than controls in reducing anxiety in people with breast cancer [48,51].

Tai chi and Depression

Tai chi was more effective than controls in decreasing depression in people with mixed cancer diagnoses [52], but this effect was not maintained in reviews that specifically evaluated breast cancer participants [49,51].

Tai chi and Overall quality of life

The effects of tai chi on overall quality of life were inconclusive. Three reviews showed positive effects in favor of tai chi [45,48,49], while four reviews found that this intervention was not superior to controls [43,46,50,52].

Yoga for Cancer

Twenty-two reviews [28,29,42,44,45,53–69] analyzed the effects of yoga on cancer **(Table 3).**

Yoga and Cancer-related fatigue

Inconsistent results were found. Seven reviews showed positive effects in favor of yoga to reduce fatigue [28,53,65–69], while no differences were found between groups in seven reviews [42,44,54–58]. Two reviews observed mixed results when the findings were analyzed by subgroups of the type of control group or time-point effects [59,60].

Yoga and Cancer-related pain

The effects of yoga on pain were inconsistent in people with breast cancer. One review found that yoga was superior to controls in reducing pain severity [66], but no differences between groups were observed in another review [56].

Yoga and Anxiety

Most reviews showed that yoga was more effective than controls in reducing anxiety [29,42,53,56,57,61,66,69]. Only one review found no differences between groups [58]. Two reviews found mixed results when the results were assessed by subgroups of the type of control group or time-point effects [59,62].

Yoga and Depression

Yoga produced more benefits than controls in decreasing depression in most reviews [28,29,42,53,56,57,62,66,69]. Three reviews found no differences between groups [58,63,68]. Mixed results were observed when the analysis was performed by subgroups of the type of control group or time-point effects [59,61].

Yoga and Distress

Three reviews found positive effects in favor of yoga in decreasing distress [57,62,69]. Specifically, a review concluded that yoga was not superior to controls in people with breast cancer [58]. Another review showed mixed results when the findings were evaluated by subgroups of time-point effects [61].

Yoga and Stress

Yoga was superior to controls in reducing stress in three reviews [57,62,66]. No differences between groups were found in one review [42]. A review showed mixed results when the analyzes were carried out by subgroup of time-point effects [61].

Yoga and Overall quality of life

Seven reviews showed that yoga is superior to controls in improving overall quality of life [45,53,56,58,61,64,69], while no differences between groups were found in four reviews [28,42,44,57]. Mixed results were found when the findings were evaluated by subgroups of the type of control group or time-point effects [59,60].

DISCUSSION

This umbrella review provided an overview of the effectiveness of qigong, tai chi, and yoga in modulating cancer-related fatigue, pain, psychological factors, and overall quality of life in adults with any type of cancer. Thirty-eight systematic reviews including one hundred and twenty-nine meta-analyzes were evaluated. In general, qigong, tai chi, and yoga were found to be beneficial in improving most of the outcomes of interest. Mostly, qigong was more effective than controls in reducing cancer-related fatigue in different types of cancer (e.g., breast, prostate, or colorectal). Tai chi could be more beneficial than controls in reducing anxiety in women with breast cancer. Yoga was shown to be superior to controls to improve overall quality of life and reduce negative psychological factors such as anxiety, depression, distress, and stress in people with different cancer diagnoses (e.g., breast, prostate, or lymphoma).

Previous overviews have focused their efforts on exploring breast cancer [20,70–74]. This umbrella review supports previous findings that were observed for tai chi in reducing cancer-related fatigue [71] and for the

benefits yoga offers on quality of life [20,73] and psychological well-being (anxiety and depression) [73]. Another important point is related to the inconclusive results that were found in previous reviews and ours regarding tai chi and qigong for quality of life [20,74] and yoga for cancer-related fatigue [71].

On the other hand, we found different results compared to previous findings [21,70,75] when different cancer diagnoses are combined, probably due to the smaller number of systematic reviews analyzed in these previous overviews. For example, this umbrella review found that the effectiveness of tai chi was inconclusive for fatigue and overall quality of life, while a previous overview concluded that moderate to high effects were found in favor of tai chi for these outcomes [70]. Another overview found no differences directly between tai chi or qigong and controls to improve quality of life [75]. Finally, a recent overview supports our results of tai chi in terms of fatigue but not pain and quality of life [21]. We hypothesize that more robust conclusions could be drawn if homogeneity in the general characteristics of the participants (e.g., age range, or cancer diagnosis) were controlled. Differences in exercise behaviors, barriers and facilitators to physical activity may differ among different cancer populations, stage of treatment or disease [76–79]. Physical activity preferences of cancer patients should be also taken into consideration for optimizing adherence and enhancing health outcomes [80]. Moreover, exercise modality (e.g., supervised, or home-based) as well as exercise parameters as frequency or duration of interventions are also expected to influence the results [20,81].

Methodological Considerations

Some items of the AMSTAR 2 tool were critical in most of the reviews included. Concretely, those items associated with the review protocol, the reasons that led the review authors to include a determined research design, and the lack of information related to the excluded studies in the last screening. A review protocol should always be developed before conducting any research design. This step should be mandatory to promote transparency and decrease potential biases that can emerge during the review process. Many of the included reviews did not mention any information related to a review protocol. In this sense, we should be cautious about how the review authors built all the steps of their reviews and whether potential deviations appeared during the process. In the same vein of transparency, a list of excluded studies should also be mandatory for any systematic review. The readers should know which reasons were to exclude some studies that could have been potentially included. Unfortunately, some included reviews did not report this list. One of the major goals of an umbrella review is to detect the potential overlap between the included reviews.

This umbrella review found moderate overlap between the qigong trials and high overlap between both, the tai chi trials and the yoga trials. In this context, the readers should be aware that the conclusions of this umbrella review could be contaminated for these overlaps. This overlap should also help review authors and editorials in determining the need or not to develop and publish more systematic reviews covering the same topics. Recently, some umbrella reviews [82,83] have evaluated the certainty of the evidence using the 2018 Physical Activity Guidelines Advisory Committee (PAGAC) Scientific Report [84]. Furthermore, meta-meta-analysis, a new generation of meta-analysis, has also been conducted [85]. However, we are very strict with these two points. We have not developed any of them for one critical reason, the presence of overlap between the included reviews. We felt that we needed to be cautious before combining the findings of different reviews that included the same clinical trials, which could have underestimated or overestimated our findings. Readers should take this into account. Finally, the AMSTAR 2 tool did not cover whether a systematic review evaluated the certainty of the evidence or not. We believe that every systematic review must use the GRADE framework to show a full picture about the overall quality of available evidence. Unfortunately, this approach was only applied in less than 20% of the included reviews.

Clinical implications

This umbrella review offers evidence to encourage clinicians who want to apply qigong, tai chi, or yoga as an alternative approach in their clinical practice. However, health professionals who treat with cancer survivors should be aware that important questions must be answered before evidence can clearly support the effectiveness of these interventions. First, we do not know what qigong, tai chi or yoga style could produce better results in this population. Furthermore, concerns have also emerged related to what cancer diagnosis could be more beneficial with a concrete, mindful exercise style. Second, we have detected that some included reviews included clinical trials that not only evaluated qigong, tai chi, or yoga, but also other health interventions (e.g., standard rehabilitation). Therefore, we encourage the readers to be aware that some conclusions could be based on multidisciplinary interventions and thus, they should interpret the findings of this umbrella review with caution. Finally, another important issue is associated with the way clinical trials reported their interventions. The TIDieR checklist [86] is a useful tool to detect whether a clinical trial provided enough details to replicate its intervention in any environment (research or clinic). However, any included review evaluated this point and thus we do not certainly know how replicable the qigong, tai chi, and yoga trials are.

Limitations

Only reviews that were written in English and Spanish were considered and theses and conference abstracts were not included. In this sense, some important information could be missed. Recent umbrellas reviews have used not only the AMSTAR 2 tool, but also the ROBIS tool [87] to evaluate the methodological quality of the included reviews. We have not used the ROBIS tool as recent evidence supports that both tools address a large number of same or similar constructs [88]. However, we recognize that some critical points of the ROBIS tool are not covered by the AMSTAR 2 tool (e.g., restrictions within eligibility criteria or completeness of data extracted for analyses) [88].

CONCLUSIONS

This umbrella review concludes that:

1. Qigong is more effective than controls in reducing cancer-related fatigue.
2. Tai chi is better than controls in decreasing anxiety.
3. Yoga is superior to controls to improve overall quality of life.
4. Yoga produces more benefits than controls in reducing anxiety, depression, distress, and stress.
5. Important clinical and methodological considerations are discussed, and they should be considered.

Ethics statements
Patient consent for publication
Not required.

Ethics approval
This study does not involve human participants.

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Footnotes

Contributorship: MJMF is the guarantor and conceived the study. MJCH, MJMF and JMC wrote the first draft of the protocol and manuscript. MJMF, MJCH, and JMC conducted article screening. MJCH, JMC, AMHR, and PGG extracted data. MJCH, JMC, AMHR and PGG assisted in interpreting the data. MJCH and JMC conducted data analysis. All authors contributed importantly to the content and style of the protocol and manuscript. All authors approved the final version.

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Figure 1. PRISMA flow diagram.

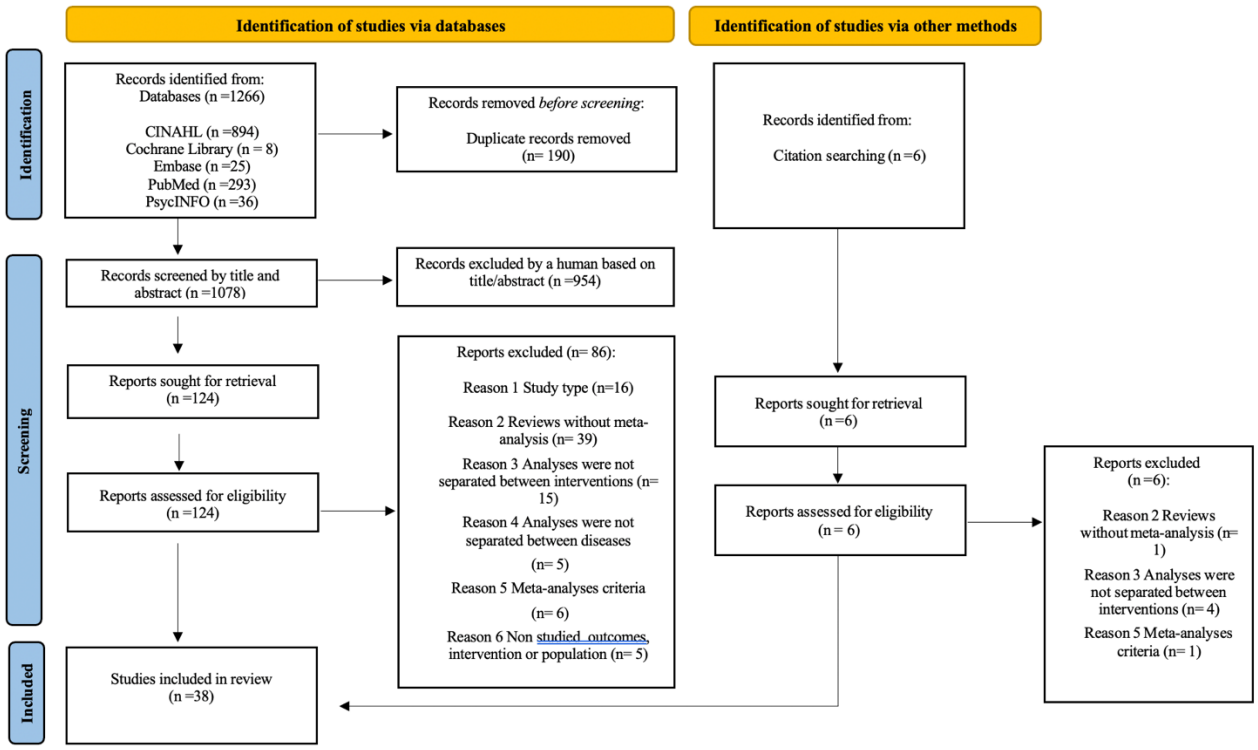

Figure 2. Network Visualization Cancer

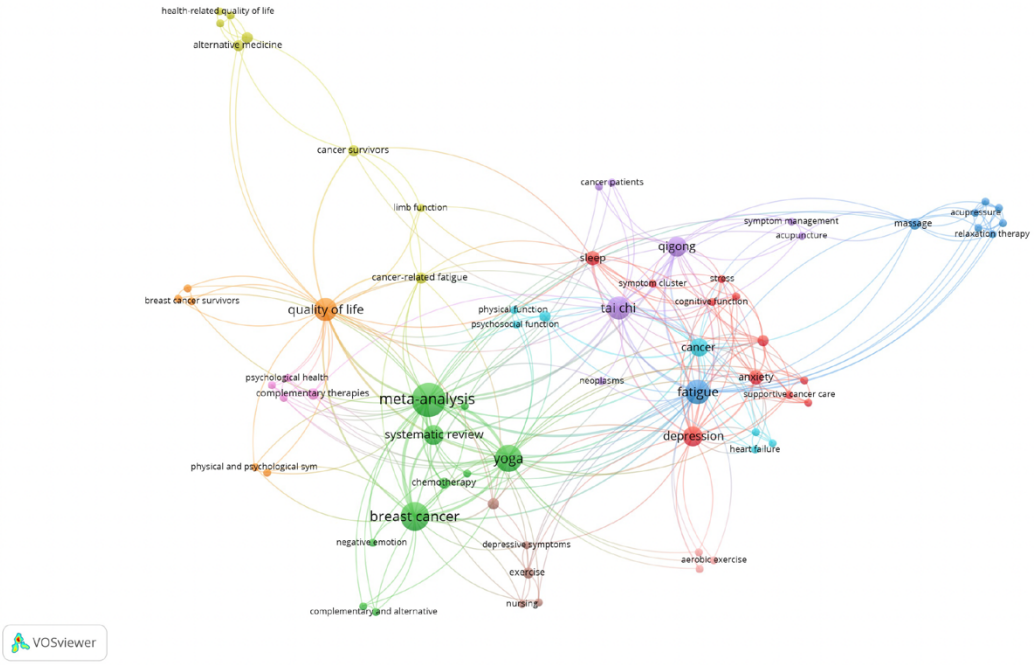

Figure 3: Density Visualization Cancer

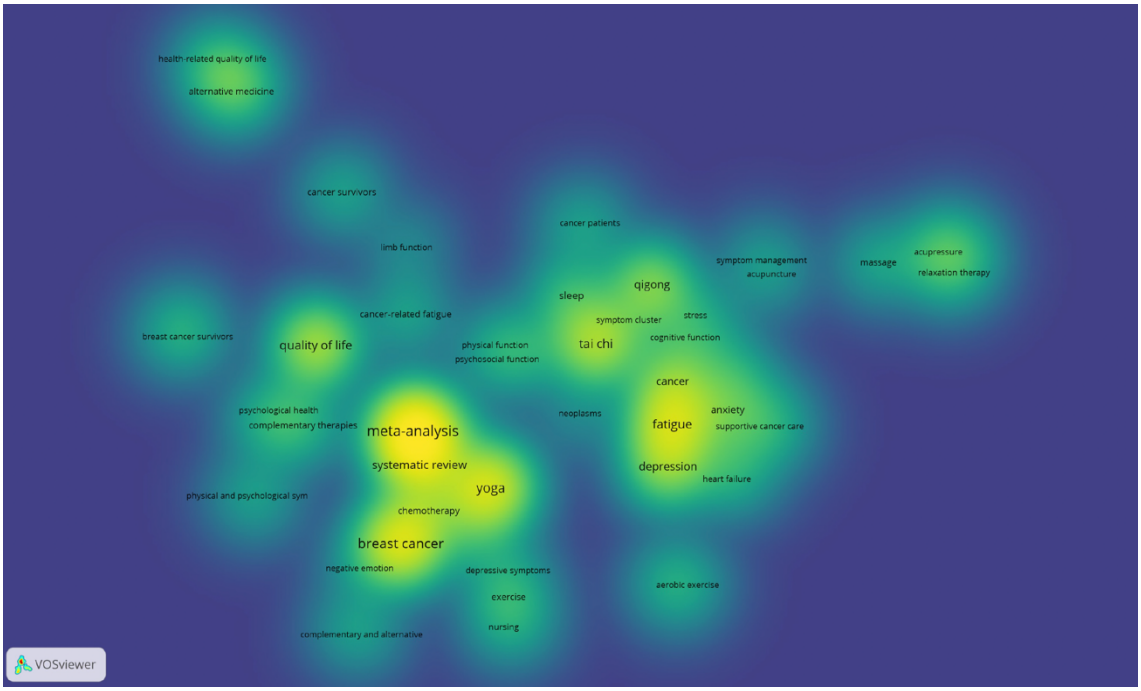

Table 1. Included reviews: Qigong.

Study and year	Tools for quality assessment	RCTs included in this umbrella	Participants	Interventions	Effect sizes
Cheung et al. 2021 [41]	GRADE Unavailable Risk of bias tool for individual trials The Cochrane risk of bias tool 2.0	9	742 with mixed cancer diagnoses (e.g., breast or head/neck)	Experimental Mixed Qigong styles (e.g., Chan-Chuan or Guolin) Control Mixed controls (e.g., usual care or waitlist)	➢ Fatigue (SMD 95%CI): post intervention -0.89 (-1.59 to -0.19) p = unspecified; I^2 = 94.3% ➢ Fatigue (SMD 95%CI): three months follow-up -0.14 (-0.64 to 0.36) p = unspecified; I^2 = 78.3% ➢ Depression (SMD 95%CI): post intervention -0.69 (-1.81 to 0.42) p = unspecified; I^2 = 95% ➢ Depression (SMD 95%CI): three months follow-up -0.19 (-0.50 to 0.11) p = unspecified; I^2 = 0%
Duan et al. 2020 [42]	GRADE Unavailable Risk of bias tool for individual trials Based on the Cochrane Handbook	2	182 with breast cancer diagnosis	Experimental (Qigong style unspecified) Control Mixed controls (e.g., daily physical activity or usual care)	➢ Depression (SMD 95%CI): Qigong subgroup -0.21 (-0.80 to 0.38) p = 0.48; I^2 = 75% ➢ Anxiety (SMD 95%CI): Qigong subgroup 0.17 (-0.31 to 0.66) p = 0.48; I^2 = 46% ➢ General quality of life (SMD 95%CI): Qigong subgroup 0.27 (-0.77 to 1.30) p = 0.62; I^2 = 92%

Kuo et al. 2021 [25]	GRADE Available Risk of bias tool for individual trials The Cochrane risk of bias tool	9	717 with mixed cancer diagnoses (e.g., breast or colorectal)	Experimental Baduanjin alone or combined Control Mixed controls (e.g., original physical activity or usual care)	➢ Fatigue overall effect (OR 95%CI) 0.27 (0.17 to 0.42) $p < 0.00001$; $I^2 = 0\%$ ➢ General quality of life (MD 95%CI): EORTC QLQ-C30 instrument 13.13 (1.87 to 24.40) $p = 0.02$; $I^2 = 92\%$ ➢ General quality of life (MD 95%CI): FACT-B instrument 9.34 (4.31 to 14.38) $p = 0.0003$; $I^2 = 88\%$
Lin et al. 2019 [44]	GRADE Available Risk of bias tool for individual trials The Cochrane risk of bias tool	3	386 with breast cancer diagnosis	Experimental (Qigong styles unspecified) Controls (unspecified)	➢ General quality of life (MD 95%CI): Qigong subgroup 3.01 (-3.00 to 9.01) $p = 0.33$; $I^2 = 0\%$
Meng et al. 2021 [24]	GRADE Available	11	876 with breast cancer diagnosis	Experimental Mixed Qigong styles (e.g., Baduanjin or Guolin)	➢ Fatigue overall effect (SMD 95%CI) -0.32 (-0.71 to 0.07) $p = 0.11$; $I^2 = 73\%$ ➢ Depression overall effect (SMD 95%CI)

	Risk of bias tool for individual trials The 12 items form the Cochrane Back Review Group for risk of bias			Control Mixed controls (e.g., gentle exercise or usual care)	-0.32 (-0.59 to -0.04) p = 0.02; I^2 = 59% ➢ Anxiety overall effect (SMD 95%CI) -0.71 (-1.32 to -0.10) p = 0.02; I^2 = 89%
Tao et al. 2016 [43]	GRADE Unavailable Risk of bias tool for individual trials Based on the Cochrane Handbook	2	177 with mixed cancer diagnoses (e.g., breast)	Experimental (Qigong style unspecified) Control Mixed controls (e.g., usual care or waitlist)	➢ General quality of life (SMD 95%CI): Qigong subgroup 3.30 (-3.32 to 9.92) p = 0.33; I^2 = 99%
Yin et al. 2020 [38]	GRADE Unavailable Risk of bias tool for individual trials The Wayne checklist	13	1,242 with mixed cancer diagnoses (e.g., breast or prostate)	Experimental Mixed Qigong styles (e.g., Baduanjin or Zhi Neng) Control Mixed controls	➢ Fatigue overall effect (Hedge's g 95%CI) 0.46 (0.15 to 0.78) p = 0.0039; I^2 = 81.4%

				(e.g., mindfulness program or usual care)	
Zeng et al. 2014 [39]	GRADE Unavailable Risk of bias tool for individual trials Based on the Cochrane Handbook	4	177 with mixed cancer diagnoses (e.g., breast or liver)	Experimental Mixed Qigong styles (e.g., Guolin) Control Mixed controls (e.g., usual care or waitlist)	➢ Fatigue overall effect (SMD 95%CI): from baseline to 12 weeks follow-up -0.93 (-1.80 to -0.06) p = 0.04; I^2 = 90% ➢ Depression overall effect (SMD 95%CI): from baseline to 12 weeks follow-up -0.69 (-1.51 to 0.14) p = 0.10; I^2 = 91% ➢ Anxiety overall effect (SMD 95%CI): from baseline to 12 weeks follow-up 1.97 (-3.36 to 7.31) p = 0.47; I^2 = 99% ➢ General quality of life (MD 95%CI): Qigong subgroup (from baseline to 12 weeks follow-up) 6.57 (2.32 to 10.83) p = 0.002; I^2 = 96%
Zeng et al. 2019 [40]	GRADE Unavailable Risk of bias tool for individual trials	11	819 with mixed cancer diagnoses (e.g., breast or prostate)	Experimental (Qigong style unspecified) Control	➢ Fatigue overall effect (MD 95%CI): at follow-up (more than three months) 2.05 (0.63 to 3.47) p = 0.005; I^2 = 96% ➢ Depression overall effect (MD 95%CI): at follow-up (more than three months)

	Based on the Cochrane Handbook			Mixed controls (e.g., usual care or waitlist)	-2.58 (-7.33 to 2.17) p = 0.29; I^2 = 88% ➢ Anxiety overall effect (MD 95%CI): at follow-up (more than three months) -1.26 (-3.73 to 1.20) p = 0.32; I^2 = 43% ➢ Stress overall effect (MD 95%CI): at follow-up (more than three months) -8.56 (-17.56 to 0.44) p = 0.06; I^2 = 74% ➢ General quality of life overall effect (MD 95%CI): at follow-up (more than three months) -17.11 (-41.46 to 7.24) p = 0.17; I^2 = 99%

Note: CI = confidence interval; GRADE = grading of recommendations, assessment, development, and evaluation; MD = mean difference; OR = odds ratio; RCT = randomized controlled trials; SMD = standardized mean difference.

Table 2. Included reviews: Tai Chi.

Study and year	Tools for quality assessment	RCTs included in this umbrella	Participants	Interventions	Effect sizes
Cai et al. 2022 [51]	GRADE Unavailable Risk of bias tool for individual trials The Cochrane risk of bias tool	5	586 with breast cancer diagnosis	Experimental Mixed Tai Chi styles (e.g., Chen or Yang) Control Mixed controls (e.g., exercise or usual care)	➢ Depression (SMD 95%CI): cancer subgroup -0.63 (-1.42 to 0.16) p = 0.12; I^2 = 92% ➢ Anxiety (SMD 95%CI): cancer subgroup -0.69 (-1.22 to -0.17) p = 0.009; I^2 = 72%
Chen et al. 2016 [52]	GRADE Unavailable Risk of bias tool for individual trials The PEDro scale	4	279 with mixed cancer diagnoses (e.g., breast)	Experimental Mixed Tai Chi styles (e.g., Yang) Control Mixed controls (e.g., education or spiritual growth)	➢ General quality of life (SMD 95%CI): cancer subgroup -0.17 (-0.82 to 0.49) p = 0.62; I^2 = 48% ➢ Depression (SMD 95%CI): cancer subgroup -0.97 (-1.90 to -0.05) p = 0.04; I^2 = 51%
Duan et al. 2020 [42]	GRADE Unavailable	3	222 with mixed cancer diagnoses (e.g., lung or prostate)	Experimental (Tai Chi style unspecified)	➢ Fatigue (SMD 95%CI): Tai Chi subgroup -0.95 (-1.48 to -0.43) p = 0.0004; I^2 = 69%

	Risk of bias tool for individual trials Based on the Cochrane Handbook			Control Mixed controls (e.g., exercise or usual care)	
Lee et al. 2010 [46]	GRADE Unavailable Risk of bias tool for individual trials Based on the Cochrane Handbook	2	50 with breast cancer diagnosis	Experimental Mixed Tai Chi styles (e.g., Yang) Control Mixed controls (e.g., spiritual growth or supportive therapy)	➢ General quality of life overall effect (SMD 95%CI) 0.45 (-0.25 to 1.14) p = 0.21; I^2 = 0%
Liu et al. 2020 [49]	GRADE Unavailable Risk of bias tool for individual trials The PEDro scale	5	490 with breast cancer diagnosis	Experimental Mixed Tai Chi styles (e.g., Chuan or Yang) Control Mixed controls (e.g., supportive therapy or usual care)	➢ Fatigue (MD 95%CI): three months -0.46 (-1.09 to 0.17) p = 0.15; I^2 = 0% ➢ Fatigue (MD 95%CI): six months -0.16 (-0.98 to 0.67) p = 0.71; I^2 = 0% ➢ Depression (SMD 95%CI): three months 0.22 (-0.05 to 0.49) p = 0.12; I^2 = 0% ➢ Depression (SMD 95%CI): six months 0.16 (-0.15 to 0.47) p = 0.30; I^2 = 0% ➢ General quality of life (SMD 95%CI): three months

					0.32 (0.07 to 0.56) p = 0.01; I^2 = 67%
Luo et al. 2020 [48]	GRADE Available Risk of bias tool for individual trials The Cochrane risk of bias tool	10	736 with breast cancer diagnosis	Experimental Mixed Tai Chi styles (e.g., Chuan or Yang) Control Mixed controls (e.g., supportive therapy or usual care)	➢ Fatigue overall effect (SMD 95%CI) -1.11 (-1.53 to -0.69) p < 0.00001; I^2 = 30% ➢ Anxiety (MD 95%CI): 12 weeks -4.90 (-7.83 to -1.98) p = 0.001; I^2 = 84% ➢ Anxiety (MD 95%CI): 25 weeks -4.25 (-5.87 to -2.63) p < 0.00001; I^2 = 0% ➢ Pain (SMD 95%CI): three weeks 0.25 (-0.02 to 0.51) p = 0.07; I^2 = 0% ➢ Pain (SMD 95%CI): 12 weeks 0.30 (0.08 to 0.51) p = 0.007; I^2 = 0% ➢ General quality of life overall effect (SMD 95%CI) 0.37 (0.15 to 0.59) p = 0.001; I^2 = 0%
Ni et al. 2019 [26]	GRADE Available	3	117 with mixed cancer diagnoses (e.g., breast or lung)	Experimental Mixed Tai Chi styles	➢ Fatigue overall effect (SMD 95%CI) -0.04 (-0.30 to 0.22) p = 0.76; I^2 = 80%

	Risk of bias tool for individual trials Based on the Cochrane Handbook			(e.g., Yang) Control Mixed controls (e.g., sham Qigong or usual care)	
Pan et al. 2015 [50]	GRADE Unavailable Risk of bias tool for individual trials Based on the Cochrane Handbook	5	196 with breast cancer diagnosis	Experimental Mixed Tai Chi styles (e.g., Yang) Control Mixed controls (e.g., health education or usual care)	➢ Pain overall effect (SMD 95%CI) -0.11 (-0.41 to 0.18) p = 0.78; I^2 = 0% ➢ General quality of life overall effect (SMD 95%CI) -0.12 (-0.59 to 0.35) p = 0.61; I^2 = 53.7%
Song et al. 2018 [27] *	GRADE Unavailable Risk of bias tool for individual trials The Cochrane risk of bias tool	6	373 with mixed cancer diagnoses (e.g., breast or lung)	Experimental (Tai Chi style unspecified) Control Mixed controls (e.g., exercise or health education)	➢ Fatigue (SMD 95%CI): short term effects -0.54 (-0.75 to -0.33) p < 0.0001; I^2 = 32% ➢ Fatigue (SMD 95%CI): long term effects 0.23 (-0.61 to 1.08) p = 0.59; I^2 = 89%
					➢ General quality of life (SMD 95%CI): Tai Chi subgroup

Tao et al. 2016 [43]	GRADE Unavailable Risk of bias tool for individual trials Based on the Cochrane Handbook	3	162 with breast cancer diagnosis	Experimental (Tai Chi style unspecified) Control Mixed controls (e.g., psychosocial therapy or usual care)	-0.01 (-0.90 to 0.89) p = 0.99; I^2 = 79%
Xiang et al. 2017 [47]	GRADE Available Risk of bias tool for individual trials The Cochrane risk of bias tool	3	221 with mixed cancer diagnoses (e.g., breast or lung)	Experimental Mixed Tai Chi styles (e.g., Yang) Control Mixed controls (e.g., exercise or usual care)	➢ Fatigue (SMD 95%CI): cancer subgroup -0.37 (-0.64 to -0.10) p = 0.006; I^2 = 0%
Zeng et al. 2014 b [45]	GRADE Unavailable Risk of bias tool for individual trials The Cochrane risk of bias tool	2	50 with breast cancer diagnosis	Experimental Unspecified Tai Chi styles Control Support therapy with or without exercise	➢ General quality of life (SMD 95%CI): Tai Chi subgroup 1.97 (0.31 to 3.64) p = 0.02; I^2 = 76%

Note: CI = confidence interval; GRADE = grading of recommendations, assessment, development, and evaluation; MD = mean difference; OR = odds ratio; RCT = randomized controlled trials; SMD = standardized mean difference.
* See the original systematic review to understand how the authors classified outcomes by short-, medium-, or long-term effects.

Table 3. Included reviews: Yoga.

Study and year	Tools for quality assessment	RCTs included in this umbrella	Participants	Interventions	Effect sizes
Armer et al. 2020 [28]	GRADE Unavailable Risk of bias tool for individual trials A quality score was developed	29	1,828 with mixed cancer diagnoses (e.g., breast or prostate)	Experimental Mixed Yoga styles (e.g., Hatha or Iyengar) Control Mixed controls (e.g., health education or waitlist)	➢ Fatigue overall effect (Hedge's g 95%CI): 0.45 (0.09 to 0.82) p = 0.013; I^2 = 90.87% ➢ Depression overall effect (Hedge's g 95%CI): 0.72 (0.20 to 1.24) p = 0.007; I^2 = 89.82% ➢ General quality of life overall effect (Hedge's g 95%CI): 1.08 (-1.92 to 4.07) p = 0.48; I^2 = 99.75%
Buffart et al. 2012 [69]	GRADE Unavailable Risk of bias tool for individual trials A Delphi list	13	728 with mixed cancer diagnoses (e.g., breast or lymphoma)	Experimental Mixed Yoga styles (e.g., Iyengar or Tibetan) Control Mixed controls (e.g., supportive therapy or waitlist)	➢ Fatigue overall effect (SMD 95%CI): -0.51 (-0.79 to -0.22) p = 0.001; I^2 = 43.52% ➢ Depression overall effect (SMD 95%CI): -1.47 (-2.42 to -0.53) p = 0.002; I^2 = 93.29% ➢ Anxiety overall effect (SMD 95%CI): -1.25 (-1.93 to -0.56) p < 0.001; I^2 = 91.45% ➢ Distress overall effect (SMD 95%CI): -0.95 (-1.49 to -0.49) p < 0.001; I^2 = 80.79% ➢ General quality of life overall effect (SMD 95%CI):

					0.88 (0.25 to 1.50) p = 0.006; I^2 = 86.49%
Cramer et al. 2012 [61] *	GRADE Unavailable Risk of bias tool for individual trials The Cochrane risk of bias tool	9	669 with breast cancer diagnosis	Experimental Mixed Yoga styles (e.g., Iyengar or Viniyoga) Control Mixed controls (e.g., supportive therapy or waitlist)	➢ Depression (SMD 95%CI): short term effects -1.59 (-2.68 to -0.51) p = 0.004; I^2 = 94% ➢ Depression (SMD 95%CI): long term effects -0.36 (-0.80 to 0.07) p = 0.10; I^2 = 4% ➢ Anxiety (SMD 95%CI): short term effects -1.51 (-2.47 to -0.55) p = 0.002; I^2 = 94% ➢ Distress (SMD 95%CI): short term effects -0.86 (-1.50 to -0.22) p = 0.008; I^2 = 88% ➢ Distress (SMD 95%CI): long term effects -1.73 (-4.02 to 0.56) p = 0.14; I^2 = 96% ➢ Perceived stress (SMD 95%CI): short term effects -1.14 (-2.16 to -0.12) p = 0.03; I^2 = 88% ➢ Perceived stress (SMD 95%CI): long term effects -1.76 (-5.08 to 1.56) p = 0.30; I^2 = 96% ➢ General quality of life (SMD 95%CI): short term effects 0.62 (0.04 to 1.21) p = 0.04; I^2 = 79%

Cramer et al. 2017 [59] *	GRADE Available Risk of bias tool for individual trials The Cochrane risk of bias tool	21	1,775 with breast cancer diagnosis	Experimental Mixed Yoga styles (e.g., Hatha or Iyengar) Control Mixed controls (e.g., supportive therapy or waitlist)	➢ Fatigue (SMD 95%CI): short term effects (no treatment controls) -0.48 (-0.75 to -0.2) p = 0; I^2 = 72.08% ➢ Fatigue (SMD 95%CI): short term effects (psychological therapy controls) -0.9 (-1.31 to -0.5) p < 0.0001; I^2 = 0% ➢ Fatigue (SMD 95%CI): short term effects (exercise controls) -0.21 (-0.66 to 0.25) p = 0.37; I^2 = 64.42% ➢ Fatigue (SMD 95%CI): medium term effects (no treatment controls) -0.04 (-0.36 to 0.29) p = 0.82; I^2 = 0% ➢ Depression (SMD 95%CI): short term effects (no treatment controls) -0.13 (-0.31 to 0.05) p = 0.15; I^2 = 0% ➢ Depression (SMD 95%CI): short term effects (psychological therapy controls) -2.29 (-3.97 to -0.61) p = 0.01; I^2 = 95.95% ➢ Anxiety (SMD 95%CI): short term effects (no treatment controls) -0.53 (-1.1 to 0.04) p = 0.07; I^2 = 82.92%

					➢ Anxiety (SMD 95%CI): short term effects (psychological therapy controls) -2.21 (-3.9 to -0.52) p = 0.01; I^2 = 95.27% ➢ General quality of life (SMD 95%CI): short term effects (no treatment controls) 0.22 (0.04 to 0.4) p = 0.02; I^2 = 18.68% ➢ General quality of life (SMD 95%CI): short term effects (psychological therapy controls) 0.81 (-0.5 to 2.12) p = 0.23; I^2 = 92.84% ➢ General quality of life (SMD 95%CI): short term effects (exercise controls) -0.04 (-0.3 to 0.23) p = 0.79; I^2 = 5.91% ➢ General quality of life (SMD 95%CI): medium term effects (no treatment controls) 0.1 (-0.23 to 0.42) p = 0.56; I^2 = 0%
Dong et al. 2019 [65]	GRADE Unavailable Risk of bias tool for individual trials	17	1,162 with breast cancer diagnosis	Experimental Mixed Ypga styles (e.g., Hatha or Iyengar) Control	➢ Fatigue overall score (SMD 95%CI): -0.31 (-0.52 to -0.10) p = 0.003; I^2 = 81%

	The Cochrane risk of bias tool			Mixed controls (e.g., supportive therapy or waitlist)	
Duan et al. 2020 [42]	GRADE Unavailable Risk of bias tool for individual trials Based on the Cochrane Handbook	8	508 with mixed cancer diagnoses (e.g., breast or colorectal)	Experimental (Yoga style unspecified) Control Mixed controls (e.g., health education or usual care)	➢ Fatigue (SMD 95%CI): Yoga subgroup -0.33 (-0.87 to 0.22) p = 0.24; I^2 = 83% ➢ Depression (SMD 95%CI): Yoga subgroup -0.33 (-0.60 to -0.05) p = 0.02; I^2 = 0% ➢ Anxiety (SMD 95%CI): Yoga subgroup 0.52 (0.19 to 0.86) p = 0.002; I^2 = 4% ➢ Stress (SMD 95%CI): Yoga subgroup -1.24 (-5.45 to 2.97) p = 0.56; I^2 = 0% ➢ General quality of life (SMD 95%CI): Yoga subgroup 0.07 (-0.19 to 0.34) p = 0.59; I^2 = 0%
Duong et al. 2017 [54]	GRADE Unavailable Risk of bias tool for individual trials	3	208 with mixed cancer diagnoses (e.g., breast)	Experimental Energizing Yoga breathing Control	➢ Fatigue (SMD 95%CI): Yoga subgroup -0.48 (-1.06 to 0.10) p = 0.10; I^2 = 54%

	The Cochrane risk of bias tool			Mixed controls (e.g., usual care or waitlist)	
Gonzalez et al. 2021 [29]	GRADE Unavailable Risk of bias tool for individual trials The Cochrane risk of bias tool	25	1,483 with mixed cancer diagnoses (e.g., breast or thoracic)	Experimental Mixed Yoga styles (e.g., Hatha or Iyengar) Control Mixed controls (e.g., supportive therapy or waitlist)	➢ Depression overall effect (Hedge's g 95%CI): -0.419 (-0.558 to -0.281) p = 0.000; I^2 = 77.13% ➢ Anxiety overall effect (Hedge's g 95%CI): -0.347 (-0.473 to -0.221) p = 0.000; I^2 = 83.84%
Hsueh et al. 2021 [66]	GRADE Unavailable Risk of bias tool for individual trials The Cochrane risk of bias tool 2.0	21	1,651 with breast cancer diagnosis	Experimental Mixed Yoga styles (e.g., Iyengar or Tibetan) Control Mixed controls (e.g., exercise or usual care)	➢ Fatigue overall effect (SMD 95%CI): -0.99 (-1.56 to -0.43) p = 0.0005; I^2 = 93% ➢ Depression overall effect (SMD 95%CI): -0.98 (-1.64 to -0.32) p = 0.004; I^2 = 94% ➢ Anxiety overall effect (SMD 95%CI): -1.35 (-2.09 to -0.60) p = 0.0004; I^2 = 93% ➢ Perceived stress overall effect (MD 95%CI): -7.03 (-12.11 to -1.95) p = 0.007; I^2 = 98% ➢ Pain severity overall effect (MD 95%CI):

					-0.46 (-0.86 to -0.05) p = 0.03; I^2 = 58%
Lin et al. 2011 [57]	GRADE Unavailable Risk of bias tool for individual trials The PEDro scale	10	788 with mixed cancer diagnoses (e.g., breast or lymphoma)	Experimental Mixed Yoga styles (e.g., Hatha or Tibetan) Control Mixed controls (e.g., supportive therapy or waitlist)	➢ Fatigue overall effect (SMD 95%CI): -0.15 (-0.39 to 0.09) p = 0.24; I^2 = 0% ➢ Depression overall effect (SMD 95%CI): -0.95 (-1.55 to -0.36) p = 0.002; I^2 = 90% ➢ Anxiety overall effect (SMD 95%CI): -0.76 (-1.34 to -0.19) p = 0.009; I^2 = 91% ➢ Distress overall effect (SMD 95%CI): -0.40 (-0.67 to -0.14) p = 0.003; I^2 = 63% ➢ Stress overall effect (SMD 95%CI): -0.95 (-1.63 to -0.27) p = 0.006; I^2 = 88% ➢ General quality of life overall effect (SMD 95%CI): -0.29 (-0.58 to 0.01) p = 0.06; I^2 = 0%
Lin et al. 2019 [44]	GRADE Available	7	557 with mixed cancer diagnoses (e.g., breast or colorectal)	Experimental (Yoga styles unspecified)	➢ Fatigue (SMD 95%CI): Yoga subgroup 0.17 (-0.09 to 0.43) p = unspecified; I^2 = 0%

	Risk of bias tool for individual trials The Cochrane risk of bias tool			Controls (unspecified)	➢ General quality of life (MD 95%CI): Yoga subgroup 0.19 (-6.56 to 6.94) p = 0.96; I^2 = 0%
Lin et al. 2021 [55]	GRADE Unavailable Risk of bias tool for individual trials Joanna Briggs Critical Appraisal Tool for Randomized Controlled Trials	3	265 with breast cancer diagnosis	Experimental Mixed Yoga styles (e.g., Hatha or Iyengar) Controls (unspecified)	➢ Fatigue (MD 95%CI): Yoga subgroup 1.97 (-0.27 to 4.20) p = 0.08; I^2 = 84%
O'Neill et al. 2020 [60]	GRADE Unavailable Risk of bias tool for individual trials The Cochrane risk of bias tool	24	1,650 with breast cancer diagnosis	Experimental Mixed Yoga styles (e.g., Hatha or Iyengar) Control Mixed controls (e.g., health education or self-hypnosis)	➢ Fatigue (SMD 95%CI): unactive controls -0.30 (-0.51 to -0.08) p = unspecified; I^2 = 62% ➢ Fatigue (SMD 95%CI): active controls -0.17 (-0.50 to 0.17) p = unspecified; I^2 = 55% ➢ General quality of life (SMD 95%CI): unactive controls 0.27 (0.07 to 0.46) p = unspecified; I^2 = 21% ➢ General quality of life (SMD 95%CI): active controls -0.04 (-0.31 to 0.22) p = unspecified; I^2 = 0%

Pan et al. 2015 [56]	GRADE Unavailable Risk of bias tool for individual trials Based on the Cochrane Handbook	15	967 with breast cancer diagnosis	Experimental Mixed Yoga styles (e.g., Hatha or Iyengar) Control Mixed controls (e.g., supportive therapy or waitlist)	➢ Fatigue overall effect (SMD 95%CI) -0.22 (-0.54 to 0.10) p = 0.17; I^2 = 72.6% ➢ Depression overall effect (SMD 95%CI) -0.17 (-0.33 to -0.02) p = 0.00; I^2 = 0% ➢ Anxiety overall effect (SMD 95%CI) -0.98 (-1.38 to -0.57) p < 0.00; I^2 = 88.9% ➢ General quality of life overall effect (SMD 95%CI) 0.86 (0.37 to 1.34) p = 0.001; I^2 = 69% ➢ Pain overall effect (SMD 95%CI) -0.09 (-0.65 to 0.46) p = 0.74; I^2 = 79.4%
Patsou et al. 2017 [63]	GRADE Unavailable Risk of bias tool for individual trials The PEDro scale	2	194 with breast cancer diagnosis	Experimental Mixed Yoga styles (e.g., Iyengar) Control Mixed controls (e.g., health education or waitlist)	➢ Depression (Hedge's g 95%CI): Yoga subgroup 1.31 (-1.85 to 4.47) p = 0.42; I^2 = 0%

Shneerson et al. 2013 [64] *	GRADE Unavailable Risk of bias tool for individual trials The Cochrane risk of bias tool	3	246 with mixed cancer diagnoses (e.g., breast)	Experimental Mixed Yoga styles (e.g., Hatha) Control Waitlist	➢ General quality of life (SMD 95%CI): from baseline to three months (Yoga subgroup) 0.51 (0.18 to 0.84) p = 0.002; I^2 = 0%
Song et al. 2021[67]	GRADE Unavailable Risk of bias tool for individual trials The Joanna Briggs Institute for experimental and quasi experimental studies	11	1,070 with mixed cancer diagnoses (e.g., breast or lymphoma)	Experimental Mixed Yoga styles (e.g., Hatha or Tibetan) Controls (unspecified)	➢ Fatigue overall effect (SMD 95%CI) -0.52 (-0.86 to -0.18) p = 0.003; I^2 = 88%
Tomlinson et al. 2014 [68]	GRADE Unavailable Risk of bias tool for individual trials	7	463 with mixed cancer diagnoses (e.g., breast or lymphoma)	Experimental Unspecified Yoga styles Mixed Controls (e.g., counseling or waitlist)	➢ Fatigue (SMD 95%CI): Yoga subgroup -0.40 (-0.72 to -0.07) p = unspecified; I^2 = 56% ➢ Depression (SMD 95%CI): Yoga subgroup -0.29 (-0.64 to 0.07) p = unspecified; I^2 = 0%

	The Jadad scale				
Yi et al. 2021 [53] *	GRADE Unavailable Risk of bias tool for individual trials The Cochrane risk of bias tool	7	693 with breast cancer diagnosis	Experimental Mixed Yoga styles (e.g., Dru or Tibetan) Controls (unspecified)	➢ Fatigue (SMD 95%CI): short term effects -0.62 (-1.17 to -0.07) p = 0.03; I^2 = 86% ➢ Depression overall effect (SMD 95%CI) -0.56 (-1.05 to -0.07) p = 0.03; I^2 = 84% ➢ Anxiety overall effect (SMD 95%CI) -0.50 (-0.70 to -0.31) p < 0.00001; I^2 = 46% ➢ General quality of life overall effect (MD 95%CI) 12.14 (8.88 to 15.40) p < 0.00001; I^2 = 29%
Zeng et al. 2014 b [45]	GRADE Unavailable Risk of bias tool for individual trials The Cochrane risk of bias tool	2	172 with breast cancer diagnosis	Experimental Unspecified Yoga styles Control Waitlist	➢ General quality of life (SMD 95%CI): Yoga subgroup 0.42 (0.09 to 0.75) p = 0.01; I^2 = 0%
	GRADE	6		Experimental	➢ Fatigue overall effect (SMD 95%CI)

Zhang et al. 2012 [58]	Unavailable Risk of bias tool for individual trials Based on the Cochrane Handbook		382 with breast cancer diagnosis	Mixed Yoga styles (e.g., Hatha or Iyengar) Control Mixed controls (e.g., no intervention or waitlist)	0.11 (-0.12 to 0.35) p = 0.35; I^2 = 0% ➢ Depression overall effect (MD 95%CI) -4.12 (-13.05 to 4.81) p = 0.37; I^2 = 59% ➢ Anxiety overall effect (SMD 95%CI) -0.24 (-0.54 to 0.06) p = 0.11; I^2 = 0% ➢ Distress overall effect (SMD 95%CI) -3.05 (-8.63 to 2.53) p = 0.28; I^2 = 98% ➢ General quality of life overall effect (SMD 95%CI) 0.27 (0.02 to 0.52) p = 0.03; I^2 = 0%
Zuo et al. 2016 [62] *	GRADE Unavailable Risk of bias tool for individual trials The Cochrane risk of bias tool	17	1,552 with breast cancer diagnosis	Experimental Unspecified Yoga styles Control Mixed controls (e.g., health education or waitlist)	➢ Anxiety (SMD 95%CI): immediate effects -0.42 (-0.57 to -0.26) p < 0.00001; I^2 = 36% ➢ Anxiety (SMD 95%CI): 3 months effects -0.16 (-0.55 to 0.23) p = 0.43; I^2 = 0% ➢ Depression (SMD 95%CI): immediate effects -0.77 (-0.89 to -0.65) p < 0.00001; I^2 = 40% ➢ Depression (SMD 95%CI): 3 months effects

					-0.38 (-0.63 to -0.12) p = 0.004; I^2 = 0% ➢ Distress (SMD 95%CI): immediate effects -0.60 (-0.78 to -0.42) p < 0.00001; I^2 = 12% ➢ Perceived stress (SMD 95%CI): unspecified period effects -0.82 (-1.12 to -0.52) p < 0.00001; I^2 = 36%

Note: CI = confidence interval; GRADE = grading of recommendations, assessment, development, and evaluation; MD = mean difference; RCT = randomized controlled trials; SMD = standardized mean difference.
* See the original systematic review to understand how the authors classified outcomes by short-, medium-, or long-term effects.