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# Breast Cancer

## Cancer du sein

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### 1. Systematic Reviews and Meta-Analysis

#### 1.1. Generic Acupuncture

##### 1.1.1. Chan 2021

Chan YT, Wang N, Tam CW, Tan HY, Lu Y, So TH, Chau-Leung Yu E, Lao L, Feng Y. Systematic Review with Meta-Analysis: Effectiveness and Safety of Acupuncture as Adjuvant Therapy for Side Effects Management in Drug Therapy-Receiving Breast Cancer Patients. *Evid Based Complement Alternat Med.* 2021. [222725]. <https://doi.org/10.1155/2021/9949777>

<b>Objective</b>	To investigate the potential benefits and safety of acupuncture on managing side effects induced by drug therapies in patients with breast cancer using a PRISMA standard systematic review and meta-analysis.
<b>Methods</b>	Published randomised controlled trials from nine databases in English and Chinese language were searched. Trials with a real acupuncture treatment group and a control group with sham acupuncture, no treatment, or waitlist control were included. The primary outcome of this study was the therapeutic effects on five symptoms induced by drug therapies, including gastrointestinal disorder, neuropathy, arthralgia, joint symptoms, and cognitive impairment. The quality of life was assessed as a secondary outcome. The risk of bias of each study was analysed according to the Cochrane Handbook.
<b>Results</b>	<b>Sixteen randomised controlled trials with 1189 participants</b> were included in the meta-analysis. The primary outcome and all subgroup analyses showed statistically significant improvements in the management of side effects by real acupuncture. The quality of life of patients has enhanced during the treatment.
<b>Conclusion</b>	Although the number of publications is limited, a clear preliminary conclusion could be drawn by the meta-analysis, suggesting the beneficial adjuvant role of acupuncture in patients with breast cancer who receive drug therapies. No serious adverse events were observed from all the RCTs, and the safety of acupuncture is ascertained. More standardised and sophisticated large-scale randomised controlled trials are needed to evaluate the findings further.

##### 1.1.2. Zhang 2021

Zhang Y, Sun Y, Li D, Liu X, Fang C, Yang C, Luo T, Lu H, Li H, Zhang H, Liang Q, Wu J, Huang L, Xu R, Ren L, Chen Q. Acupuncture for Breast Cancer: A Systematic Review and Meta-Analysis of Patient-Reported Outcomes. *Front Oncol.* 2021. [219482]. [doi](#)

<b>Objective</b>	The present systematic review and meta-analysis was undertaken to evaluate the effects of acupuncture in women with breast cancer (BC), focusing on patient-reported outcomes (PROs).
<b>Methods</b>	A comprehensive literature search was carried out for randomized controlled trials (RCTs) reporting PROs in BC patients with treatment-related symptoms after undergoing acupuncture for at least four weeks. Literature screening, data extraction, and risk bias assessment were independently carried out by two researchers.
<b>Results</b>	Out of the 2, 524 identified studies, <b>29 studies</b> representing 33 articles were included in this meta-analysis. At the end of treatment (EOT), the acupuncture patients' quality of life (QoL) was measured by the QLQ-C30 QoL subscale, the Functional Assessment of Cancer Therapy-Endocrine Symptoms (FACT-ES), the Functional Assessment of Cancer Therapy-General/Breast (FACT-G/B), and the Menopause-Specific Quality of Life Questionnaire (MENQOL), which depicted a significant improvement. The use of acupuncture in BC patients lead to a considerable reduction in the scores of all subscales of the Brief Pain Inventory-Short Form (BPI-SF) and Visual Analog Scale (VAS) measuring pain. Moreover, patients treated with acupuncture were more likely to experience improvements in hot flashes scores, fatigue, sleep disturbance, and anxiety compared to those in the control group, while the improvements in depression were comparable across both groups. Long-term follow-up results were similar to the EOT results.
<b>Conclusions</b>	Current evidence suggests that acupuncture might improve BC treatment-related symptoms measured with PROs including QoL, pain, fatigue, hot flashes, sleep disturbance and anxiety. However, a number of included studies report limited amounts of certain subgroup settings, thus more rigorous, well-designed and larger RCTs are needed to confirm our results.

### 1.1.3. Jang 2020

Jang S, Ko Y, Sasaki Y, Park S, Jo J, Kang NH, Yoo ES, Park NC, Cho SH, Jang H, Jang BH, Hwang DS, Ko SG. Acupuncture as an adjuvant therapy for management of treatment-related symptoms in breast cancer patients: Systematic review and meta-analysis (PRISMA-compliant). *Medicine (Baltimore)*. 2020;99(50). [216086]. [doi](#)

<b>Background</b>	Although randomized controlled trials have revealed the considerable effectiveness of acupuncture in breast cancer patients, there have been no studies exploring current acupuncture research trends for treatment induced various symptoms in breast cancer patients. This review evaluated the effectiveness of acupuncture for treatment-induced symptoms in breast cancer patients.
<b>Methods</b>	We performed a systematic review and meta-analysis of the literature regarding acupuncture to treat symptoms associated with breast cancer therapies. The following databases were searched for relevant RCTs published before June 2018: MEDLINE, EMBASE, the Cochrane Library, AMED, CINAHL, OASIS, CNKI, and CiNii.
<b>Results</b>	Among the 19,483 records identified, 835 articles remained after screening titles and abstracts. A total of <b>19 RCTs</b> were included in this qualitative synthesis. Among the studies, 8 explored climacteric symptoms, 4 explored pain, 2 explored lymphedemas, 2 explored nausea and vomiting and 3 investigated miscellaneous symptoms explored miscellaneous symptoms due to cancer treatments. Most of the studies reported that acupuncture can alleviate various symptoms of breast cancer treatment. However, there is a lack of evidence as to whether acupuncture can alleviate chemotherapy associated side effects
<b>Conclusions</b>	Acupuncture may alleviate the treatment-related symptoms of breast cancer; however, further studies are necessary to obtain conclusive evidence of the effectiveness of acupuncture in treating breast cancer.

### 1.1.4. Pan 2020

Pan Yuanqing, Tang Yong, Liang Haiqian, Chen Gen, Xiping Shen, Jin Dong, Cui Qi, Qi Miaomiao. Acupuncture for Hormone Therapy-Related Side Effects in Breast Cancer Patients: A GRADE-Assessed Systematic Review and Updated Meta-Analysis. *Integr Cancer Ther.* 2020. [212315]. doi

<b>Purpose</b>	To determine the efficacy of acupuncture on the management of hormone therapy-related side effects in breast cancer patients.
<b>Methods</b>	Randomized controlled trials of acupuncture versus a control or placebo in breast cancer patients that examined reductions in therapy-related side effects were retrieved from PubMed, EMBASE, Web of Science, and the Cochrane Library through April 2020. Data on patient symptoms (hot flashes, fatigue, pain, stiffness, and gastrointestinal symptoms), physical capacity, cytokines, and general psychosomatic well-being were analyzed. We evaluated and analyzed the quality of all included studies with the 5.2 Cochrane Handbook standards using Stata software (version 10.0) and Revman software (version 5.2), respectively. We assessed the risk of bias using the Cochrane Risk of Bias tool and evaluated the quality of evidence using the GRADE (Grading of Recommendations, Assessment, Development, and Evaluations) approach.
<b>Results</b>	The pooled results suggested that acupuncture led to moderate improvements in hot flashes, fatigue, and stiffness. No significant differences were observed in pain, gastrointestinal symptoms, Kupperman index scores, Overall quality of life, tumor necrosis factor levels, and interleukin levels.
<b>Conclusions</b>	Evidence for outcome indicators of symptom management were downgraded by the GRADE system for inconsistency, indirectness, and imprecision in the included RCTs. Nonetheless, acupuncture is a moderately appropriate alternative therapy for hormone therapy-related side effects in breast cancer patients. However, it still lacks large-sample, multicenter, prospective RCTs. Future research should focus on standardizing comparison groups and treatment methods, be at least single-blinded, assess biologic mechanisms, have adequate statistical power, and involve multiple acupuncturists.

### 1.1.5. Pan 2018

Pan Y, Yang K, Shi X, Liang H, Shen X, Wang R, Ma L, Cui Q, Yu R, Dong Y. Clinical Benefits of Acupuncture for the Reduction of Hormone Therapy-Related Side Effects in Breast Cancer Patients: A Systematic Review. *Integr Cancer Ther.* 2018;17(3):602-618. [166845].

<b>Importance</b>	Acupuncture can help reduce unpleasant side effects associated with endocrine therapy for breast cancer. Nevertheless, comprehensive evaluation of current evidence from randomized controlled trials (RCTs) is lacking.
<b>Objective</b>	To estimate the efficacy of acupuncture for the reduction of hormone therapy-related side effects in breast cancer patients.
<b>Methods</b>	EVIDENCE REVIEW: RCTs of acupuncture in breast cancer patients that examined reductions in hormone therapy-related side effects were retrieved from PubMed, EMBASE, Web of Science, Ovid MEDLINE, and Cochrane Library databases through April 2016. The quality of the included studies was evaluated according to the 5.2 Cochrane Handbook standards, and CONSORT and STRICTA (Revised Standards for Reporting Interventions in Clinical Trials of Acupuncture) statements. INTERVENTION: Interventions included conventional acupuncture treatment compared with no treatment, placebo, or conventional pharmaceutical medication. Major outcome measures were the alleviation of frequency and symptoms and the presence of hormone therapy-related side effects.

<b>Findings/Results</b>	A total of <b>17 RCTs, including a total of 810 breast cancer patients</b> were examined. The methodological quality of the trials was relatively rigorous in terms of randomization, blinding, and sources of bias. Compared with control therapies, the pooled results suggested that acupuncture had moderate effects in improving stiffness. No significant differences were observed in hot flashes, fatigue, pain, gastrointestinal symptoms, Kupperman index, general well-being, physical well-being, tumor necrosis factor (TNF), and interleukin (IL).
<b>Conclusions</b>	Acupuncture therapy appears to be potentially useful in relieving functional stiffness. However, further large-sample trials with evidence-based design are still needed to confirm these findings.

### 1.1.6. Kim 2018

Kim TH, Kang JW, Lee MS. Current evidence of acupuncture for symptoms related to breast cancer survivors: A PRISMA-compliant systematic review of clinical studies in Korea. *Medicine (Baltimore)*. 2018;97(32). [168683].

<b>Background</b>	Breast cancer survivors experience various symptoms associated with their cancer interventions, and the benefits of acupuncture for these symptoms have been evaluated in clinical trials worldwide. The purpose of this review was to discuss the current status of clinical research regarding the use of acupuncture as a part of traditional Korean medicine (KM) for various symptoms associated with breast cancer therapies.
<b>Methods</b>	We conducted a systematic review of the literature regarding the use of acupuncture as a part of traditional KM to treat symptoms associated with breast cancer therapies. The following databases were searched for content up to February 2017: MEDLINE, EMBASE, the Cochrane library, 4 Korean databases, and conference proceedings from major Korean medical societies.
<b>Results</b>	Among the 1228 identified articles, 8 observational studies (3 case series and 5 case reports), and 1 randomized controlled trial (RCT) were included in this review. Among these studies, 3 investigated lymphedema, 2 investigated chemotherapy-induced peripheral neuropathy, 1 investigated hot flushes, 1 investigated constipation, and 2 investigated miscellaneous symptoms in breast cancer survivors; all studies concluded that acupuncture can alleviate the symptom in question. However, we identified only 1 relevant RCT, and the included studies had limitations in terms of reporting quality.
<b>Conclusion</b>	There is a lack of conclusive evidence regarding the benefits of acupuncture for the treatment of breast cancer survivors in Korea. More rigorous RCTs are necessary in the future to establish stronger clinical evidence regarding the use of acupuncture to better reflect the clinical context of Korea.

### 1.1.7. Lee 2016 ☆

Lee PL, Tam KW, Yeh ML, Wu WW. Acupoint stimulation, massage therapy and expressive writing for breast cancer: A systematic review and meta-analysis of randomized controlled trials. *Complement Ther Med*. 2016;:87-101. [186757].

<b>OBJECTIVE</b>	A systematic review and meta-analysis were conducted to determine the effects on the quality of life, negative emotions and disease-related symptoms among women with breast cancer.
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<b>METHODS</b>	Two independent researchers performed a structured search using data sources including MEDLINE, CINAHL, Cochrane Central Register of Controlled Trials, EMBASE, PubMed and PsychINFO from the beginning of time until the first week of January 2015. A total of 23 acupoint stimulation, massage therapy and expressive writing RCTs were included in the review.
<b>RESULTS</b>	The study showed that no single intervention could be put under the spotlight exhibiting an overall effective result on all measured outcomes; however, looking into each one in detail shows different results in specific outcomes. Among the three interventions, acupoint stimulation has a treatment effect for general pain (MD=-1.46, 95% CI=-2.38 to -0.53) and fatigue (MD=-2.22, 95% CI=-3.68 to -0.77), massage therapy has a treatment effect for anxiety (MD=-0.50, 95% CI=-0.77 to -0.24), and expressive writing has a treatment effect for quality of life (MD=7.18, 95% CI=0.38 to 13.98). The measurement other outcomes showed either ineffective or equivocal results.
<b>CONCLUSION</b>	Non-pharmacologic interventions including acupoint stimulation, massage therapy and expressive writing have an effect on a middle-age woman with breast cancer. However, because of limitations, the seemingly promising results should be interpreted with caution.

### 1.1.8. Dos Santos 2010

Dos Santos S, Hill N, Morgan A, Smith J, Thai C, Cheifetz O. Acupuncture for treating common side effects associated with breast cancer treatment: a systematic review. *Medical Acupuncture*. 2010; 22(2): 81-97. [146883].

<b>Background</b>	Although breast cancer treatment is associated with improved survival rates, it is also associated with numerous side effects, which can decrease overall quality of life for patients. Recent research indicates acupuncture may be useful in decreasing the incidence and duration of some side effects associated with cancer treatment.
<b>Objective</b>	To assess the evidence surrounding the role of acupuncture in treating side effects associated with breast cancer treatment. Design: Systematic review based on search of PubMed, EMBASE (1996 to 2009 week 17), AMED (1985 to April 2009), and Ovid MEDLINE (1996 to April 2009) databases for relevant studies published up to April 2009. Authors of recent studies were contacted to determine if additional studies were taking place. Fourteen articles were independently appraised by 4 blinded reviewers.
<b>Results</b>	<b>Twelve studies met inclusion criteria:</b> 9 investigated effects of traditional acupuncture and 3 addressed electroacupuncture. Seven different side effects were examined (hot flashes, fatigue, pain, dyspnea, psychological well-being, decreased range of motion with lymphedema, and emesis). The findings support the potential use of traditional acupuncture to decrease hot flashes, fatigue, and pain, whereas electroacupuncture may be useful in treating emesis and hot flashes. There is a paucity of high-quality evidence to support the use of acupuncture to treat dyspnea, emesis, and decreased range of motion with lymphedema or to improve psychological well-being.
<b>Conclusion</b>	<b>Current evidence suggests that traditional acupuncture may be useful in reducing hot flashes, fatigue, and pain, whereas electroacupuncture may be useful in treating emesis and hot flashes.</b> Due to limitations in study designs and heterogeneity in treatment protocols, results should be viewed with caution and combined with clinical reasoning.

### 1.1.9. Chao 2009

Chao LF, Zhang AL, Liu HE, Cheng MH, Lam HB, Lo SK. The Efficacy of Acupoint Stimulation for the

Management of Therapy-Related Adverse Events in Patients with Breast Cancer: A Systematic Review. *Breast Cancer Res Treat.* 2009;118(2):255-67. [159367]

<b>Objectifs</b>	The aim of the present study was to scrutinize the evidence on the use of acupoint stimulation for managing therapy-related adverse events in breast cancer.
<b>Méthodes</b>	A comprehensive search was conducted on eight English and Chinese databases to identify clinical trials designed to examine the efficacy of acupressure, acupuncture, or acupoint stimulation (APS) for the management of adverse events due to treatments of breast cancer. Methodological quality of the trials was assessed using a modified Jadad scale.
<b>Résultats</b>	Using pre-determined keywords, 843 possibly relevant titles were identified. Eventually 26 papers, 18 in English and eight in Chinese, satisfied the inclusion criteria and entered the quality assessment stage. The 26 articles were published between 1999 and 2008. They assessed the application of acupoint stimulation on six disparate conditions related to anticancer therapies including vasomotor syndrome, chemotherapy-induced nausea and vomiting, lymphedema, post-operation pain, aromatase inhibitors-related joint pain and leukopenia. Modalities of acupoint stimulation used included traditional acupuncture, acupressure, electroacupuncture, and the use of magnetic device on acupuncture points. Overall, 23 trials (88%) reported positive outcomes on at least one of the conditions examined. However, only nine trials (35%) were of high quality; they had a modified Jadad score of 3 or above. Three high quality trials revealed that acupoint stimulation on P6 (NeiGuang) was beneficial to chemotherapy-induced nausea and vomiting. For other adverse events, the quality of many of the trials identified was poor; no conclusive remarks can be made. Very few minor adverse events were observed, and only in five trials.
<b>Conclusion</b>	APS, in particular acupressure on the P6 acupoint, appears beneficial in the management of chemotherapy-induced nausea and vomiting, especially in the acute phase. More well-designed trials using rigorous methodology are required to evaluate the effectiveness of acupoint stimulation interventions on managing other distress symptoms.

## 1.2. Special outcome

### 1.2.1. Chemotherapy-induced peripheral neuropathy

#### 1.2.1.1. Huang 2026

Huang B, Zhou M, Song S, Ma S, Jiang M. Efficacy and safety of acupuncture in the treatment of chemotherapy-induced peripheral neuropathy in breast cancer patients: a systematic review and meta-analysis. *Front Neurol.* 2026 Jan 14;16:1690446. <https://doi.org/10.3389/fneur.2025.1690446>

<b>Background</b>	Chemotherapy-induced peripheral neuropathy (CIPN) is a common and debilitating side effect in breast cancer survivors. This meta-analysis evaluates the efficacy and safety of acupuncture for CIPN management.
<b>Methods</b>	We systematically searched PubMed, Embase, Web of Science, Cochrane Library, China National Knowledge Infrastructure, Wanfang Database, VIP Database, and Chinese Biomedical Literature Database from database inception to August 3, 2025, for randomized controlled trials (RCTs) on acupuncture treatment for CIPN in breast cancer patients. We used RevMan 5.2 and Stata 16.0 for meta-analysis.

<b>Results</b>	A total of 10 RCTs involving 653 patients were included. Treatment group significantly improved the clinical efficacy versus control group (RD = 0.22, 95% CI: 0.10, 0.33; $p < 0.001$ ). Chemotherapeutic agent subgroup analysis showed that acupuncture was beneficial for taxane-induced CIPN (RD = 0.26, 95% CI: 0.14, 0.38; $p < 0.001$ ) and utidelone-induced CIPN (RD = 0.33, 95% CI: 0.10, 0.56; $p = 0.004$ ), while the effect for CIPN from unspecified agents was not statistically significant (RD = 0.11, 95% CI: -0.20, 0.43; $p = 0.484$ ). The observed efficacy ranking was: utidelone-induced CIPN > taxane-induced CIPN > CIPN from unspecified agents. Acupuncture also reduced pain intensity (SMD = -0.65, 95% CI: -1.01, -0.29; $p < 0.001$ ) and FACT-NTX (WMD = 3.66, 95% CI: 1.00, 6.32; $p = 0.007$ ). No significant differences were found for peroneal nerve conduction velocity (WMD = 1.07, 95% CI: -4.25, 6.39; $p = 0.694$ ), quality of life score (SMD = 0.54, 95% CI: -0.20, 1.27; $p = 0.153$ ), or incidence of adverse reactions (RD = 0.03, 95% CI: -0.07, 0.13; $p = 0.540$ ).
<b>Conclusion</b>	In breast cancer patients with CIPN, acupuncture improved clinical efficacy, reduced pain intensity, and enhanced FACT-NTX scores, particularly in utidelone- and taxane-related cases. No clear benefits were seen for nerve conduction velocity, quality of life score, or incidence of adverse reactions. These findings support acupuncture as a safe and effective adjunct for CIPN symptom management in breast cancer patients.

## 1.2.2. Quality of Life

### 1.2.2.1. Qurrotunnada 2025

Qurrotunnada F, Rochmawati E. Quality of Life in Breast and Gynecological Cancer: A Review of Systematic Reviews, 1985-2025. *Asia Pac J Clin Oncol*. 2025 Nov 15.

<https://doi.org/10.1111/ajco.70052>

<b>Background</b>	Breast and gynecological cancers can significantly impact patients' quality of life (QoL), which has become an important outcome measure in cancer care. This review aims to provide an updated synthesis of the literature on the QoL among patients with breast and gynecological cancers.
<b>Methods</b>	A review of systematic reviews was conducted using PubMed, Scopus, Science Direct, and Wiley Online Library to identify papers from 1985 to 2025. Publications were screened following Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, and methodological quality was assessed using A Measurement Tool to Assess Systematic Review (AMSTAR) criteria. The findings were summarized in tables.
<b>Results</b>	Twenty-four studies were selected for inclusion. Findings were summarized under the following themes: quality-of-life measurements; treatments (including exercise, therapy, and digital intervention); and QoL among different nations, races, and regions. The EORTC QLQ-C30 emerged as the most widely used assessment tool in cancer research. Most reviews focused on the impact of treatments. According to the reviews, aerobic exercise, Baduanjin exercise, and <b>acupuncture</b> were the top recommended interventions for improving QoL in patients with breast cancer (BC).
<b>Conclusion</b>	There are many perceived challenges to collecting the data. Most of them involve obstacles in reporting and a variety of designs, interventions, and outcomes, making it hard to identify the most effective methods for improving QoL. However, some interventions have been proven to be effective for BC patients, including aerobic and Baduanjin exercises, yoga, acupuncture, and cognitive-behavioral stress management. Randomized controlled trials are needed to validate and refine treatment protocols. Future systematic reviews and meta-analyses should follow the reporting guidelines.

### 1.2.3. Hot Flushes in breast cancer

see ' [corresponding item](#)

### 1.2.4. Cancer-Related Fatigue in Breast Cancer

#### 1.2.4.1. Choi 2022

Choi TY, Ang L, Jun JH, Alraek T, Birch S, Lu W, Lee MS. Acupuncture for Managing Cancer-Related Fatigue in Breast Cancer Patients: A Systematic Review and Meta-Analysis. *Cancers (Basel)*. 2022 Sep 11;14(18):4419. <https://doi.org/10.3390/cancers14184419>

<b>Background</b>	Breast cancer (BC) is the most common cancer in women and is a serious threat to women's health. Cancer-related fatigue (CRF) is a distressing symptom in BC patients during and after chemotherapy or radiation therapy that severely affects quality of life (QoL). AT is widely used for fatigue management. However, the effect of AT on CRF is still uncertain. This study aimed to evaluate the efficacy and safety of AT in the management of CRF in patients with BC.
<b>Methods</b>	Eleven databases were searched through June 2022. Two researchers independently performed the database search, study selection, data extraction, and risk of bias assessment. Study selection was performed based on predefined Participants, Intervention, Comparators, Outcomes, Study design (PICOS) criteria, and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were followed when reporting the results. A meta-analysis was performed according to the Cochrane systematic review method using RevMan 5.3.
<b>Results</b>	A total of <b>12 studies</b> including a total of <b>1084 participants</b> were included. The results showed that AT had a beneficial effect compared with sham AT (n = 256, SMD = -0.26, 95% CI [-0.51, -0.01], p = 0.04, I <sup>2</sup> = 0%) and a long-term effect on fatigue score (n = 209, MD = -0.32, 95% CI [-0.59, -0.04], p = 0.02, I <sup>2</sup> = 0%). Meta-analysis showed that AT had a beneficial effect compared with usual care (UC) on fatigue scores (n = 238, SMD = -0.39, 95% CI [-0.66 to -0.12], p = 0.005, I <sup>2</sup> = 0%). Of the 12 articles, 3 articles were judged as having a low risk of bias in all domains and hence were of high quality. No serious adverse effects were identified.
<b>Conclusions</b>	AT is an effective and safe treatment for CRF, and AT is more effective than sham AT or UC or wait-list control (WLC). Nevertheless, the methodological quality of most of these studies was low, and the included studies/sample sizes were small, so the ability to derive decisive implications was limited. Further research is needed to confirm these findings.

#### 1.2.4.2. Pan 2020

Pan Yuanqing, Tang Yong, Liang Haiqian, Chen Gen, Xiping Shen, Jin Dong, Cui Qi, Qi Miaomiao. Acupuncture for Hormone Therapy-Related Side Effects in Breast Cancer Patients: A GRADE-Assessed Systematic Review and Updated Meta-Analysis. *Integr Cancer Ther*. 2020. [212315]. [doi](#)

<b>Purpose</b>	To determine the efficacy of acupuncture on the management of hormone therapy-related side effects in breast cancer patients.
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<b>Methods</b>	Randomized controlled trials of acupuncture versus a control or placebo in breast cancer patients that examined reductions in therapy-related side effects were retrieved from PubMed, EMBASE, Web of Science, and the Cochrane Library through April 2020. Data on patient symptoms (hot flashes, fatigue, pain, stiffness, and gastrointestinal symptoms), physical capacity, cytokines, and general psychosomatic well-being were analyzed. We evaluated and analyzed the quality of all included studies with the 5.2 Cochrane Handbook standards using Stata software (version 10.0) and Revman software (version 5.2), respectively. We assessed the risk of bias using the Cochrane Risk of Bias tool and evaluated the quality of evidence using the GRADE (Grading of Recommendations, Assessment, Development, and Evaluations) approach.
<b>Results</b>	The pooled results suggested that <b>acupuncture led to moderate improvements</b> in hot flashes, <b>fatigue</b> , and stiffness. No significant differences were observed in pain, gastrointestinal symptoms, Kupperman index scores, Overall quality of life, tumor necrosis factor levels, and interleukin levels.
<b>Conclusions</b>	Evidence for outcome indicators of symptom management were downgraded by the GRADE system for inconsistency, indirectness, and imprecision in the included RCTs. Nonetheless, acupuncture is a moderately appropriate alternative therapy for hormone therapy-related side effects in breast cancer patients. However, it still lacks large-sample, multicenter, prospective RCTs. Future research should focus on standardizing comparison groups and treatment methods, be at least single-blinded, assess biologic mechanisms, have adequate statistical power, and involve multiple acupuncturists.

### 1.2.5. Post-mastectomy pain syndrome

#### 1.2.5.1. Kannan 2022

Kannan P, Lam HY, Ma TK, Lo CN, Mui TY, Tang WY. Efficacy of physical therapy interventions on quality of life and upper quadrant pain severity in women with post-mastectomy pain syndrome: a systematic review and meta-analysis. *Qual Life Res.* 2022 Apr;31(4):951-973.

<https://doi.org/10.1007/s11136-021-02926-x>

<b>Purpose</b>	To determine the efficacy of physical therapy interventions on quality of life (QoL) and pain severity in post-mastectomy pain syndrome (PMPS).
<b>Methods</b>	Multiple databases were searched from database inception to October 2020. Searches were limited to human studies published in either English or Chinese in peer-reviewed journals with full text available for randomized controlled trials conducted on females. Trials comparing the effectiveness of physical therapy interventions against control conditions on QoL and pain were included.
<b>Results</b>	Eighteen trials were included in the review. The pooled analysis of the four exercise trials revealed a significant effect of the intervention on general [standardized mean difference [SMD]: 0.87 (95%CI: 0.36, 1.37); p = 0.001], physical [SMD: 0.34 (95%CI: 0.01, 0.66); p = 0.044], and mental health components [SMD: 0.27 (95%CI: 0.03, 0.51); p = 0.027] of QoL compared with the control condition. Meta-analyses of six exercise trials, two myofascial release trials, and <b>two acupuncture trials</b> revealed a significant improvement in pain severity in the treatment group than in the control group. However, meta-analyses of two studies revealed a non-significant effect of compression therapy compared to control on pain severity.

<b>Conclusion</b>	Our meta-analyses found that exercise is beneficial for improving the QoL and pain severity of women with PMPS. Future studies are needed to determine the optimal parameters for exercise interventions designed to improve QoL and pain severity in women with PMPS. The effect of <b>acupuncture</b> , myofascial release, and compression therapy remains inconclusive, and future research is required to validate the effect of these interventions on PMPS.
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## 1.2.6. Stress in breast cancer patients

### 1.2.6.1. Ding 2024

Ding X, Zhao F, Zhu M, Wang Q, Wei S, Xue J, Li Z. A systematic review and meta-analysis of interventions to reduce perceived stress in breast cancer patients. *Complement Ther Clin Pract*. 2024 Feb;54:101803. <https://doi.org/10.1016/j.ctcp.2023.101803>

<b>Purpose</b>	Breast cancer (BC) patients commonly face stress that causes severe psychological and physiological problems. The main objective of the review was to confirm the effect of interventions on breast cancer patients' perceived stress, and the secondary objective was to explore the impact of interventions on anxiety, depression, and inflammatory markers.
<b>Methods</b>	A systematic and comprehensive search for randomized controlled trials (RCTs) that reported interventions' effects on perceived stress in breast cancer patients was performed in nine databases.
<b>Results</b>	<b>Twenty-four RCTs, including 1887 participants</b> , met the inclusion criteria, summarizing six categories for the intervention group: mindfulness and yoga, exercise, cognitive-behavioral stress management, self-regulation, relaxation training, and acupuncture. Compared with usual care or other types of care, mindfulness and yoga had excellent effects against perceived stress, anxiety, and depression; self-regulation could reduce perceived stress and anxiety; exercise could reduce perceived stress; acupuncture could reduce the level of depression; mindfulness could improve the TNF- $\alpha$ level, and yoga can reduce the level of salivary cortisol and DNA damage.
<b>Conclusion</b>	This systematic review indicated that nondrug interventions, such as mindfulness and yoga, effectively reduce perceived stress, anxiety, and depression. Rigorous studies with large sample sizes are needed to address the limitations of small sample sizes and shortcomings in methodology in this area.

## 1.2.7. Insomnia in breast cancer

### 1.2.7.1. Weng 2024

Weng Y, Ren X, Zu Z, Xiao L, Chen M. Efficacy and safety of acupuncture for the treatment of insomnia in breast cancer patients: A systematic review and meta-analysis. *Complement Ther Med*. 2024 Nov;86:103087. <https://doi.org/10.1016/j.ctim.2024.103087>

<b>Background</b>	Breast cancer-related insomnia is one of the most common symptoms in patients with breast cancer, and acupuncture has been increasingly used in the treatment. However, there has been no meta-analysis that specifically explores the efficacy and safety of acupuncture in treating insomnia related to breast cancer.
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<b>Objective</b>	The aim of this review was to systematically analyze the existing literature through a meta-analysis to evaluate the effectiveness and safety of acupuncture for breast cancer-related insomnia.
<b>Methods</b>	Six medical databases were comprehensively searched for previous randomized controlled trials (RCTs) up to April 2024. The Pittsburgh Sleep Quality Index (PSQI) score was the primary outcome. The secondary outcomes include the Insomnia Severity Index (ISI), Sleep Onset Latency (SOL), Wake After Sleep Onset (WASO), Total Sleep Time (TST), and Sleep Efficiency (SE), and the later four outcomes were measured by Actiwatch and sleep diary, respectively.
<b>Results</b>	A total of <b>seven articles with 434 participants</b> were included. The meta-analysis revealed that acupuncture produced a significant improvement in the total PSQI score (MD 95 %CI = -2.16[-2.88, - 1.45], P < 0.001), but had no statistical significance on ISI scores compared with controls (MD 95 %CI = -1.53[-3.97, 0.91], P = 0.22). From the Actiwatch, there was no substantial disparity observed in the enhancement of Sleep Onset Latency (SOL) (MD 95 %CI = -6.40[-13.19, 0.39], P = 0.06), Wake After Sleep Onset (WASO) (MD 95 %CI = -1.45[-7.09, 4.20], P = 0.62), or Total Sleep Time (TST) (MD 95 %CI = 3.54 [-4.71, 11.79], P = 0.40) between the experimental group and the control group. However, a significant distinction was observed in Sleep Efficiency (SE) improvement (MD 95 %CI = 2.43 [0.14, 4.72], P = 0.04). From the sleep diary, there was a significant difference in the amelioration of SOL (MD 95 %CI = -9.15[-16.48, - 1.81], P = 0.01), TST (MD 95 %CI = 29.92 [16.74, 43.10], P < 0.001), and SE (MD 95 %CI = 4.57 [1.92, 7.23], P = 0.0007) between the experimental group and the control group. However, no significant divergence was observed in the improvement of WASO (MD 95 %CI = 4.53[-4.81, 13.87], P = 0.34). All reported acupuncture-related adverse events were mild in severity.
<b>Conclusions</b>	Acupuncture can partially alleviate insomnia symptoms in breast cancer patients. Moreover, acupuncture is safe and may serve as a dependable alternative therapy in clinical settings. Owing to the limited number of studies included, potential biases of heterogeneous interventions, and methodological weaknesses of long-term follow-up, more high-quality RCTs with large sample sizes should be conducted to evaluate acupuncture treatment.

## 2. Overviews of Systematic Reviews

### 2.1. Sasaki 2019

Sasaki Y, Cheon C, Motoo Y, Jang S, Park S, Ko SG, Jang BH, Hwang DS. [Complementary and Alternative Medicine for Breast Cancer Patients: An Overview of Systematic Reviews]. *Yakugaku Zasshi*. 2019;139(7):1027-1046. [199186].

<b>Objectives</b>	The application of systematic review (SR) has been increased rapidly in the field of cancer treatment. Complementary and alternative medicine (CAM) for cancer is no exception. The aim of this review is to evaluate and summarize systematic reviews on the CAM use in breast cancer patients.
<b>Methods</b>	Search sources were Centre for Reviews and Dissemination (CRD), Cochrane Database of Systematic Reviews (CDSR), and PubMed. In addition, we assessed the quality of SR with the Assessing the Methodological Quality of Systematic Reviews (AMSTAR). This review did not consider control groups and outcomes.

<b>Results</b>	<p>Thirty-four SRs met a set of criteria. According to interventions, there were twenty SRs which included yoga, acupuncture, and herbal medicines. Meta-analysis of 19 out of 34 reviews showed the followings: (1) <b>acupuncture had a beneficial effect on the frequency of hot flushes</b>, (2) yoga had a beneficial effect on depression and health-related QOL, (3) mindfulness-based stress reduction (MBSR) had a beneficial effect on anxiety and depression, (4) combination of herbal medicine and chemotherapy synergistically improved clinical outcomes, (5) <b>acupuncture did not show significant effect on the severity of hot flushes and cancer-related pain</b>, (6) yoga was unable to be confirmed as having an effect on cancer-related pain and physical well-being. Given the results of AMSTAR, 9 out of 34 reviews were of high quality and 3 reviews were deemed to be of low quality. In conclusion, since most SRs were at moderate or high-quality levels, CAM could be helpful for treating specific symptoms related to breast cancer.</p>
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### 3. Clinical Practice Guidelines

⊕ positive recommendation (regardless of the level of evidence reported)  
 ∅ negative recommendation (or lack of evidence)

#### 3.1. International clinical practice guideline 2025 ⊕

Lu T, Lai H, Lin H, Ma F, Hou L, Tang L, Zhu Y, Mao H, Zhang AL, Lee MS, Ozaki A, Schweitzer MC, Zhao H, Zhong L, Jia B, Fan L, Huang J, Han B, Zhao W, Ge L, Liu J, Huang L. Using Integrative Therapies to Improve Patient-Reported Outcomes in Breast Cancer Survivors: A Living Evidence-Based Clinical Practice Guideline. *J Evid Based Med*. 2025 Jun;18(2):e70029. <https://doi.org/10.1111/jebm.70029>. <https://pubmed.ncbi.nlm.nih.gov/40207746>

*Recommendation 3.1* Conditional recommendations in favor of mindfulness therapy (low certainty), aromatherapy (low certainty), acupuncture (low certainty), and bright light therapy (very low certainty) to improve sleep quality in general breast cancer survivors.

*Recommendation 4.2* Conditional recommendations in favor of acupuncture to improve skeletal muscle pain with aromatase inhibitor induced arthralgia in breast cancer survivors (low certainty).

#### 3.2. American Society of Breast Surgeons (ASBS, USA) 2024 ⊕

A Surgeon's Resource Guide to Endocrine Therapy for the Management and Risk Reduction of Hormone Receptor Positive Breast Cancer. 2024.

<https://www.breastsurgeons.org/docs/statements/ASBrS-Resource-Guide-on-Endocrine-Therapy.pdf>

*Vasomotor Symptoms*: Studies have not shown a significant benefit with traditional acupuncture, but data is promising for electroacupuncture. *Musculoskeletal Complaints*: Clinical trials have demonstrated the effectiveness of **acupuncture** and duloxetine for managing AI-related arthralgias

#### 3.3. Institut National du Cancer (INC, France) 2023 ⊕

Prévention et gestion des effets indésirables des anticancéreux - Hormonothérapies dans le traitement adjuvant des cancers du sein. Institut National du Cancer. 2023.

<https://www.e-cancer.fr/Expertises-et-publications/Catalogue-des-publications/Prevention-et-gestion-d-es-effets-indesirables-des-anticancereux-Hormonotherapies-dans-le-traitement-adjuvant-des-cancers-du-sein>

*Douleurs articulaires et musculosquelettiques* (Inhibiteurs de l'aromatase. Agonistes de la GNRH. Tamoxifène). Discuter les approches non pharmacologiques telles que kinésithérapie, physiothérapie, balnéothérapie, **acupuncture**, techniques de relaxation.

*Bouffées de chaleur* (tamoxifène, agonistes de la GNRH). En complément, selon le groupe de travail, le recours au yoga, à l'hypnose et à la thérapie cognitivocomportementale peut être envisagé selon les possibilités du patient. Des essais cliniques ont évalué l'impact de l'**acupuncture** sur les bouffées de chaleur sous hormonothérapie. Cependant leurs résultats ne permettent pas de conclure sur son efficacité dans cette situation. L'activité physique adaptée n'a pas montré d'effet significatif sur la gestion des bouffées de chaleur.

Ref.

- Liu X, et al. Acupuncture for Arthralgia Induced by Aromatase Inhibitors in Patients with Breast Cancer: A Systematic Review and Meta-analysis. *Integr Cancer Ther.* 2021 Jan-Dec ; 20:1534735420980811

- Hershman DL, et al. Effect of Acupuncture vs Sham Acupuncture or Waitlist Control on Joint Pain Related to Aromatase Inhibitors Among Women With Early-Stage Breast Cancer: A Randomized Clinical Trial. *JAMA.* 2018 Jul 10 ; 320(2):167-176

### 3.4. Cancer Australia (CA, Australia) 2020 ☉

Guidance for the management of early breast cancer. Recommendations and practice points. Cancer Australia. 2020.32P. [216640]. [URL](#)

Practice Point. Offer information regarding effective evidence-based complementary therapies (such as yoga, **acupuncture**, and meditation) for symptom control in patients with breast cancer.

### 3.5. American Society of Clinical Oncology (ASCO, USA) 2018 ☉

Lyman GH, Greenlee H, Bohlke K, Bao T, DeMichele AM, Deng GE, Fouladbakhsh JM, Gil B, Hershman DL, Mansfield S, Mussallem DM, Mustian KM, Price E, Rafta S, Cohen L. Integrative Therapies During and After Breast Cancer Treatment: ASCO Endorsement of the SIO Clinical Practice Guideline. *J Clin Oncol.* 2018. [155475]. [doi](#).

**Acupuncture**, massage, and relaxation can be considered for reducing anxiety. (Grade C). **Acupressure** can be considered as an addition to antiemetic drugs to control nausea and vomiting during chemotherapy (Grade B). **Electroacupuncture** can be considered as an addition to antiemetic drugs to control vomiting during chemotherapy (Grade B). **Acupuncture**, healing touch, and stress management can be considered for improving mood disturbance and depressive symptoms (Grade C). **Acupuncture** and yoga can be considered for improving post-treatment fatigue (Grade C). **Acupuncture**, healing touch, hypnosis, and music therapy can be considered for the management of pain (Grade C). **Acupuncture**, mistletoe, qigong, reflexology, and stress management can be considered for improving quality of life (Grade C). **Acupuncture** can be considered for improving hot flashes (Grade C).

### 3.6. National Institute for Health and Clinical Excellence (NICE, UK) 2018 ☉

Nice CKS Clinical knowledge summaries).. Breast cancer - managing FH; London (UK): National Institute for Health and Clinical Excellence (NICE). 2018:18p. [196020].

Provide information on non-hormonal and non-pharmacological treatments, such as antidepressants (selective serotonin reuptake inhibitor), vaginal moisturisers and lubricants, cognitive behavioural therapy (CBT), hypnosis, acupuncture, and relaxation techniques, for the management of symptoms.

### 3.7. European School of Oncology (ESO) and the European Society for Medical Oncology (ESMO) 2018 ⊕

Cardoso F, Senkus E, Costa A, Papadopoulos E, Aapro M, André F et al. 4th ESO-ESMO International Consensus Guidelines for Advanced Breast Cancer (ABC 4)†. *Ann Oncol.* 2018;29(8):1634-57. [196973].

Acupuncture may help against induced nausea and vomiting, fatigue and hot flashes;

### 3.8. Spanish Society of Medical Oncology (SEOM, Spain) 2018 ⊕

Barnadas A, Algara M, Cordoba O, Casas A, Gonzalez M, Marzo M, Montero A, Muñoz M, Ruiz A, Santolaya F, Fernandez T. Recommendations for the follow-up care of female breast cancer survivors: a guideline of the Spanish Society of Medical Oncology (SEOM), Spanish Society of General Medicine (SEMERGEN), Spanish Society for Family and Community Medicine (SEMFYC) et al. *Clin Transl Oncol.* 2018;20(6):687-694. [175865].

*Hot flashes secondary to menopause:* Acupuncture has demonstrated efficacy.  
*Joint pain:* Acupuncture can be beneficial.

### 3.9. American Cancer Society/American Society of Clinical Oncology (ACS/ASCO, USA) 2016 ⊕

Runowicz CD, Leach CR, Henry NL, Henry KS, Mackey HT, Cowens-Alvarado RL, Cannady RS, Pratt-Chapman ML, Edge SB, Jacobs LA, Hurria A, Marks LB, LaMonte SJ, Warner E, Lyman GH, Ganz PA. American Cancer Society/American Society of Clinical Oncology Breast Cancer Survivorship Care Guideline. *J Clin Oncol.* 2016;34(6):611-35. [198256].

Musculoskeletal health Recommendation 3.8: It is recommended that primary care clinicians (a) should assess for musculoskeletal symptoms, including pain, by asking patients about their symptoms at each clinical encounter (LOE 5 0); and (b) should offer one or more of the following interventions based on clinical indication: **acupuncture**, physical activity, and referral for physical therapy or rehabilitation (LOE 5 III).

Pain and neuropathy Recommendation 3.9: It is recommended that primary care clinicians : (b) should offer interventions, such as acetaminophen, nonsteroidal anti-inflammatory drugs, physical activity, and/or **acupuncture**, for pain (LOE 5 I).

### 3.10. Cancer Australia (CA, Australia) 2016 ⊕

Management of menopausal symptoms in women with a history of breast cancer. *Cancer Australia.* 2016. [115384].

- Acupuncture and electro-acupuncture can be considered for the management of *moderate to severe vasomotor symptoms* in women with a history of breast cancer noting there is inconsistent evidence regarding their effectiveness (grade D). Limited evidence of an inconsistent effect of acupuncture on the frequency and severity of hot flushes, Limited evidence for an inconsistent effect on vasomotor symptoms with acupuncture.
- Acupuncture can be considered for the management of *sleep disturbance* in women with a history of breast cancer (grade C) ; Limited evidence that acupuncture improves sleep.
- *Vulvovaginal Symptoms and Sexual function.* No evidence.
- *Breast cancer recurrence.* Not reported

### 3.11. Alberta Health Services (AHS, Canada) 2015 Ø

Follow-up care for early-stage breast cancer. Clinical Practice Guideline. Alberta Health Services. 2015. 29P. [177969].

*Peripheral Neuropathy.* Other alternative treatment modalities, such as **acupuncture**, capsaicin cream, alpha-lipoic acid, and biofeedback have been used to manage the symptoms of peripheral neuropathy; however, these methods have not been tested rigorously.

### 3.12. Society for Integrative Oncology (SIO, USA) 2014 ⊕

Greenlee H, Balneaves LG, Carlson LE, Cohen M, Deng G, Hershman D, Mumber M, Perlmutter J, Seely D, Sen A, Zick SM, Tripathy D; Society for Integrative Oncology. Clinical practice guidelines on the use of integrative therapies as supportive care in patients treated for breast cancer. J Natl Cancer Inst Monogr. 2014;50:346-58. [167074].

*Anxiety/stress reduction.* Recommendations: Acupuncture can be considered for reducing anxiety in fatigued BC patients. Strength of evidence: C  
*Depression/mood.* Recommendations: Acupuncture can be considered for improving mood in postmenopausal women experiencing hot flashes or fatigue. Strength of evidence: C  
*Fatigue.* Recommendations: Acupuncture can be considered for the treatment of fatigue after the completion of cancer treatments. Strength of evidence: C  
*Quality of life and physical functioning.* Recommendations: Acupuncture can be considered for improving quality of life among cancer patients. Strength of evidence: C  
*CINV.* Recommendations: Acupressure can be considered for BC patients receiving CT as an addition to antiemetics to help control nausea and vomiting during CT. Electroacupuncture can be considered for BC patients as an addition to antiemetics to control vomiting during CT Strength of evidence: B  
*Pain.* Recommendations: Acupuncture can be considered as a nonpharmacologic approach to the short-term treatment of AIMSS. Electroacupuncture can be considered as a nonpharmacologic approach to the short-term treatment of AIMSS. Strength of evidence: C  
*Hot flashes.* Recommendations: Acupuncture can be considered for decreasing the number of hot flashes in BC patients. Electroacupuncture can be considered for decreasing the number of hot flashes in BC patients. Strength of evidence: C

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