Table des matières

General Oncology

Oncologie générale

Articles connexes: - évaluation du taiji-qigong -

1. Systematic Reviews and Meta-Analysis

1.1. Generic Acupuncture

1.1.1. Yu 2025 (quality of life)

Yu X, Gong SY, Luo Q, Xu GX, Tian H, Li Q, Chen M, Yang S, Yu SG. Effectiveness of acupuncture in improving quality of life for patients with advanced cancer: a systematic review and meta-analysis. Chin J Integr Med. 2025 Apr;31(4):360-371. https://doi.org/10.1007/s11655-024-4119-4

Background	Acupuncture has been increasingly used to alleviate symptoms and improve quality of life in patients with advanced cancer. However, the evidence supporting its effectiveness across multiple outcomes remains limited and inconsistent.
Objective	To evaluate the effect of acupuncture on quality of life and related symptoms in patients with advanced cancer through a systematic review and meta-analysis.
Methods	Nine databases (Cochrane Central, MEDLINE, Web of Science, Embase, CNKI, CINAHL, CBM, CSTJ, and Wanfang) were searched from inception to February 13, 2023, and updated to June 1, 2023, for RCTs evaluating acupuncture in advanced cancer. Primary outcome: quality of life (QOL); secondary outcomes: pain, fatigue, and adverse events. Data synthesis was conducted using RevMan 5.3 to calculate pooled effect sizes. Risk of bias was assessed with RoB-2, and evidence certainty was rated with GRADE.
Results	Seventeen RCTs involving 1,178 participants were included, of which 15 were pooled for meta-analysis. Most studies showed some concern for overall risk of bias. Acupuncture significantly improved QOL (MD = 6.67, 95% CI 5.09–8.26), reduced pain (MD = −1.18, 95% CI −2.28 to −0.08), and decreased adverse events (RR = 0.30, 95% CI 0.26–0.57) compared with control groups. Fatigue was not analyzed due to limited data. Heterogeneity was substantial, and the overall certainty of evidence was very low for both QOL and pain outcomes.
Conclusion	Acupuncture appears to enhance quality of life and reduce pain in patients with advanced cancer while being safe compared with usual care. However, the low certainty of available evidence warrants further high-quality RCTs to confirm these findings.

1.1.2. Guerra-Martín 2021

Guerra-Martín MD, Tejedor-Bueno MS, Correa-Casado M. Effectiveness of Complementary Therapies in Cancer Patients: A Systematic Review. Int J Environ Res Public Health. 2021;18(3). [216785]. doi

Background	According to the World Health Organization, cancer is the second leading cause of death in the world. In Spain, about a quarter of a million cases were diagnosed in 2017, and 81% of the Spanish population has used, at least once, some kind of complementary therapy. Said therapies are increasingly being used by cancer patients
Objective	The purpose of the study is to analyse the effectiveness of complementary therapies among cancer patients.
Methods	A systematic peer review was conducted following the PRISMA-ScR guide in four databases (PubMed, CINAHL, Scopus and WOS). The inclusion criteria were Randomised Clinical Trials, published between 2013 and 2018, with a value of 3 or more on the Jadad Scale. The protocol was registered in PROSPERO (CRD42019127593). The study sample amounted to 1845 patients (64.55% women), the most common being breast cancer patients (794), followed by lung cancer patients (341).
Results	Fifteen complementary therapies were identified. We found two studies for each of the following: **electroacupuncture**, phytotherapy, hypnotherapy, guided imagery and progressive muscle relaxation. From the remaining ones, we identified a study on each therapy. The findings reveal some effective complementary therapies: **auriculotherapy and acupuncture, laser moxibustion**, hypnosis, Ayurveda, **electroacupuncture**, progressive muscle relaxation and guided imagery, yoga, phytotherapy, music therapy and traditional Chinese medicine. On the other hand, **electroacupuncture, laser moxibustion** and traditional Chinese medicine presented adverse effects, and kinesiology did not show effectiveness.

1.1.3. Birch 2019 ☆

Birch S, Lee MS, Alraek T, Kim TH. Evidence, safety and recommendations for when to use acupuncture for treating cancer related symptoms: a narrative review. Integr Med Res. 2019 Sep;8(3):160-166.

Background	Recently research on acupuncture for cancer related symptoms has significantly increased. To what extent have medical professionals recommended to use acupuncture in light of that evidence?
Methods	Evidence of effectiveness and safety was found by searching Pubmed for reviews to identify for what conditions and general results. Publications that recommend acupuncture in oncology were searched in the database of an ongoing general search for publications that recommend acupuncture. This database was developed by searching google for publications that recommend the use of acupuncture with the terms ‘name of symptom’ and ‘clinical practice guideline’ or ‘treatment guideline’.
Results	Acupuncture is **moderately or weakly effective for 19 symptoms** in patients with cancer and cancer survivors. Acupuncture is a safe therapy in cancer care if administered by trained acupuncturists. Acupuncture is targeted to improve symptoms associated with the cancer and different cancer treat-ments, not to treat the cancer itself. More than 350 publications by clinical practice guideline groups and expert groups, including public health statements made by national and government agencies recommended the use of acupuncture for 61 cancer related symptoms many with positive evidence of effectiveness.
Conclusion	The strength of evidence is weak for many indications, however the evidence for many standard therapies is either not very strong or if stronger, the incidence of adverse events is more, which makes acupuncture a treatment option despite the weak evidence. We have found evidence that many oncologists around the world have started to incorporate acupuncture into the treatment of various cancer related symptoms.

1.1.4. Lin 2019 (quality of life)

Lin WF , Zhong MF , Zhou QH , Zhang YR , Wang H , Zhao ZH , Cheng BB , Ling CQ. Efficacy of complementary and integrative medicine on health-related quality of life in cancer patients: a systematic review and meta-analysis. Cancer Manag Res. 2019:6663-6680. [200351].

Objectives	Complementary and integrative medicine (CIM) has been used for improving health-related quality of life (HRQOL) in patients with cancer. The objective of this review is to evaluate the effects of CIMs on the HRQOL of cancer patients.
Methods	We identified randomized controlled trials (RCTs) involving patients with cancer at any stage by retrieving electronic databases from the inception to February 14, 2018 (Systematic Review Registration: PROSPERO CRD42018091609). The main outcomes were HRQOL scores and related domains such as physical well-being scores. The standardized mean difference was used for the analysis and heterogeneity was assessed with the I 2 statistic. A Bayesian framework was used to estimate the ranking order of efficacy in HRQOL change.
Results	Finally, 34 RCTs with 3,010 patients were included. As a whole, the results showed clearly superior efficacy of CIM in improving HRQOL. For different domains of HRQOL, different CIM interventions may play different roles. The ranking order of efficacy in change HRQOL was qigong plus mindfulness, Chinese herbal medicine, multimodal complementary medicine, qigong, nutritional supplement, mindfulness, **acupuncture**, yoga, and massage, and it was different among different domains. There was no evidence of publication bias. In conclusion, CIM may improve the HRQOL of cancer patients. More studies, especially focusing on male cancer patients, are needed to increase the confidence level of our findings.

1.1.5. Lau 2016 ☆

Lau CH, Wu X, Chung VC, Liu X, Hui EP, Cramer H, Lauche R, Wong SY, Lau AY, Sit RS, Ziea ET, Ng BF, Wu JC. Acupuncture and related therapies for symptom management in palliative cancer care: systematic review and meta-analysis. Medicine (Baltimore). 2016;95(9):e2901. [160606].

Purpose	The aim of this systematic review and meta-analysis was to summarize current best evidence on acupuncture and related therapies for palliative cancer care.
Methods	Five international and 3 Chinese databases were searched. Randomized controlled trials (RCTs) comparing acupuncture and related thérapies with conventional or sham treatments were considered. Primary outcomes included fatigue, paresthesia and dysesthesias, chronic pain, anorexia, insomnia, limb edema, constipation, and health-related quality of life, of which effective conventional interventions are limited.
Results	Thirteen RCTs were included. Compared with conventional interventions, meta-analysis demonstrated that acupuncture and related therapies significantly reduced pain (2 studies, n=175, pooled weighted mean difference: -0.76, 95% confidence interval: -0.14 to -0.39) among patients with liver or gastric cancer. Combined use of acupuncture and related therapies and Chinese herbal medicine improved quality of life in patients with gastrointestinal cancer (2 studies, n¼111, pooled standard mean difference: 0.75, 95% confidence interval: 0.36–1.13). Acupressure showed significant efficacy in reducing fatigue in lung cancer patients when compared with sham acupressure. Adverse events for acupuncture and related therapies were infrequent and mild.

Conclusion	Acupuncture and related therapies are effective in reducing pain, fatigue, and in improving quality of life when compared with conventional intervention alone among cancer patients. Limitations on current evidence body imply that they should be used as a complement, rather than an alternative, to conventional care. Effectiveness of acupuncture and related therapies for managing anorexia, reducing constipation, paresthesia and dysesthesia, insomnia, and limb edema in cancer patients is uncertain, warranting future RCTs in these areas.

1.1.6. Tao 2016 ☆

Tao WW, Jiang H, Tao XM, Jiang P, Sha LY, Sun XC. Effects of Acupuncture, Tuina, Tai Chi, Qigong, and Traditional Chinese Medicine Five-Element Music Therapy on Symptom Management and Quality of Life for Cancer Patients: A Meta-Analysis. J Pain Symptom Manage. 2016;:728-47. [190590].

Objectives	Most cancer patients suffer from both the disease itself and symptoms induced by conventional treatment. Available literature on the clinical effects on cancer patients of acupuncture, Tuina, Tai Chi, Qigong, and Traditional Chinese Medicine Five-Element Music Therapy (TCM-FEMT) reports controversial results. OBJECTIVES: The primary objective of this meta-analysis was to evaluate the effect of acupuncture, Tuina, Tai Chi, Qigong, and TCM-FEMT on various symptoms and quality of life (QOL) in patients with cancer; risk of bias for the selected trials also was assessed.
Methods	Studies were identified by searching electronic databases (MEDLINE via both PubMed and Ovid, Cochrane Central, China National Knowledge Infrastructure, Chinese Scientific Journal Database, China Biology Medicine, and Wanfang Database). All randomized controlled trials (RCTs) using acupuncture, Tuina, Tai Chi, Qigong, or TCM-FEMT published before October 2, 2014, were selected, regardless of whether the article was published in Chinese or English.
Results	We identified 67 RCTs (5465 patients) that met our inclusion criteria to perform this meta-analysis. **Analysis results showed that a significant combined effect was observed for QOL change in patients with terminal cancer in favor of acupuncture and Tuina** (Cohen's d: 0.21-4.55, $P < 0.05$), whereas Tai Chi and Qigong had no effect on QOL of breast cancer survivors ($P > 0.05$). The meta-analysis also demonstrated that acupuncture produced small-to-large effects on adverse symptoms including pain, fatigue, sleep disturbance, and some gastrointestinal discomfort; however, no significant effect was found on the frequency of hot flashes (Cohen's d = -0.02; 95% CI = -1.49 to 1.45; $P = 0.97$; $I(2) = 36\%$) and mood distress ($P > 0.05$). Tuina relieved gastrointestinal discomfort. TCM-FEMT lowered depression level. Tai Chi improved vital capacity of breast cancer patients. High risk of bias was present in 74.63% of the selected RCTs. Major sources of risk of bias were lack of blinding, allocation concealment, and incomplete outcome data.
Conclusions	Taken together, although there are some clear limitations regarding the body of research reviewed in this study, a tentative conclusion can be reached that acupuncture, Tuina, Tai Chi, Qigong, or TCM-FEMT represent beneficial adjunctive therapies. Future study reporting in this field should be improved regarding both method and content of interventions and research methods.

1.1.7. Lian 2014 ☆

Lian WL, Pan MQ, Zhou DH, Zhang ZJ. Effectiveness of acupuncture for palliative care in cancer patients: a systematic review. Chin J Integr Med. 2014.20(2):136-47. [160304].

Objective	To critically evaluate the currently available randomized clinical trials regarding the effectiveness of acupuncture in palliative care for cancer patients, hence, to provide sufficient evidences for the widespread use of acupuncture in cancer treatment.
Methods	Two independent reviewers extracted data from all of the randomized clinical trials (RCTs) that assessed the efficacy of acupuncture in palliative care for cancer patients. Seven databases were searched from their respective inception to December 2010. All eligible trials identified were evaluated by two independent reviewers using the Jadad scale, and data from the articles were validated and extracted.
Results	In total, 33 RCTs met the inclusion criteria. The effects of acupuncture on different cancer-related aspects were shown, including chemotherapy or radiotherapy-induced side effects (13/33, 39.4%), cancer pain (6/33, 18.2%), post-operative urinary retention (4/33, 12.1%), quality of life (2/33, 6.1%), vasomotor syndrome (2/33, 6.1%), post-operative gastrointestinal dysfunction (2/33, 6.1%), prevention of prolonged postoperative ileus (2/33, 6.1%), joint symptoms (1/33, 3.0%), and immunomodulation (1/33, 3.0%).
Conclusions	The result of our systematic review suggested that the **effectiveness of acupuncture in palliative care for cancer patients is promising, especially in reducing chemotherapy or radiotherapy-induced side effects and cancer pain**. Acupuncture may be an appropriate adjunctive treatment for palliative care.

1.1.8. Garcia 2014

Garcia MK, McQuade J, Lee R, Haddad R, Spano M, Cohen L. Acupuncture for Symptom Management in Cancer Care: An Update, Curr Oncol Rep. 2014; 16(12):418. [158396].

> In a previous systematic review of the worldwide literature of randomized controlled trials (RCTs) involving needle insertion into acupuncture points for symptom management in cancer patients, we identified only one high-quality RCT that was deemed to have a low risk of bias. Medline, Embase, CINAHL, Cochrane (all databases), Scopus, and PubMed were searched from inception through December 2011 with no language limits applied. **A total of 41 RCTs met all inclusion criteria and were rated. In the current review, we examined 18 trials published since our last report**. The purpose of this update was to emphasize important recent findings and discuss how concerns such as blinding, separating non-specific placebo effects from specific needling effects, determining biologic mechanisms and dosing parameters, evaluating determinants of response such as expectation, controlling for sources of bias, and the lack of standardization in treatment and study methods may affect the interpretation of study results

1.1.9. Garcia 2013 ☆

Garcia MK, Mcquade J, Haddad R, Patel S, Lee R, Yang P, Palmer JL, Cohen L. Systematic review of acupuncture in cancer care: a synthesis of the evidence. J Clin Oncol. 2013. 31(7):952-60. [157620].

Purpose	Many cancer centers offer acupuncture services. To date, a comprehensive systematic review of acupuncture in cancer care has not been conducted. The purpose of this review was to evaluate the efficacy of acupuncture for symptom management in patients with cancer.
Methods	Medline, Embase, CINAHL, Cochrane (all databases), Scopus, and PubMed were searched from inception through December 2011 for prospective randomized clinical trials (RCT) evaluating acupuncture for symptom management in cancer care. Only studies involving needle insertion into acupuncture points were included. No language limitations were applied. Studies were assessed for risk of bias (ROB) according to Cochrane criteria. Outcomes by symptom were designated as positive, negative, or unclear.

Results	A total of 2,151 publications were screened. Of those, **41 RCTs involving eight symptoms** (pain, nausea, hot flashes, fatigue, radiation-induced xerostomia, prolonged postoperative ileus, anxiety/mood disorders, and sleep disturbance) met all inclusion criteria. One positive trial of acupuncture for chemotherapy-induced nausea and vomiting had low ROB. Of the remaining studies, eight had unclear ROB (four positive, three negative, and one with unclear outcomes). Thirty-three studies had high ROB (19 positive, 11 negative, and three with both positive and negative outcomes depending on the symptom).
Conclusion	**Acupuncture is an appropriate adjunctive treatment for chemotherapy-induced nausea/vomiting**, but additional studies are needed. For other symptoms, efficacy remains undetermined owing to high ROB among studies. 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.

1.1.10. O'Regan 2010 ~

O'Regan D, Filshie J. Acupuncture and Cancer. Auton Neurosci. 2010;157(1-2):96-100. [156054].

Acupuncture has become a popular complementary treatment in oncology, particularly as patients seek non-pharmacological alternatives to provide symptom control. A considerable body of evidence suggests that acupuncture modulates neurological processes to bring about its effects. This basic research is supported by an increasing number of positive clinical studies of varying quality. Lower quality studies have hampered the widespread acceptability of acupuncture, with some deeming the inter-personal skills of the practitioner to be more powerful than the needle or its equivalent. More recent randomised control trials (RCTs) have sought to settle this controversy, with mixed results. The literature was searched to identify, where possible, RCTs involving acupuncture and various common cancer symptoms. A potential role for acupuncture was found in the following cancer symptoms: pain, nausea and vomiting, xerostomia, hot flushes, fatigue, anxiety, depression and insomnia. Acupuncture is safe with minimal side-effects, and is clinically effective for the management of these symptoms. Continuing research using validated methodology is essential. In the interim, health professionals should be open to explore the use of acupuncture with their cancer patients.

1.1.11. Ernst 2001 ~

Ernst E. A Primer of Complementary and Alternative Medicine Commonly Used by Cancer Patients. Med J Aust. 2001;174(2):88-92. [94883].

Complementary and alternative medicine (CAM) is frequently used by cancer patients, and many oncologists have limited knowledge of CAM. This article provides a brief, evidence-based introduction to several CAM treatments relevant in the context of cancer. “Alternative” diets, chiropractic, coffee enemas, ozone therapy, and shark cartilage seem to have little to offer cancer patients. The evidence for or against homoeopathy and spiritual healing is at present inconclusive. **Acupuncture, aromatherapy, and meditation may be useful for nausea/vomiting, for mild relaxation, and for pain/anxiety, respectively**. Herbal treatments offer no reasonable prospect of a cure (mistletoe), but could be useful as palliative treatments (eg, for depression [St John's wort] or anxiety [kava]). Our knowledge regarding the potential benefit and harm of CAM is insufficient.

1.1.12. Pan 2000 ☆

Pan CX Et Al. Complementary and Alternative Medicine in the Management of Pain, Dyspnea,and Nausea and Vomiting Near the End of Life. A Systematic Review. J Pain Symptom Manage. 2000;20(5):374-87. [87304].

Objectives	To review the evidence for efficacy of complementary and alternative medicine (CAM) modalities in treating pain, dyspnea, and nausea and vomiting in patients near the end of life.
Methods	Original articles were evaluated following a search through MEDLINE, CancerLIT, AIDSLINE, PsycLIT, CINAHL, and Social Work Abstracts databases. Search terms included alternative medicine, palliative care, pain, dyspnea, and nausea. Two independent reviewers extracted data, including study design, subjects, sample size, age, response rate, CAM modality, and outcomes.
Results	The efficacy of a CAM modality was evaluated in 21 studies of symptomatic adult patients with incurable conditions. Of these, only 12 were directly accessed via literature searching. Eleven were randomized controlled trials, two were non-randomized controlled trials, and eight were case series. **Acupuncture**, transcutaneous electrical nerve stimulation, supportive group therapy, self-hypnosis, and massage therapy may provide pain relief in cancer pain or in dying patients. Relaxation/imagery can improve oral mucositis pain. Patients with severe chronic obstructive pulmonary disease may benefit from the use of acupuncture, acupressure, and muscle relaxation with breathing retraining to relieve dyspnea.
Conclusions	Because of publication bias, trials on CAM modalities may not be found on routine literature searches. Despite the paucity of controlled trials, there are **data to support the use of some CAM modalities in terminally ill patients**. This review generated evidence-based recommendations and identified areas for future research.

1.2. Special outcomes

1.2.1. Chemotherapy-related symptoms

1.2.1.1. Zhang 2026

Zhang X, Song J, Liu H, Wei Y. Comparative effectiveness of traditional Chinese non-pharmacological therapies for chemotherapy-related symptoms in cancer patients: a systematic review and network meta-analysis. Support Care Cancer. 2026;34(8):804. https://doi.org/10.1007/s00520-026-10990-7

Background	Chemotherapy-related fatigue, sleep disturbance, and psychological distress significantly impair quality of life (QoL) in cancer patients. Traditional Chinese medicine (TCM) non-pharmacological therapies are increasingly used as supportive care, yet their comparative effectiveness remains unclear. This study aimed to evaluate and compare five TCM-based interventions for improving QoL and emotional well-being in chemotherapy patients.
Methods	A systematic review and network meta-analysis was conducted, including randomized controlled trials (RCTs) published through April 2025. Five TCM-based interventions (acupuncture, auricular therapy, manual acupoint therapy, mind-body exercise therapy, and moxibustion) were evaluated. Primary outcomes included QoL, sleep quality, fatigue, general mood, anxiety, and depression. Effect sizes were calculated as standardized mean differences (SMDs) with 95% confidence intervals (CIs). Treatment ranking was determined using surface under the cumulative ranking curve (SUCRA).

Results	**Thirty-five RCTs involving 2025 chemotherapy patients** were included. Manual acupoint therapy ranked highest for improving QoL (SUCRA 63.4%; SMD vs. control, 2.29; 95% CI, 0.95 to 3.63) and sleep quality (SUCRA 91.9%; SMD vs. auricular therapy, -9.92; 95% CI, -14.83 to -5.01). Mind-body exercise therapy was most effective for enhancing mood (SUCRA 68.0%; SMD vs. control, 0.72; 95% CI, 0.20 to 1.24) and reducing depression (SUCRA 70.8%; SMD vs. control, -0.92; 95% CI, -1.79 to -0.05). Auricular therapy showed the greatest benefit for fatigue (SUCRA 100%; SMD vs. control, -8.13; 95% CI, -10.15 to -6.11) and anxiety (SUCRA 92.9%; SMD vs. control, -1.53; 95% CI, -2.48 to -0.58).
Conclusion	TCM non-pharmacological therapies demonstrate distinct, symptom-specific efficacy in cancer patients undergoing chemotherapy. Manual acupoint therapy is most effective for QoL and sleep, mind-body exercise therapy for mood and depression, and auricular therapy for fatigue and anxiety. These findings support individualized integration of TCM interventions into supportive cancer care.

1.2.2. Expectancy Effect

1.2.2.1. Choi 2024

Choi H, Gao S, Schlaeger JM, Patil CL, Doorenbos AZ, Sullivan K, Lif N, Li H. Expectancy Effect of Acupuncture on Cancer-Related Outcomes: A Systematic Review. Oncol Nurs Forum. 2024 Oct 17;51(6):547-564. https://doi.org/10.1188/24.ONF.547-564

Problem identification	Previous reviews have reported the efficacy of acupuncture in managing cancer-related symptoms. However, there is a lack of comprehensive reviews examining how patients' expectancy regarding acupuncture influences treatment outcomes in the context of cancer survivorship.
Literature search	Nine databases were searched for articles published through August 2023. The authors included acupuncture studies that reported on patient expectancy for the effectiveness of acupuncture.
Data evaluation	Ten studies were included in this review. Study quality was assessed using the Cochrane risk-of-bias tool and the ROBINS-I (Risk Of Bias In Non-randomised Studies-of Interventions) tool.
Synthesis	**Five studies** explored the relationship between expectancy and cancer-related outcomes, and in three, expectancy was significantly associated with reduced pain, frequency of bowel movements, and severity of insomnia. Male and older patients, nonresponders to acupuncture, and those with lower education levels had lower expectancy regarding acupuncture.
Implications for nursing	Healthcare providers should assess patient expectancy to comprehensively understand its role in improving acupuncture outcomes.

1.2.3. Immune function

1.2.3.1. Wang 2025

Wang Y, Sui B, Zhang Y, Fang L, Xie Y, Fang Y, Wang R. Effect of acupuncture and moxibustion on the immune function of patients with malignant tumors: a systematic review and meta-analysis. Front Immunol. 2025 Jul 25;16:1583522. https://doi.org/10.3389/fimmu.2025.1583522

Background	Acupuncture and moxibustion are regarded as safe and effective therapeutic methods with bidirectional immunomodulatory properties. Clinical observations and research suggest that these interventions can enhance immune function in patients with malignant tumors.
Objective	To systematically evaluate the effects of acupuncture and moxibustion on immune function indicators in patients with malignant tumors.
Methods	Eight electronic databases were systematically searched for randomized controlled trials (RCTs) published up to December 31, 2024. Eligible studies included those reporting lymphocyte subpopulation counts (CD3+, CD4+, CD8+, CD4+/CD8+ ratios, and NK cells) in tumor patients treated with acupuncture and/or moxibustion. Mean difference (MD) was used for continuous outcomes and risk ratio (RR) for dichotomous outcomes. Publication bias was assessed via funnel plots.
Results	**Thirty-three RCTs involving 2,610 participants** were included. Acupuncture and/or moxibustion significantly increased CD3+, CD4+, CD4+/CD8+ ratios, and NK cell levels while reducing CD8+ counts. These immunological improvements corresponded with enhanced antitumor therapeutic efficacy compared with control groups.
Conclusion	Evidence from this meta-analysis indicates that acupuncture and moxibustion can improve immune function and prognosis in patients with malignant tumors. Further rigorously designed studies are warranted to confirm these findings.

1.2.4. T lymphocyte subsets and NK cells

1.2.4.1. Chen 2021

Tianqi Chen, Fanming Kong, Yanqi Song, Hunghsien Tseng, Yingjie Jia. The effect of acupoint stimulation on T lymphocyte subsets and NK cells in cancer patients: A systematic review and meta-analysis. European Journal of Integrative Medicine. 2021;43. [219094]. doi

Introduction	Acupoint stimulation (AS) is used in treating patients with cancer for a variety of indications and may affect the body's immune function. This systematic review aimed to investigate the effects of clinical AS on T-lymphocyte subsets and natural killer (NK) cells in patients with malignant tumors.
Methods	A search was conducted for randomized controlled trials (RCT) published between 1.1.1990 and 10.2. 2020 in English, Chinese, Korean and Japanese databases. RCTs were included if the studies had: more than 30 participants, the control was placebo/usual care, AS was the primary intervention and a primary outcome of T-cell subgroup percentage or NK cell percentage was measured by peripheral blood flow cytometry. A random-effects model was applied where I2≥50%, as heterogeneity was high. For other cases, the fixed-effects model was applied.
Results	A total of **18 studies with 980 patients** were included in the systematic review. The results showed that AS could significantly increase the number of CD4+ cells in the peripheral blood of all patients with cancer (chemotherapy group: mean difference (MD): 2.58; 95% CI: 0.09–5.08, I2 = 77%; and non-chemotherapy group: MD: 6.46; 95% CI: 2.12–10.80, I2 = 90%). In the non-chemotherapy group, AS could increase the number of CD3+ cells (MD: 9.34; 95% CI: 5.26–13.41, I2 = 84%), and NK cells (MD: 5.88; 95% CI: 0.90–10.86, I2 = 94%) in the peripheral blood. In addition, acupuncture could increase the number of CD3+ (MD: 12.21; 95% CI: 3.79 to 20.64, I2 = 91%), CD4+ (MD: 7.68; 95% CI: 0.31 to 15.04, I2= 88%) and CD8+ (MD: 2.55; 95% CI: 0.55 to 4.55, I2 = 0%) cells., while warm acupuncture could significantly increase the number of NK cells (MD: 2.58; 95% CI: 1.20–3.96, I2 = 0%). However, the incomplete record of the adverse effects, the difference in frequency and duration of AS and the low evidence level limited our conclusion.

Conclusion	AS increased the number of CD4+ cells in the peripheral blood and moderated other immune cells benefiting the immune system of patients with cancer. (PROSPERO ID is CRD42020167842).

1.3. Special Acupuncture Techniques

1.3.1. Comparison of Acupuncture techniques

1.3.1.1. Zhang 2025

Zhang S, Li Y, Liang Z, Dai J, Huang H, Zhang H, Yang B, Wang J, Tang D. Comparing the effects of different non-pharmacological traditional Chinese medicine therapies on cancer survivors: a Bayesian network meta-analysis. Complement Ther Med. 2025 Jun;90:103164. https://doi.org/10.1016/j.ctim.2025.103164

Background	Non-pharmacological Traditional Chinese Medicine (TCM) therapies such as Tai Chi, Qigong, acupuncture, and acupressure are increasingly used as supportive interventions for cancer survivors to alleviate pain, fatigue, and sleep disturbances. Despite numerous studies, the comparative efficacy of these therapies has not been systematically evaluated.
Objective	To compare the effectiveness of various non-pharmacological TCM therapies in improving pain, fatigue, sleep quality, and quality of life among cancer survivors, and to identify the most effective approaches to guide evidence-based clinical recommendations.
Methods	A systematic search of PubMed, Embase, Web of Science, CNKI, and Wanfang databases was performed for RCTs evaluating Taichi, Qigong, acupuncture, acupressure, TCM emotional therapy, and combined interventions in cancer survivors up to February 2025. Two reviewers independently assessed methodological quality. A Bayesian network meta-analysis under a random-effects model was applied to compare interventions.
Results	Seventy-one RCTs comprising 6,473 participants were included. All five TCM interventions significantly reduced cancer-related pain, with acupressure (SMD = −1.10 [−1.55, −0.66]) and Taichi/Qigong (SMD = −1.08 [−1.64, −0.53]) showing the strongest effects, followed by TCM emotional therapy (SMD = −0.93 [−1.42, −0.44]) and acupuncture (SMD = −0.54 [−0.93, −0.15]). No interventions significantly improved fatigue versus control. Mixed therapies (SMD = −1.36 [−2.56, −0.28]) yielded the greatest improvement in sleep quality, while Taichi/Qigong (SMD = 1.87 [0.96, 2.83]) was most effective for quality-of-life enhancement. Acupuncture and TCM emotional therapy showed no significant effects on sleep or overall quality of life.
Conclusion	Acupressure and Taichi/Qigong appear to be the most effective TCM-based interventions for pain relief and quality-of-life improvement in cancer survivors. However, evidence for fatigue management remains inconclusive. Given the limited number and quality of available studies, further well-designed RCTs are needed to confirm these findings and evaluate long-term safety and efficacy.

1.3.2. Acupressure

1.3.2.1. Cheng 2023

Cheng HL, Yeung WF, Wong HF, Lo HT, Molassiotis A. Self-Acupressure for Symptom Management in

Cancer Patients: A Systematic Review. J Pain Symptom Manage. 2023 Jul;66(1):e109-e128. https://doi.org/10.1016/j.jpainsymman.2023.03.002

Context	Acupressure is a popular nonpharmacological intervention that is increasingly proven to effectively alleviate symptoms in patients with cancer. However, the effects of self-acupressure on cancer symptom management are less clear.
Objectives	This systematic review is the first to summarize the current experimental evidence on self-acupressure for symptom management in cancer patients.
Methods	Eight electronic databases were searched for experimental studies that examined self-acupressure for cancer patients with symptoms and published in peer-reviewed English or Chinese journals. The methodological quality of the included studies was evaluated using the revised Cochrane risk-of-bias assessment tool and the JBI critical appraisal checklist for quasi-experimental studies. Data were extracted as predefined and synthesized narratively. The Template for Intervention Description and Replication checklist was used to report the intervention characteristics.
Results	A total of **11 studies** were included in this study, six as feasibility or pilot trials. The methodological quality of included studies was suboptimal. Substantial heterogeneity was observed in acupressure training, acupoint selection, intervention duration, dosage, and timing. Self-acupressure was only associated with reduced nausea and vomiting (P = 0.006 and P = 0.001).
Conclusion	The limited evidence from this review precludes the definitive conclusions on intervention effectiveness for cancer symptoms. Future research should consider developing the standard protocol for intervention delivery, improving the methodology of self-acupressure trials, and conducting large-scale research to advance the science of self-acupressure for cancer symptom management.

1.3.3. Pharmaco-acupuncture

Article connexe : -pharmaco-acupuncture -

1.3.3.1. Cheon 2014 ☆

Cheon S, Zhang X, Lee IS, Cho SH, Chae Y, Lee H. Pharmacopuncture for Cancer Care: A Systematic Review. Evid Based Complement Alternat Med 2014;2014:804746. [173285].

Objectives	Background. Pharmacopuncture, injection to acupoints with pharmacological medication or herbal medicine, is a new acupuncture therapy widely available in Korea and China for cancer-related symptoms. However, the evidence is yet to be clear. Objective. To determine pharmacopuncture's effectiveness on cancer-related symptoms.
Methods	Eleven databases were searched for randomized controlled trials of pharmacopuncture in cancer patients. The Cochrane risk of bias (ROB) assessment tool was used for quality assessment.
Results	Twenty-two studies involving 2,459 patients were included. Five trials of chemotherapy-induced nausea and vomiting (CINV) underwent meta-analysis. **Pharmacopuncture significantly relieved severity of CINV compared with control group** (3 trials, risk ratio (RR) 1.28, 95% confidence interval (CI) = 1.14-1.44). **The frequency of CINV was also significantly reduced with pharmacopuncture** (2 trials, RR 2.47, 95% CI = 2.12-2.89). Seventeen trials studied various symptoms, and in most studies, **pharmacopuncture significantly relieved pain, ileus, hiccup, fever, and gastrointestinal symptoms and improved quality of life in various cancer patients**. ROB was generally high.

Conclusion	It may be suggested with caution that pharmacopuncture may help various symptom relief in cancer patients, but it is hard to draw a firm conclusion due to clinical heterogeneity and high ROB of the included studies, hence warranting further investigation.

1.3.4. Moxibustion

1.3.4.1. Ma 2022 (quality of life)

Ma SY, Pan RF, Li TY, Shi XL, Pan LJ, Jia CS. [Effect of moxibustion on quality of life in tumor patients: network Meta-analysis]. Zhongguo Zhen Jiu. 2022 Apr 12;42(4):473-80. Chinese. https://doi.org/10.13703/j.0255-2930.20210806-k0001

Objective	To rank the effectiveness of various moxibustion methods on the quality of life in tumor patients, and explore the best treatment plan of moxibustion for improving the quality of life in tumor patients from the perspective of evidence-based medicine.
Methods	The Chinese and English literature of randomized controlled trial (RCT) of the effect of moxibustion on the quality of life in tumor patients were searched in PubMed, EMbase, Cochrane Library, CNKI, SinoMed, Wanfang and VIP. The retrieval time was from the establishment of the databases to October 31, 2020. The R3.6.2 and Stata15.0 software were used for network Meta-analysis based on Bayesian model.
Results	A total of **30 Chinese RCTs** were included, including **2 169 patients**, involving 16 interventions. In terms of the effectiveness of improving quality of life, the top three treatments were special moxibustion plus other therapies 1 (either of tendon acupuncture, acupoint pressing, acupoint injection, etc.), wheat-grain moxibustion and mild moxibustion. The special moxibustion methods were the combination of fire-dragon moxibustion, thunder-fire moxibustion, fuyang fire moxibustion and moxa salt-bag moxibustion. The number of literature of these four moxibustion methods was small. Considering the clinical application of moxibustion, it was concluded that wheat-grain moxibustion ranked first.
Conclusion	The adjuvant treatment of wheat-grain moxibustion is more effective than other moxibustion methods on improving the quality of life in tumor patients, but the results needed to be further verified because the bias risk of RCT included in this study is high and the sample size is small.

1.3.4.2. Lee 2010 Ø

Lee MS, Choi TY, Park JE, Lee SS, Ernst E. Moxibustion for cancer care: a systematic review and meta-analysis. BMC Cancer. 2010. 10(1):130. [155351].

Background	Moxibustion is a traditional Chinese method that uses the heat generated by burning herbal preparations containing Artemisia vulgaris to stimulate acupuncture points. Considering moxibustion is closely related to acupuncture, it seems pertinent to evaluate the effectiveness of moxibustion as a treatment of symptoms of cancer. The objective of this review was to systematically assess the effectiveness of moxibustion for supportive cancer care.
Methods	We searched the literature using 11 databases from their inceptions to February 2010, without language restrictions. We included randomised clinical trials (RCTs) in which moxibustion was employed as an adjuvant treatment for conventional medicine in patients with any type of cancer. The selection of studies, data extraction, and validations were performed independently by two reviewers.

Results	**Five RCTs** compared the effects of moxibustion with conventional therapy. Four RCTs failed to show favourable effects of moxibustion for response rate compared with chemotherapy (n=229, RR, 1.04, 95% CI 0.94 to 1.15, P=0.43). Two RCTs assessed the occurrence of side effects of chemotherapy and showed favourable effects of moxibustion. A meta-analysis showed significant less frequency of nausea and vomiting from chemotherapy for moxibustion group (n=80, RR, 0.38, 95% CIs 0.22 to 0.65, P=0.0005, heterogeneity:tau2=0.00; chi2=0.18, P=0.67, I2=0%).
Conclusion	The **evidence is limited to suggest moxibustion is an effective supportive cancer care in nausea and vomiting**. However, all studies have a high risk of bias so effectively there is not enough evidence to draw any conclusion. Further research is required to investigate whether there are specific benefits of moxibustion for supportive cancer care.

1.4. Cancer Locations

1.4.1. Brain Tumors

See corresponding item

1.4.2. Breast Cancer

See corresponding item

1.4.3. Liver Cancer

See corresponding item

1.4.4. Lung Cancer

See ' corresponding item

1.5. Special Clinical Forms

1.5.1. Childhood Cancer

1.5.1.1. Rheingans 2007 ~

Rheingans JI. A Systematic Review of Nonpharmacologic Adjunctive Therapies for Symptom Management in Children with Cancer. J Pediatr Oncol Nurs. 2007;24(2):81-94. [144487].

> Symptom management in pediatric oncology remains a problem. Despite remarkable pharmacologic and surgical advances, children continue to report symptoms as the most troublesome aspect of cancer treatment. However, there are additional therapies that are not considered standard symptom management, such **as acupuncture** and guided imagery. These nonpharmacologic adjunctive therapies are a potential source of assistance for children with unrelenting pain, nausea, or other unpleasant symptoms due to cancer treatment. This article summarizes research studies that have examined nonpharmaco-logic therapies for symptom management in pediatric oncology;

1.6. Preclinical and mechanistic systematic reviews

1.6.1. Liang 2026

Liang X, Ma Y, Zhang X, Zhang M, Pan L. Effects of moxibustion therapies on immune function in cancer animal models: a systematic review and meta-analysis. Front Immunol. 2026;17:1724707. https://doi.org/10.3389/fimmu.2026.1724707

Background	Moxibustion is a key component of traditional Chinese medicine and is widely employed in clinical practice as an adjunctive therapy for cancer. Preclinical studies have demonstrated that moxibustion can modulate host immune function, improve the tumor immune microenvironment, and suppress tumor growth. This study aims to evaluate the effects of moxibustion on immune function in animal models of cancer.
Methods	A systematic literature search was conducted to identify all animal studies on moxibustion therapy for cancer in English-language databases (PubMed, Cochrane Library, Embase, and Web of Science) and Chinese-language databases (CNKI, Wanfang, CBM, and VIP). Data extraction was performed independently by two reviewers. Statistical analyses were carried out using RevMan 5.4 software. Potential publication bias was assessed using Egger's test and funnel plots.
Results	The initial literature search identified a total of 2639 potentially relevant studies, of which **48 met the predefined inclusion criteria**. Meta-analysis revealed that moxibustion therapy significantly inhibited tumor growth in animal models. Compared with the control group, moxibustion was associated with a significant reduction in tumor volume (SMD = -1.79; 95% CI [-2.59, -0.99]; P < 0.0001) and tumor weight (SMD = -1.48; 95% CI [-1.88, -1.08]; P < 0.00001). The spleen index was elevated (SMD = 0.69; 95% CI [0.08, 1.29]; P = 0.03), IL-2 levels were increased (SMD = 1.71; 95% CI [0.88, 2.55]; P < 0.0001), IFN-γ levels were elevated (SMD = 1.14; 95% CI [0.72, 1.56]; P < 0.00001), while IL-6 levels showed a decreasing trend (SMD = -0.73; 95% CI [-2.42, 0.96]; P = 0.40), and TNF-α levels were elevated (SMD = 0.24; 95% CI [-0.81, 1.28]; P = 0.66).
Conclusion	Although this study has certain limitations, the findings indicate that moxibustion therapy exerts an inhibitory effect on tumor growth in animal models of nine cancer types, including hepatocellular carcinoma, lung cancer, gastric cancer, sarcoma, breast cancer, colon cancer, rectal cancer, lymphoma, and colorectal cancer. Moxibustion also increases the spleen index, elevates levels of anti-tumor immune cytokines such as IL-2, IFN-γ, and TNF-α, suppresses the pro-inflammatory cytokine IL-6, and enhances host immune function.

2. Overviews of Systematic Reviews

2.1. Qurrotunnada 2026 (Quality of Life)

Qurrotunnada F, Rochmawati E. Quality of Life in Breast and Gynecological Cancer: A Review of Systematic Reviews, 1985-2025. Asia Pac J Clin Oncol. 2026;22(5):726-743. https://doi.org/10.1111/ajco.70052

Background	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.

Methods	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 the A Measurement Tool to Assess Systematic Review (AMSTAR) criteria. The findings were summarized in tables.
Results	**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 acupuncture were the top recommended interventions for improving QoL in patients with breast cancer (BC).
Conclusion	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.

2.2. Mentink 2023

Mentink M, Verbeek D, Noordman J, Timmer-Bonte A, von Rosenstiel I, van Dulmen S. The Effects of Complementary Therapies on Patient-Reported Outcomes: An Overview of Recent Systematic Reviews in Oncology. Cancers (Basel). 2023 Sep 11;15(18):4513. https://doi.org/10.3390/cancers15184513

Background	Many patients with cancer make use of complementary medicine alongside conventional medicine, but clinicians in oncology often lack the knowledge to adequately advise patients on the evidence base for complementary therapies.
Methods	This study aims to provide an overview of recently published systematic reviews that assess the effects of complementary therapies on patient-reported health outcomes in patients with cancer. Systematic reviews, including a meta-analysis of at least two randomized controlled trials, were identified from the PubMed, Embase, Cochrane Library, CINAHL and PsycINFO databases. The methodological quality was assessed with AMSTAR 2.
Results	One hundred systematic reviews were included. The results suggest that several complementary therapies can improve health outcomes reported by patients with cancer, such as **acupuncture** to relieve pain, music interventions to reduce anxiety and yoga to improve cancer-related fatigue. The side effects related to complementary therapy use are generally mild. The results remain inconclusive for some intervention-outcome combinations. Many of the included systematic reviews insufficiently assessed the causes and impact of bias in their interpretation of the results.
Conclusions	This overview of systematic reviews can support clinicians in counselling their patients on this topic and provide directions for future research and clinical practice guidelines in the field of complementary medicine.

2.3. Zhang 2022

Zhang XW, Hou WB, Pu FL, Wang XF, Wang YR, Yang M, Cheng K, Wang Y, Robinson N, Liu JP. Acupuncture for cancer-related conditions: An overview of systematic reviews. Phytomedicine. 2022 Nov;106:154430. https://doi.org/10.1016/j.phymed.2022.154430

Background	Acupuncture is commonly used for cancer-related conditions worldwide, and evidence is increasing year on year. There is a need to summarize the evidence of acupuncture for cancer-related conditions comprehensively and critically.
Objective	To evaluate and summarize the systematic reviews (SRs) that assess the effects and safety of acupuncture for cancer-related conditions, and to inform clinical practice and future studies.
Methods	A comprehensive search was conducted on Pubmed, Embase, the Cochrane Library, Web of Science, CNKI, VIP, Sinomed, and Wanfang from their inception to October 16, 2021. SRs of randomized controlled trials (RCTs) on acupuncture for cancer-related conditions were to be included. Two reviewers screened the eligible articles, and four reviewers in pair extracted data and assessed the methodological quality/risk of bias of all included reviews by AMSTAR 2 and ROBIS tools. The overlap of primary studies was measured by calculating corrected covered areas. Data from the included reviews were synthesized with a summary of meta-analysis or narrative description.
Results	**Fifty-one SRs** of RCTs on acupuncture for cancer-related conditions were included and synthesized. The methodological quality of SRs included 1 “high”, 5 “low” and 45 “very low” by AMSTAR 2. Sixteen SRs assessed as low risk of bias (31.37%), and 35 SRs had high risk of bias (68.63%) by ROBIS. Acupuncture showed effective on systemic conditions in relation to different cancers, including cancer-related pain (17 SRs, 80 RCTs), fatigue (7 SRs, 18 RCTs), insomnia (4 SRs, 10 RCTs), quality of life (2 SRs, 15 RCTs); conditions in relation to chemo-radiotherapy, including nausea and vomiting (3 SRs, 36 RCTs) and bone marrow suppression (2 SRs, 21 RCTs); and conditions in relation to specific cancers, including breast cancer-related menopause (3 SRs, 6 RCTs), hot flashes (12 SRs, 13 RCTs), arthralgia (5 SRs, 10 RCTs), and nasopharyngeal cancer-related dysphagia (1 SRs, 7 RCTs). Acupuncture appeared to have benefit for patients with lymphoedema (3 SRs, 3 RCTs), gastrointestinal function (5 SRs, 27 RCTs), and xerostomia (4 SRs, 7 RCTs). Limited evidence showed inconsistent results on acupuncture for chemotherapy-induced peripheral neuropathy (3 SRs, 6 RCTs), depression and anxiety (3 SRs, 9 RCTs). Acupuncture was regarded as a safe therapy for cancer patients as no severe adverse events related were reported.
Conclusion	Evidence from SRs showed that acupuncture is beneficial to cancer survivors with cancer-related pain, fatigue, insomnia, improved quality of life, nausea and vomiting, bone marrow suppression, menopausal symptoms, arthralgia, and dysphagia, and may also be potential for lymphoedema, gastrointestinal function, and xerostomia. For neuropathy, depression and anxiety, acupuncture should be used as an option based on individual conditions. Acupuncture is relatively safe without serious adverse events. More well-designed clinical trials of acupuncture are recommended on cancer-related depression and anxiety, arthralgia, xerostomia, gastrointestinal dysfunction and dysphagia.

2.4. Lee 2019

Lee SM, Choi HC, Hyun MK. An Overview of Systematic Reviews: Complementary Therapies for Cancer Patients. Integr Cancer Ther. 2019. [203792]. DOI

Introduction	This article critically examines the systematic reviews (SR) and meta-analysis (MA) of complementary therapies for cancer patients to appraise the evidence level, and offers suggestions for future research and practice.
Methods	The Cochrane Library and MEDLINE were searched from their inception to January 2018, to identify SR and MA of complementary therapies available for cancer patients. Final selected SR and MA were methodologically evaluated for their quality by applying the Assessing the Methodological Quality of Systematic Reviews 2 (AMSTAR2) instrument. Data extraction and risk of quality assessments were performed by 2 independent reviewers.

Results	A total of 104 studies were included in the analysis. The majority of the individual clinical trials included in the SR and MA were performed in China (48%) and the United States (26.9%). Breast cancer was the most studied cancer type (25%), and acupuncture was the most studied intervention (21%). Side effects of cancer such as pain, depression, and fatigue were effectively managed with complementary therapies. The methodologically problematic items included not listing the excluded studies and lack of protocol or protocol registration.
Conclusions	With increasing interest in research, complementary therapies appear to be beneficial in reducing side effects and raising the quality of life of cancer patients. Complementary therapies have generally been studied for all cancers, with acupuncture being the most researched, regardless of the cancer type. Since AMSTAR2 is a stricter assessment tool than before, future studies need to consider the risk of methodological bias with caution and discuss appropriate overall quality assessment tools.

2.5. Wu 2015 ☆

Wu X, Chung VCh, Hui EP, Ziea ET, Ng BF, Ho RS, Tsoi KK, Wong SY, Wu JC. Effectiveness of acupuncture and related therapies for palliative care of cancer: overview of systematic reviews. Sci Rep. 2015. [184917].
Wu X, Chung VCh, Hui EP et al. Effectiveness of acupuncture and related therapies for palliative care of cancer: Overview of systematic reviews (abstract). European Journal of Integrative Medicine. 2016;8(supp1):11-12. [207454]. doi

Background	Acupuncture and related therapies such as moxibustion and transcutaneous electrical nerve stimulation are often used to manage cancer-related symptoms, but their effectiveness and safety are controversial.
Objective	We conducted this overview to summarise the evidence on acupuncture for palliative care of cancer.
Methods	Our systematic review synthesised the results from clinical trials of patients with any type of cancer. The methodological quality of the **23 systematic reviews** in this overview, assessed using the Methodological Quality of Systematic Reviews Instrument, was found to be satisfactory.
Results	There is evidence for the therapeutic effects of acupuncture for the management of cancer-related fatigue, chemotherapy-induced nausea and vomiting and leucopenia in patients with cancer. There is conflicting evidence regarding the treatment of cancer-related pain, hot flashes and hiccups, and improving patients' quality of life. The available evidence is currently insufficient to support or refute the potential of acupuncture and related therapies in the management of xerostomia, dyspnea and lymphedema and in the improvement of psychological well-being. No serious adverse effects were reported in any study.
Conclusions	**Because acupuncture appears to be relatively safe, it could be considered as a complementary form of palliative care for cancer, especially for clinical problems for which conventional care options are limited**.

2.6. Towler 2013 ☆

Towler P, Molassiotis A, Brearley SG. What is the evidence for the use of acupuncture as an intervention for symptom management in cancer supportive and palliative care: an integrative overview of reviews. Support Care Cancer. 2013. 21(10):2913-23. [170498].

Purpose	This study aims to systematically appraise the evidence for the use of acupuncture for symptom management in cancer and supportive care and to identify recommendations for clinical practice and future research.
Methods	A systematic search was carried out to identify reviews of the use of acupuncture in cancer supportive and palliative care, using MEDLINE, EMBASE, CINAHL, Web of Science, Cochrane Library, British Nursing Index, Index to Theses, Dissertations and Theses (via Proquest) and NHS evidence. Search terms included: acupuncture, cancer and symptoms. Data were extracted for analysis. Reviews were assessed for quality using a five-item checklist but were not excluded from the review on grounds of quality, in order to include a comprehensive scope of the subject.
Results	Seventeen reviews were included in the review. Evidence was found for the use of acupuncture for treatment-related nausea and vomiting. Benefit was reported for other cancer-related symptoms, including pain, fatigue, hot flushes, xerostomia, dyspnoea and anxiety. Reviewers found a paucity of rigorous trials and heterogeneity of populations, interventions, controls and outcome measures, which challenge the process of systematic review and meta-analysis.
Conclusion	**Acupuncture should be considered for symptom management where there are limited treatment options**, using current peer-reviewed guidelines and clinical reasoning. Much of the primary research reported in reviews is innovative and indicates potential benefit for people with cancer-related symptoms. The complexity of acupuncture as an intervention needs to be acknowledged in future research designs and when reviewing research findings. An iterative approach using adequate interventions, appropriate outcome measures and adherence to reporting standards is required to evaluate the efficacy of acupuncture in cancer supportive and palliative care.

2.7. Ernst 2010 ☆

Ernst E, Lee MS. Acupuncture for palliative and supportive cancer care: a systematic review of systematic reviews. J Pain Symptom Manage. 2010. 40(1):3-5. [159368].

Purpose	With this review, we try to provide a critical evaluation of the clinical evidence that has emerged. In particular, we wanted to assess all recent SRs of acupuncture as a treatment for cancer palliation and supportive care.
Methods	We conducted literature searches in the following databases: Medline, Embase, Amed, CINHAL, Health Technology Assessments, DARE, the Cochrane Library, five Korean medical databases (Korean Studies Information, DBPIA, Korea Institute of Science and Technology Information, KoreaMed, and Research Information Service System), and the China National Knowledge Infrastructure (CNKI) database, without language restrictions. Our aim was to locate all SRs and meta-analyses of any type of acupuncture published since 2005 (older articles were deemed to be now out of date and were, therefore, not considered). The search terms were acupuncture, acupressure, electro-acupuncture, moxibustion, SR, and meta-analysis. We also searched our own departmental files and the bibliographies of the articles thus found. Reviews were defined as systematic if they included an explicit and repeatable method for searching the scientific literature and if there were explicit and repeatable inclusion and exclusion criteria for studies. We excluded transcutaneous electrical nerve stimulation, which does not use the meridian theories. SRs of complex packages of interventions that happened to include acupuncture were excluded.

Results	**Seven SRs** met our inclusion criteria. They cover a range of different symptoms experienced by patients with different types of cancers: therapy-related adverse effects, hot flashes, chemotherapy-induced nausea and vomiting or leucopenia, xerostomia, and pain. Most reviews were based on only a few primary studies that often were of poor quality. The reviews themselves were mostly of good quality. The overall conclusions were negative in four cases and unclear in two. The only cancerrelated indication that is supported by good evidence from at least one SR is chemotherapy-induced nausea and vorniting.9 This review9 also is the only one that is rigorous and based on a sizable amount of studies of which at least some are of high quality.
Conclusion	In conclusion, **chemotherapy-induced nausea and vomiting is the only indication for acupuncture that is currently supported by good evidence from SRs.**

3. Clinical Practice Guidelines

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

3.1. Gynecologic Cancer Intergroup (GCIG, International) 2022 ⊕

Woopen H, Sehouli J, Davis A, Lee YC, Cohen PA, Ferrero A, Gleeson N, Jhingran A, Kajimoto Y, Mayadev J, Barretina-Ginesta MP, Sundar S, Suzuki N, van Dorst E, Joly F. GCIG-Consensus guideline for Long-term survivorship in gynecologic Cancer: A position paper from the gynecologic cancer Intergroup (GCIG) symptom benefit committee. Cancer Treat Rev. 2022;107:102396. [211605]. https://doi.org/10.1016/j.ctrv.2022.102396

Neuropathy: Supportive care such as physiotherapy, physical activity, referral to podiatrists, patient education i.e. adequate footwear, **acupuncture**, support in daily activities can be helpful.
Menopausal symptoms: In cases where hormone replacement treatment is contraindicated or persistent hot flushes, selective serotonin reuptake or norepinephrine re-uptake inhibitors can be used in conjunction with non-pharmacological approaches such as cognitive based therapy, yoga, **acupuncture, auriculotherapy**.

3.2. Association of the Scientific Medical Societies, German Cancer Society, German Cancer Aid, (AWMF, DKG, DK, Germany) 2021 ⊕

S3-Leitlinie Komplementärmedizin in der Behandlung von onkologischen PatientInnen. September 2021. https://www.leitlinienprogramm-onkologie.de/leitlinien/komplementaermedizin/

11.3.1.1. *Fear/ anxiety*. Acupuncture. Recommendation strength : Can. Patient context: Breast cancer patients. Note: After completion of chemotherapy or during therapy with aromatase inhibitors.
11.3.1.2. *Depression*. Acupuncture. Recommendation strength: Can. Patient context: Breast cancer patients. Note: Depression after completion of chemotherapy or therapy with aromatase inhibitors.
11.3.1.5. *Sleep disorder*. Acupuncture. Recommendation strength: Can. Patient context: Oncological patients.
11.3.1.6. *Fatigue*. Acupuncture/acupressure. Recommendation strength: Can. Patient context: Oncological patients.
11.3.1.7. *Cognitive impairment*. Acupuncture. Recommendation strength : Can. Patient context: Breast cancer patients.
11.3.1.8. *Life quality* . Acupuncture. Recommendation strength: Can. Patient context: Oncological patients. Note: Global and tumor-specific quality of life during and after oncological therapy.

11.3.1.9. *Menopausal symptoms*. Acupuncture. Recommendation strength: Can. Patient context: Oncological patients. Note: Menopausal hot flashes.
11.3.1.10. *Pain*. **Acupuncture**. Recommendation strength: Should. Patient context: Breast cancer patients. Note: (Joint pain from aromatase inhibitors). **Acupuncture**. Recommendation strength: Should. Patient context: Oncological patients. Note: (tumor) pain. **Acupressure**. Recommendation strength: Can. Patient context: Patients with cancer pain. Note: (Tumor) pain intervention: ear acupressure. **Acupuncture**. Recommendation strength: Can. Patient context : Patients With Chemotherapy-Induced Peripheral Neuropathic Pain. Note: Neuropathic pain. **Acupuncture**. Recommendation strength: Can. Patient context: Patients who have undergone a prostatectomy. Note: Postoperative pain intervention: electroacupuncture. **Acupuncture**. Recommendation strength: Can. Patient context: Patients during brain tumor surgery. Note: Postoperative pain intervention: electroacupuncture.
11.3.1.12. *Nausea and vomiting*. **Acupressure**. Recommendation strength: Can. Patient context: Oncological patients. Note: (Chemo- or radiotherapy induced). **Acupuncture**. Recommendation strength: Can. Patient context: Patients with platinum-based chemotherapy. Note: In addition to antiemetic therapy (chemotherapy induced).
11.3.1.13. *Restoration of bowel function after surgery*. Acupuncture. Recommendation strength: Can. Patient context: Colon cancer patients.
11.3.1.14. *Xerostomia*. Acupuncture. Recommendation strength: Can. Patient context: Patients with head and neck tumors. Note: During radio/chemotherapy. **Acupuncture**. Recommendation strength: Can. Patient context: Oncological patients .Note: Xerostomia after adjuvant radiotherapy.

3.3. Association of the Scientific Medical Societies, German Cancer Society, German Cancer Aid, (AWMF, DKG, DK, Germany) 2020 ⊕

Supportive Therapie bei onkologischen PatientInnen. Leitlinienprogramm Onkologie. Deutsche Krebsgesellschaft, Deutsche Krebshilfe, AWMF. 2020. [219443]. https://www.leitlinienprogramm-onkologie.de/fileadmin/user_upload/Downloads/Leitlinien/Supportivtherapie/LL_Supportiv_Langversion_1.3.pdf

Anemia. Other interventions to correct anemia (complementary or alternative medicine) Due to the lack of an RCT, there is no recommendation to use complementary or alternative medicine (e.g. homeopathy, **acupuncture**, medicinal herbs, Schüssler salts, beetroot juice, nettle juice, black cumin oil, red wine, amalgam removal, treatment of alleged interference fields on the teeth) possible with tumor therapy-induced anemia. *Chemotherapy-induced polyneuropathy.* Due to the lack of evidence, no statement can currently be made about the effectiveness of **acupuncture** in chemotherapy-induced polyneuropathy. *Xerostomia*. The prophylactic use of classical **acupuncture** therapy improves subjective and objective parameters of radiogenic xerostomia. It can be used. **Acupuncture** can improve the subjective parameters of xerostomia and can be used.

3.4. Japanese Association of Rehabilitation Medicine (JARM, Japan) 2019 ⊕

The Japanese Association of Rehabilitation Medicine. Gan No Rehabilitation Shin- ryo Gaidorain [Clinical Practice Guidelines For Cancer Rehabilitation 2nd Edition] . Tokyo: Kanehara Co. Ltd.; 2019 [in Japanese] . *Cited by* Okawa Y, Yamashita H, Masuyama S, Fukazawa Y, Wakayama I. Quality assessment of Japanese clinical practice guidelines including recommendations for acupuncture. Integr Med Res. 2022 Sep;11(3):100838. https://doi.org/10.1016/j.imr.2022.100838

Cancer Rehabilitation. Grade 2B: weak recommendation (to use)

3.5. National Cancer Institute at the National Institutes of Health 2018 (NIH, USA) 2018 ⊕

Acupuncture (PDQ®)–Health Professional Version [7896] www.cancer.gov

3.6. 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;

3.7. National Cancer Comprehensive Network NCCN (USA) 2017 ⊕

- NCCN Guidelines for Supportive Care : antiemesis. National Cancer Comprehensive Network. 2018. 68P. [188079].
- NCCN Guidelines for Supportive Care : Survivorship National Cancer Comprehensive Network. 2018. 253P. [189903].
- NCCN Guidelines for Supportive Care : Cancer related Fatigue. National Cancer Comprehensive Network. 2018. 64P. [189904].
- NCCN Guidelines for Supportive Care : Palliative Care. National Cancer Comprehensive Network. 2017. 106p. [188081].
- NCCN Guidelines for Supportive Care : Adult Cancer Pain. National Cancer Comprehensive Network. 2018. 96p [188030].

Cancer-Related Fatigue	Therapies performed on the patient by a therapist or lay include acupuncture and massage therapy. **Four systematic reviews suggest that acupuncture and acupressure may have benefital properties**, though the studies acknowledge that a paucity of data makes it difficult to definitively evaluate the benefits. Positive effects of acupuncture on fatigue have been reported in small samples but need to be confirmed in larger RCTs. These small trials were conducted during active non-palliative radiation therapy and both during and after chemotherapy treatment.
Antiemesis	Studies were identified by searching electronic databases (MEDLINE via both PubMed and Ovid, Cochrane Central, China National Knowledge Infrastructure, Chinese Scientific Journal Database, China Biology Medicine, and Wanfang Database). All randomized controlled trials (RCTs) using acupuncture, Tuina, Tai Chi, Qigong, or TCM-FEMT published before October 2, 2014, were selected, regardless of whether the article was published in Chinese or English.
Survivorship	Non-Pharmacologic Treatment of Hot Flashes : Non-pharmacologie treatments, induding **acupuncture**, exercise/physical activity, yoga, lifestyle modifications, and CBT may help survivors manage hot flashes. Myofascial and neurologic pain : **Acupuncture is recommended as a possible option for the treatment of myofascial or neuropathic pain in survivors**. Evidence supporting the efficacy of this technique for reducing cancer-related pain is extremely limited.
Paliative Care	Nausea and vomiting : alternative thérapies (eg, **acupuncture**, hypnosis, cognitive behavioral therapy) can also be considered..

Pain	Use of nonpharmacologic integrative interventions (physical, cognitive, and spiritual) may serve as valuable additions to pharmacologic interventions. Physical measures include, but aren't limited to, therapeutic or conditioning exercise, massage, use of heat or cold, **acupuncture and acupressure**.

3.8. American Cancer Society / American Society of Clinical Oncology (ASCO, USA) 2017 ⊕

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, Rafte S, Cohen L. Integrative Therapies During and After Breast Cancer Treatment: ASCO Endorsement of the SIO Clinical Practice Guideline. J Clin Oncol. 2018;Jun 11. [155475].

Anxiety/stress reduction. Recommendations: Acupuncture, massage, and relaxation can be considered for reducing anxiety. (Grade C)
Depression/mood. Recommendations: Acupuncture, healing touch, and stress management can be considered for improving mood disturbance and depressive symptoms. (Grade C)
Fatigue. Recommendations: Acupuncture and yoga can be considered for improving post-treatment fatigue. (Grade C)
Quality of life. Recommendations: Acupuncture, mistletoe, qigong, reflexology, and stress management can be considered for improving quality of life. (Grade C)
Chemotherapy-Induced Nausea and Vomiting. Recommendations: 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)
Pain. Recommendations: Acupuncture, healing touch, hypnosis, and music therapy can be considered for the management of pain. (Grade C)
Vasomotor/hot flashes. Recommendations: Acupuncture can be considered for improving hot flashes. (grade C)

3.9. British Columbia Cancer Agency (BCCA, Canada) 2017 ⊕

Palliative Care for the Patient with Incurable Cancer or Advanced Disease Part 2: Pain and Symptom Management . Clinical Practice Guidelines and Protocols in British Columbia. 2017:47P. [197157].

Nausea and Vomiting: Non-pharmacological: modifications to diet (e.g., small bland meals) and environment (e.g., control smells and noise), relaxation and good oral hygiene, and **acupressure** (for chemotherapy-induced acute nausea, but not for delayed.
Cancer pain management: consider non-pharmacological therapies (e,g, massages, relaxation, **acupuncture**, TENS),

3.10. European Partnership for Action Against Cancer 2014 (EPAA, Europe) ⊕

Complementary and alternative medicine (CAM) in cancer care. Development and opportunities of Integrative Oncology. European Partnership for Action Against Cancer (EPAAC). 2014;:339P. [186081].

As to the use of acupuncture and TCM in the treatment of symptoms correlated to anti-cancer therapy, the literature has demonstrated a good level of evidence in the following cases: nausea and vomiting, pain, hotflashes and xerostomia, taking also in account the absence of relevant adverse effects and interactions.

3.11. Société Française d'Oto-Rhino-Laryngologie et de Chirurgie de la Face et du Cou 2014 (SFORL, France) ⊕

Recommandations pour la pratique clinique : Prise en charge des douleurs somatiques induites par les traitements des cancers des VADS. SFORL 2014 [160900].

Recommandation 12: Le groupe de travail recommande d'envisager l'acupuncture par un praticien expérimenté dans la prise en charge des douleurs cervicales séquellaires d'un curage ganglionnaire et dans la xérostomie après radiothérapie. (Grade B).

3.12. 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 SurvivorshipCare 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).

3.13. 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

3.14. American College of Chest Physicians (ACCP, USA) 2013 ⊕

Deng GE, Rausch SM, JoneS LW, Gulati A, Kumar NB, GreenleE H, Pietanza MC, Cassileth BR. Complementary therapies and integrative medicine in lung cancer: diagnosis and management of lung cancer, 3rd ed: American College Of Chest Physicians Evidence-Based Clinical Practice Guidelines. Chest. 2013;143(5 Suppl):420-36. [159371].

Recommendation 2.5.3.1. In patients having nausea and vomiting from either chemotherapy or radiation therapy, acupuncture or related techniques is suggested as an adjunct treatment option (Grade 2B).
Recommendation 2.5.3.2. In patients with cancer related pain and peripheral neuropathy, acupuncture is suggested as an adjunct treatment in patients with inadequate control of symptoms (Grade 2C).

3.15. South Australia Health (SAH, Australia) 2011 ⊕

South Australian Gynaecological Cancer Care Pathway Optimising Outcomes for Women with Gynaecological Cancer. South Australia Health. 2011:58p. [196939].

Complementary therapies that have been shown to be helpful in the management of the symptoms of cancer and its treatment include: [acupuncture].

3.16. American College of Chest Physicians (ACCP, USA) 2007 ⊕

Cassileth BR, Deng GE, Gomez JE, Johnstone PA, Kumar N, Vickers AJ; American College of Chest Physicians. Complementary therapies and integrative oncology in lung cancer: Accp Evidence-Based Clinical Practice Guidelines (2nd Edition). Chest. 2007;132(3sup:340s-54s. [146961]

Recommendation 7. Acupuncture is recommended as a complementary therapy when pain is poorly controlled or when side effects such as neuropathy or xerostomia from other modalities are clinically significant. Grade of recommendation, 1A
Recommendation 8. Acupuncture is recommended as a complementary therapy when nausea and vomiting associated with chemotherapy are poorly controlled. Grade of recommendation, 1B
Recommendation 9. Electrostimulation wristbands are not recommended for managing chemotherapy-induced nausea and vomiting. Grade of recommendation, 1B
Recommendation 10. When the patient with lung cancer does not stop smoking despite use of other options, a trial of acupuncture is recommended to assist in smoking cessation. Grade of recommendation, 2C
Recommendation 11. In patients with lung cancer with symptoms such as dyspnea, fatigue, chemotherapyinduced neuropathy, or postthoracotomy pain, a trial of acupuncture is recommended. Grade of recommendation, 2C
Recommendation 12. In patients with a bleeding tendency, it is recommended that acupuncture be performed by qualified practitioners and used cautiously. Grade of recommendation, 1C

3.17. National Institute for Health and Clinical Excellence (NICE, UK) 2004 ⊕

Guidance on Cancer Services Improving Supportive and Palliative Care for Adults with Cancer. National Institute for Health and Clinical Excellence - Clinical Guidelines. 2004:209P. [197445].

There have been three systematic reviews of randomised controlled trials and studies of other complementary therapies, not limited exclusively to patients with cancer. Two provide some evidence of the benefits of aromatherapy in reducing anxiety [A] and acupuncture in reducing nausea and vomiting [A]. Preliminary results of a systematic review 152 11 of chemotherapy-related nausea and vomiting is also positive for acupuncture14 [A]. There is some indication that therapies might have the ability to improve patients' general sense of well-being and quality of life through, for instance, reductions in distress, anxiety, pain and nausea [B].

3.18. National Health and Medical Research Council (NHMRC, Australia) 2003 ⊕

National Breast Cancer Centre,. Clinical practice guidelines for the psychosocial care of adults with cancer. National Health and Medical Research Council. 2003. 246p. [196874].

Other Other therapies may include art therapies, eg music,therapies painting, reading and poetry, wellness programs, meditation, hypnosis, **acupuncture**, relaxation, exercise, prayer, laughter etc.