CAM Cancer Complementary and Alternative

Table 1: Systematic reviews of yoga for cancer supportive care
Source: Karen Pilkington, CAM-Cancer Consortium. Yoga [online document]. https://cam-cancer.org/en/yoga March 2022.

| First author, year | Design and methods | Main outcomes | Number and type of studies Number of patients | Main results/ Conclusions |
|-----------------------|--|---|---|---|
| Baydoun 2020 | Search of 4 databases up to January 2020. All study types Studies assessed using the National Institutes of Health (NIH) quality assessment tools 3 RCTs judged good, 2 as fair and 1 as poor | Cancer-associated cognitive decline (CACD) | 10 studies (6 RCTs) predominantly breast cancer | 'The evidence to date is insufficient to suggest that yoga is beneficial for attenuating CACD' No meta-analysis. |
| Buffart 2012 | Searches of 10 databases up to November 2011. Only RCTs were selected with non-exercise or wait list control groups. Quality scores based on 9 criteria, scores ranged from 22-89% | Physical and/or psychosocial | 13 RCTs (1 in patients with lymphomas, 12 in a total of 744 patients with breast cancer) | Effect size on functional well-being was small and moderate to large for psychosocial outcomes. Effects on physical function and sleep were not significant. |
| Cramer 2012 | Searches of 5 databases up to February 2012. Only RCTs in patients with a history of breast cancer were selected. Risk of bias was generally high based on Cochrane risk of bias tool. | Health-related QoL or psychological health | 12 RCTs in a total of 742 breast cancer patients and survivors | Evidence of short-term effects on QoL, well-being and psychological health. Efficacy found only during active cancer treatment. |
| Cramer 2017 | Cochrane review Search of 5 databases (including an Indian database) and trials databases to January 2016. Cochrane risk of bias assessment revealed that 13 studies had low risk of selection bias, 5 studies had adequate blinding of outcome assessment and 15 studies had low risk of attrition bias | Health-related QoL, mental health and cancer-related symptoms | 24 RCTs with a total of 2,166 participants (23 RCTs in meta-analysis) with breast cancer | 'Moderate-quality evidence for improving health-related QoL and reducing fatigue and sleep disturbances when compared with no therapy, as well as for reducing depression, anxiety and fatigue, when compared with psychosocial/educational interventions. Very low-quality evidencefor yoga as being as effective as other exercise interventions' |
| Dong 2019 | Search of 8 English and Chinese databases to January 2019. Cochrane risk of bias criteria used for assessment Overall risk of bias judged moderate but all trials were at risk of performance bias due to lack of blinding. | Cancer-related fatigue | 17 RCTs that included 2,183 breast cancer patients | 'Yoga can be considered as an alternative therapy for relieving fatigue in breast cancer patients who have completed treatment or are undergoing anticancer treatment.' |
| El-Hashimi 2019 | Search of 10 databases plus Google up to November 2018. Quality assessment reported to have been conducted but criteria and results of assessment unclear. | QoL | 8 RCTs with 545 breast cancer participants | 'This meta-analysis preliminarily demonstrated that yoga is probably as effective as other exercise modalities in improving the QoL of women with breast cancer' |

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| Felbel 2014 | Cochrane review. Search of Cochrane CENTRAL and MEDLINE to Feb 2014, conference proceedings, trial registers. Only RCTs selected. Cochrane risk of bias used for assessment and judged to be high | Distress, fatigue, anxiety, depression. Quality of sleep | 1 RCT in 39 people with haematological malignancies. | 'The role of yoga in haematological malignancies remains unclear' |
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| Gonzalez 2021 | Search of 6 databases up to June 2020. Only RCTs selected. Cochrane risk of bias used for assessment and 15 studies were assessed as high risk of bias for at least one domain. | Depression and anxiety | 26 RCTs in 1,544 patients (18 in breast cancer; 2 in mixed cancers; 1 study each in colorectal, lymphoma, thoracic, head and neck, myeloproliferative neoplasms and glioma) | 'yoga-based interventions are associated with amelioration of depression and anxiety symptomsthe results should be interpreted with caution.' |
| Hsueh 2021 | Searches of 3 databases to March 2020. Only RCTs selected. Trials assessed using the revised risk-of-bias tool (ROB2). Assessments: 8 low risk of bias, 14 some concerns, 4 high risk | QoL (and anxiety, depression, stress, fatigue, pain, sleep, complications) | 26 RCTs with a total of 2069 participants | 'Yoga may enhance QoL in patients with breast cancer experiencing post-treatment complications' |
| Lin 2011 (also listed as Tsauo 2011) | Searches of 7 databases up to July 2010. Only RCTs selected. PEDro scores ranged from 4 to 7 out of possible maximum of 10. | Psychological health (i.e., anxiety, depression, distress, and stress), QoL, and physical health | 10 RCTs in a total of 313 patients (7 in breast cancer, 1 in lymphoma, 2 in mixed cancer types) | Significantly greater improvements in psychological health with yoga than in support groups or wait list control groups. |
| O'Neill 2020 | Searches of 3 English databases to May 2018. RCTs comparing yoga against various controls. Cochrane risk of bias criteria used for assessment. 'Overall, the studies contained low-moderate scores for risk of bias' | Fatigue and QoL | 24 RCTs in 1394 breast cancer patients | 'yoga provides small to medium improvements in CRF and QOL compared to non-PA, but not in comparison to other PA interventions' |
| Pan 2017 | Search of 3 databases up to June 2013 Cochrane risk of bias criteria used for assessment No study fulfilled all criteria. | Treatment-related side effects and QoL | 16 RCTs with a total of 930 participants with breast cancer | 'Comparing yoga groups to control groups, there was a statistically significant difference in overall health-related QoL, depression, anxiety and gastrointestinal symptoms.' |

| Saraswathi 2021 | Searches of 3 databases up to June 2019. Different types of studies. Risk of bias assessed using NIH quality assessment tool. 5 studies moderate, 1 study good and 1 study low quality. | Lymphoedema, ROM, QoL | 7 studies (3 RCTs) in breast cancer survivors | 'Yoga could be a safe and feasible exercise intervention for BCRL patients. Evidence generated from these studies was of moderate strength.' No meta-analysis |
|--------------------|---|---|--|--|
| Song 2021 | Search of 8 databases to July 2019 for English and Chinese studies Critical appraisal instruments from the Joanna Briggs Institute used for assessment Various weaknesses of studies reported but not tabulated and unclear which studies were affected. Note: Meta-analysis included studies of yoga and of stretching. Also, results at different time-points were combined | Fatigue | 16 RCTs (13 breast cancer; 1 prostate; 1 lymphoma; 1 colorectal; 1,453 patients) | 'Yoga interventions had a positive effect in reducing CRF among patients undergoing chemotherapy and/or radiation therapy, but the adherence to yoga was low' |
| Tang 2019 | Search of 7 English and Chinese database from January 1997 to January 2018. Cochrane risk of bias criteria used. Studies rated at high or unclear risk of bias: incomplete outcome data (n = 13); blinding of participants, personnel and outcome assessors (n = 8); random sequence generation (n = 4); allocation concealment (n = 2). | Sleep disturbance | 25 RCTs of yoga (13) or walking (12) with a total of 1,918 participants (all breast cancer except for 1 lymphoma, 1 colorectal cancer and 1 all cancers) | 'We concluded that walking is more effective than yoga in improving sleep disturbance in cancer patients' |
| Tolia 2018 | Search of 3 databases up to May 2017 Cochrane risk of bias criteria used for assessment. All 3 studies judged to be high quality (but at least one was at risk of bias due to lack of blinding) | Physical and psychosocial outcomes | 3 RCTs with a total of 155 oncology (breast cancer) patients treated with radiotherapy | 'Yoga was found to have a substantial benefit in cancer patients' distress, anxiety, and depression. It also demonstrated a moderate impact on fatigue and emotional function and a small and insignificant effect on functional well-being No meta-analysis. |
| Wei 2019 | Searches of 3 databases up to September 2018. Included RCTs only. Risk of bias and methodological quality evaluated using PRISMA and Cochrane tool. 2 RCTs were assessed as low risk of bias (Note: actually 2 reports of same study) 3 RCTs at unclear/high risk | Lymphoedema (and muscle strength, ROM and mobility, subjective experience including QOL) | 5 RCTs with a total of 85 participants (Note: 2 reports of the same study are presented as separate studies – actually 4 RCTs with 62 participants) | No clear evidence of a benefit of adding yoga to usual care compared with usual care alone. No meta-analysis |

| Yi 2021 | Search of 8 English and Chinese databases to | Physical, psychological, QoL, | 7 RCTs with a total of 693 | 'Yoga may reduce fatigue, depression and |
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| | September 2020 | fatigue, sleep, depression, | breast cancer patients | anxiety, improve sleep disturbance, and improve |
| | RCTs comparing yoga against various controls | anxiety, safety) | undergoing chemotherapy | QoL in breast cancer patients receiving |
| | Cochrane risk of bias criteria used for | | | chemotherapy in the short-term' |
| | assessment. | | | |
| | 4 studies at high risk of bias on at least one | | | |
| | domain; all at unclear risk on at least one domain. | | | |
| Zhang 2012 | Searches of 5 databases (2 Chinese) up to May | Psychological functioning | 6 RCTs in a total of 382 | Statistically significant effect of yoga on QoL, non- |
| | 2011 | and QoL | women with breast cancer | significant difference in psychological functioning |
| | Only RCTs comparing yoga against no treatment | | | or fatigue. |
| | were selected. | | | |
| | Quality assessed using 4 criteria: sequence | | | |
| | generation, allocation concealment, blinding, | | | |
| | incomplete data. | | | |
| | Methodological quality was described as not | | | |
| | high. | | | |
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Key: QoL quality of life; RCT randomised controlled trial; ROM range of movement