

Table 2: Controlled clinical trials of reflexology for cancer

Source: Ava Lorenc, CAM-Cancer Consortium. [Reflexology](#) [online document]. October 2023.

Outcome	First author (year)	Study design	Participants (number, diagnosis)	Interventions (experimental treatments, control)	Main outcome measures	Main results	Comments
Anxiety	Quattrin (2006)	Non-randomised CT (Pre-test, post-test comparative group)	Hospitalised people receiving chemotherapy (n=30)	1) Reflexology 2) Control – no intervention	1) Spielberger State-Trait Anxiety Inventory	A decrease of 7.9 points on the state-anxiety scale in the treatment group and of 0.8 points in the control group ($p < 0.0001$).	The lack of randomisation, small number of participants and the fact that reflexology treatment was provided by a student nurse rather than by a fully qualified reflexologist, reduced the reliability of the results.
	Rezaei (2022)	RCT	Women with breast cancer (n=66)	1) Reflexology 2) Control – no intervention	2) Spielberger State-Trait Anxiety Inventory	No difference: the mean anxiety scores in the intervention and control group after reflexology were 47.03 ± 4.14 and 49.71 ± 4.28 , respectively.	Sample was quite small. Unclear but looks like intervention was only for one day.
Quality of life and CIPN	Gholamzadeh (2023)	RCT	Colorectal cancer patients with CIPN (n=80)	1) Reflexology 2) Control – no intervention	1) Quality of life (QoL): EORTC QLQ-C30 2) CIPN: EORTC QLQ-CIPN20	The mean total score of QoL 4 weeks after the intervention was higher in the experimental group (48.3 ± 19.5) than in the control group (26.2 ± 15.2). ($p > 0.05$). Reflexology was associated with positive effects in terms of improvement of CIPN: sensory ($p = 0.01$), motor ($p = 0.031$), and autonomic symptoms ($p = 0.034$)	Doesn't appear to be registered. Minimal information on randomisation. Reflexologist was the researcher.
Fatigue	Hesami (2019)	RCT	Patients undergoing chemotherapy (n=80)	1) Reflexology 2) Control – no intervention	1) Fatigue Severity Scale (FSS)	The mean and standard deviation of the intervention and control groups were 4.486 ± 1.040 and 5.180 ± 1.450 , respectively, which demonstrated a significant difference between the two groups in terms of fatigue ($p = 0.016$).	No loss to follow up. Reflexologist was the researcher. Intervention had some fidelity monitoring Only one outcome measure and effect size not reported.

Fatigue (cont)	Mazloun (2023)	RCT	Patients undergoing radiotherapy who have fatigue (n=62)	1) Reflexology 2) Warm footbath	1) Multidimensional Fatigue Inventory (MFI) scale	All dimensions of the MFI scores were significantly lower in the reflexology group than in the footbath group at the post-test stage ($p < .05$), except for the score of the Reduced Activity dimension on day 7.	Minimal information reported on randomisation procedure. Only one outcome measure and effect size not reported. Reflexologist was the researcher.
	Nourmohammadi (2019)	RCT	Women with breast cancer (n=57)	1) Reflexology 2) Control – no intervention	1) Fatigue severity scale (FSS)	A significant difference in fatigue severity was seen between the experimental (20.66 ± 4.54) and control (40.36 ± 9.58) groups ($p=0.000$).	Poorly reported, including no flowchart, no effect size, no limitations mentioned and no trial registration. Randomisation based on day of the week so may have been biased. Higher drop out in intervention group.
Fatigue, pain and sleep	Rambod (2019)	RCT	Lymphoma patients (n=72)	1) Reflexology 2) Control – no intervention	1) Multidimensional Fatigue Inventory 2) Numerical pain scale 3) Pittsburgh Sleep Quality index. 4) Adverse effects	Significant difference was found between the two groups regarding fatigue, pain, and sleep quality after the intervention (all $p < 0.05$). No adverse effects reported.	Well reported. Can't find registration record using reference number given. Effect size not reported.
Fatigue and other symptoms	Wyatt (2021)	Sequential Multiple Assignment Randomized Trial	Patients with cancer and their informal caregivers (n=347 dyads)	1) Reflexology (caregiver provided) 2) Reflexology (caregiver provided) then meditative practices 3) Meditative practices 4) Meditative practices then reflexology 5) Control – no intervention	1) Brief Fatigue Inventory 2) M.D. Anderson Symptom Inventory (MDASI). Summed Symptom Severity Index, 3) Patient Reported Outcomes Measurement Information System (PROMIS) short forms 4: depression and anxiety	There were no differences in primary or secondary outcomes between reflexology and meditative practices groups created by the first randomization	Registered but reference not given. Unusual design (sequential multiple assignment randomized trial (SMART)), usually used for interventions with proven efficacy. High attrition rates. Intervention fidelity was assessed. Effect sizes given.

Fatigue, quality of life, sleep, pain	Tarrasch (2017)	Preference trial	Breast cancer patients undergoing radiation therapy (n=72)	1) Reflexology 2) Control – no intervention	1) Multidimensional Quality of Life Scale-Cancer questionnaire (MQOLS-CA), 2) Lee Fatigue Scale (LFS) 3) General Sleep Disturbance Scale (GSDS) 4) Numeric rating scale for pain	Compared to control, reflexology group had significant lower levels of fatigue after 5 weeks of radiation therapy ($p < 0.001$), quality of sleep after 10 weeks of radiation treatment ($p < 0.05$) and no deterioration of quality of life or increase in pain.	Not randomised. Non-powered sample size and small sample. Lack of blinding
CINV and quality of life and anxiety	Murat-Ringot (2021)	RCT	Digestive or lung cancer patients (n=80)	1) Reflexology 2) Control – no intervention	1) VAS for acute CINV 2) CINV diary 3) EORTC QLQ-C30 4) Body image questionnaire (BIQ) 5) Adverse events	Significantly less frequent consumption of antiemetic drugs in intervention group compared to control ($p=0.04$). No significant difference in terms of quality of life ($p=0.32$) or anxiety ($p=0.53$) between the intervention and control groups. Adverse events were experienced by 12 participants: 7 (58%) participants in the foot reflexology group and 5 (42%) participants in the control group. None of the adverse events were attributed to foot reflexology, according to the physicians.	Quite high loss to follow up including some due to adverse events. Fewer patients had nausea to start with. BIQ was poorly completed.

Self-selected problems concerns/ symptoms	Dyer (2013)	RCT	Adults outpatients with cancer (n=115)	1) Reflexology 2) Aromatherapy	1) Measure Yourself Concerns and Wellbeing (MYCaW) 2) VAS (relaxation)	Majority of the first concerns were physical (unspecified) in both groups: 59% aromatherapy group, 49% reflexology group. Both reflexology and aromatherapy massage found to be effective for MYCaW first concerns (p = 0.046). Difference in mean change between groups 0.453 in favour of aromatherapy massage (standard error of the mean 0.323). No statistical difference between groups for MYCaW second concerns or overall well-being scores, proportions of patients gaining clinical benefit, VAS scores over time (p = 0.489) or between groups (p = 0.408) or in written responses.	Limitations include lack of an untreated control group and lack of blinding.
Healthcare service utilization and work-related productivity	Luo (2019)	RCT	Women with advanced breast cancer (n=256)	1) Reflexology 2) Attention control	1) Conventional Health Service and Productivity Costs Form (CHSPCF) 2) World Health Organization Health and Work Performance Questionnaire (HPQ)	Patients in the reflexology group were less likely to have hospital visits compared to the control group in both weighted/unweighted and unadjusted/adjusted logistic regressions. Reflexology group also had lower relative absenteeism in the unweighted adjusted analysis and less absolute presenteeism in weighted unadjusted analysis.	High dropout (although analysis did take this into account). Short-term follow up.
<p>CT = Controlled trial RCT = Randomised Controlled Trial CIPN = Chemotherapy induced peripheral neuropathy CINV = Chemotherapy induced nausea and vomiting EORTC QLQ = European Organization for Research and Treatment of Cancer Quality of Life VAS = Visual Analogue Scale</p>							