



PRISMA 2020 Checklist

Supplementary Table 1. Checklist of the PRISMA extension for network meta-analysis.

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	1
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	3
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	4
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	4-5
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	5
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	5
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	5
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	5-6
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	5-6
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	5-6
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	5-6
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	6
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	6
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	6
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	6
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	6
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	6
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	6
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	6
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	6



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Section and Topic	Item #	Checklist item	Location where item is reported
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	6-7
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	7
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	7
Study characteristics	17	Cite each included study and present its characteristics.	7
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	7
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	7-8
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	7
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	7-9
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	7
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	8
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	8
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	8
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	9-10
	23b	Discuss any limitations of the evidence included in the review.	11-12
	23c	Discuss any limitations of the review processes used.	11-12
	23d	Discuss implications of the results for practice, policy, and future research.	12
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	3
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	3
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	13
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	13
Competing interests	26	Declare any competing interests of review authors.	13
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	13



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For more information, visit: <http://www.prisma-statement.org/>

PRISMA = Preferred Reporting Items for Systematic Reviews and Meta-Analysis; PICOS = population, intervention, comparators, outcomes, study design.*Text in italics indicates wording specific to reporting of network meta-analyses that has been added to guidance from the PRISMA statement.

Supplementary Table 3. Descriptions of interventions in people with cancer.

Intervention	Description
Usual care	Pertains to apt health care access tailored to the patient's needs and preferences, such as visits to a physician or nurse practitioner, and treatments for complications arising from antineoplastic therapy
Education and support of person with cancer	Providing written or oral education and support to persons with cancer
Reminiscence therapy	Involves using triggers and life histories to discuss the past, systematically recall events/feelings/thoughts for pleasure, and potentially reduce depression
Psychotherapy	Employing structured, personalized interventions within an interactional context to facilitate psychological change by modifying internal experiences, behaviors, and intersubjective capacities—targeting not only symptom reduction and coping enhancement but also fostering personal meaning, adaptive skills, and addressing underlying conflicts, as exemplified by symptom management education and coping skills for negative emotions, meaning-centered psychotherapy, supportive psychotherapy, cognitive-behavioral therapy (CBT), mindfulness, and dignity therapy
Exercise	Encompasses structured physical activity programs primarily aimed at improving physical fitness, such as aerobic exercise, resistance training, balance training or flexibility exercise.
Massage and touch therapy	Massage, therapeutic touch and healing touch
Relaxation therapy	Aims to induce a relaxation response, which is characterized by a reduced heart rate, respiratory rate, and blood pressure, and is associated with a perception of calm and well-being.
Music therapy	Listening to music, playing musical instruments
Yoga therapy	Consisted of a set of traditional yogic practices, such as physical postures(asanas), breathing regulation(pranayama), meditation, and yogic relaxation techniques with imagery.
Expressive writing	Inducing processing of traumatic events by repeatedly prompting participants to briefly write down their deepest thoughts and feelings about the experience

Supplementary Table 4. Non-pharmacological interventions characteristics.

Author (year)	Intervention		Intervention description		Intervention Duration (Weeks)
	Treatment	Control	Treatment	Control	
Kim, Yeon Hee ^[1] (2018)	Psychological intervention programme	Usual care (UC)	The focus of our programme contents was symptom management education relating to chemotherapy, coping skills for negative emotions during the treatment process and emotional support, which comprised body image and self-concept training, coping with stress, expression of fear of cancer recurrence, techniques for overcoming personal difficulties, use of social resources, the sharing of experiences related to sex life and self-acceptance.	Paper-based materials on symptom management were provided to both the intervention and control groups. After the study, the coordinator telephonically contacted patients in the control group, checked their status, explained the programme to them and encouraged them to take part in it.	6
William Breitbart ^[2] (2018)	Individual Meaning Centered Psychotherapy (IMCP)	Enhanced usual care (EUC)	IMCP is based on the principles of Viktor Frankl's Logotherapy, and is designed to help patients with advanced cancer sustain or enhance a sense of meaning, peace and purpose in their lives even as they approach the end of life. IMCP is structured as a 7-session (1-hour weekly sessions) individual intervention that utilizes a mixture of didactics, discussion and experiential exercises that focus around particular themes related to meaning and advanced cancer.	Patients assigned to EUC were provided with a list of resources for mental health treatment, as well as targeted referrals specific to problem areas identified on the Distress Thermometer. In addition, EUC patients were provided with a packet of resources for coping with cancer, along with a signed copy of The Human Side of Cancer, a book designed to help patients cope with stressors associated with cancer and its treatment.	14
William Breitbart ^[2] (2018)	Supportive psychotherapy (SP)	Enhanced usual care (EUC)	This intervention is a 7-session individual supportive psychotherapy utilizing an approach to supportive psychotherapy based on models described by Rogers. The essential components of supportive psychotherapy are integrated into this manualized intervention, including: reassurance, explanation, guidance, suggestion, encouragement, affecting changes in patient's environment, and permission for catharsis.	Patients assigned to EUC were provided with a list of resources for mental health treatment, as well as targeted referrals specific to problem areas identified on the Distress Thermometer. In addition, EUC patients were provided with a packet of resources for coping with cancer, along with a signed copy of The Human Side of Cancer, a book designed to help patients cope with stressors associated with cancer and its treatment.	14
Katrin Hardoerfer ^[3] (2018)	Yoga therapy	Waitlist control (WLC)	Yoga therapy was carried out in weekly sessions of 60 min each for 8 weeks. The program provided restrained body and breathing exercises as well as meditation.	The control group did not receive any yoga therapy while on the waiting list.	8
Kurt Kroenke ^[4] (2015)	Telecare Management	Usual care (UC)	Patients in the intervention group received centralized telecare management by a nurse-physician specialist team coupled with automated home-based symptom monitoring by interactive voice recording or Internet.	Patients randomized to the usual-care group were informed of their depressive and pain symptoms, and their screening results were provided to their oncologist. There were no further attempts by study personnel to influence depression or pain management unless a psychiatric emergency arose	48
M.J. Murphy ^[5] (2019)	Internet-delivered cognitive behavioural therapy (iCBT)	Usual care (UC)	The clinician-supervised iCBT program (iCanADAPT Early) consisted of eight lessons over 16 weeks.	Participants could access their family doctor and/or local (mental) health services.	16
Marc Serfaty ^[6] (2019)	Cognitive–behavioural therapy (CBT)	Usual care (UC)	In CBT (plus TAU), IAPT therapists were trained to adapt their existing skills and use context-specific CBT according to the CanTalk study intervention manual. They provided up to 12 sessions of individual CBT delivered, usually weekly and within 3 months, either face to face or by telephone.	TAU involved routine assessment and treatment, including care from general practitioners (GPs), clinical nurse specialists, oncologists and palliative care clinicians.	12
Gary Rodin ^[7] (2018)	supportive-expressive psychotherapeutic intervention	Usual care (UC)	most intervention participants were expected to receive three to six CALM psychotherapy sessions (each 45 to 60 minutes) over 3 to 6 months. The actual number of sessions each participant received was based on clinical judgment and the patient’s ability to participate. Therapists aimed to deliver at least three sessions within the first 3 months of study enrollment.	Participants in the control group received UC alone, which included routine oncology treatment and follow-up and clinic-based distress screening. UC did not preclude referral for specialized psychosocial oncology services, but most patients with metastatic cancer at PM do not receive psychotherapy as part of UC.	24
Di Shao ^[8] (2021)	Guided Self-Help Intervention Based on Mindfulness (GSH-MBI)	Usual care (UC)	Participants in the intervention group received the GSH-MBI. Components of the GSH-MBI program include didactic instructions and experiential practice. Participants were asked to listen to the homepractice audio, follow the verbal guidance, and practice the exercises 5 days per week for 6 consecutive weeks.	Participants in the wait-list control group received usual care, which included health education and instructions for follow-up care. After completion of the study, these participants were introduced to the program and were provided with the audio and materials of the intervention.	6
Jane McCusker ^[9] (2021)	Telephone-support	Usual care (UC)	Participants assigned to the CanDirect intervention received the Depression Self-Care Toolkit for Cancer Survivors accessible in paper format or on a secure website. Intervention participants were also offered lay telephone coaching guided by a structured manual to activate and guide participants through the materials, help in selecting appropriate tools, assist with SMART goal-setting, and provide positive reinforcement.	Control arms re-ceived UC, which included all regular health care, com- munity services, and pharmacology.	24
A. M. H. Krebber ^[10] (2016)	Stepped Care Targeting Psychological Distress (Nurse counselling)	Usual care (UC)	A description of the SC program can be found elsewhere. In short, it includes 1. watchful waiting, 2. guided self-help via the Internet or a booklet, 3. face-to-face problem solving therapy, and 4. specialized psychological interventions and/or psychotropic medication.	care-as-usual (CAU)	12

Vanessa Strong ^[11] (2005)	Nurse-delivered complex intervention plus usual care (Nurse counselling)	Usual care (UC)	In addition to usual care, patients in the intervention group were offered a maximum of 10 one-to-one sessions over 3 months, preferably in person at the cancer centre but occasionally by telephone or at patients' homes if they were unable to attend the centre. The content of the intervention, Depression Care for People with Cancer, comprised education about depression and its treatment (including antidepressant medication); problem-solving treatment ¹⁵ to teach the patients coping strategies designed to overcome feelings of helplessness; and communication about management of major depressive disorder with each patient's oncologist and primary-care doctor. For 3 months after the treatment sessions progress was monitored by monthly telephone calls.	All patients in the trial received usual care. Patients who attend specialist medical services can receive treatment for depression either from their primary-care doctor or from a hospital specialist.	12
Xiaomei Dong ^[12] (2018)	Telephone support	Usual care (UC)	The telephone support intervention received by patients in the TS group was developed from previous findings on the special needs of colorectal cancer patients. Specific questions related to changes in condition, new symptoms, fear of recurrence, treatment and side effects, genetic risk, self-care (diet, support groups, finances), and family concerns.	Patients in the control (CON) group received all these same interventions and the usual hospital care. Patients receive routine care including advice on diet and side effects of chemotherapy as well as stoma care.	6
Xiaomei Dong ^[12] (2018)	Telephone-based reminiscence therapy	Usual care (UC)	Telephone-based reminiscence therapy was performed as described previously with modification based on psychological characteristics (pessimism, anxiety, fear, low self-esteem, etc.) of patients	Patients in the control (CON) group received all these same interventions and the usual hospital care. Patients receive routine care including advice on diet and side effects of chemotherapy as well as stoma care.	6
Wenwei Ren ^[13] (2019)	Cognitive behavioural therapy (CBT)	Usual care (UC)	Women in the CBT and SCM groups received a series of nine sessions for 12 weeks. CBT was psycho-educational, structured, and interactive, with presentations, group discussions, handouts, and weekly homework assignments. Nine standardized sessions were designed for the participants randomized to CBT, and 6 to 8 participants were included in each session. The participants in the CBT group also received their usual medical care throughout the duration of the study.	The participants in the UC group received usual medical care only, carried out by nurses who were professionally trained.	12
Wenwei Ren ^[13] (2019)	Self-care management (SCM)	Usual care (UC)	The therapist focused only on the SCM structured protocol content in each session, such as the introduction of breast cancer treatments, diet after surgery, the rehabilitation training, and how to address complications.	The participants in the UC group received usual medical care only, carried out by nurses who were professionally trained.	12
Lisa A. Cadmus ^[14] (2009)	The Increasing or Maintaining Physical Activity during Cancer Treatment (IMPACT) Study	Usual care (UC)	Both exercise interventions were based on the national recommendation of 30min of moderate-to-vigorous physical activity 5 days per week. At the beginning of the program, each participant received an educational book, a binder containing specialized weekly informational handouts, and a Polar heart rate monitor. Participants recorded each session in the 7-Day PAL and returned these logs once per month. Each participant was taught exercise techniques and principles during weekly phone-based meetings with a staff member designated to work with her.	Participants assigned to the IMPACT and YES usual care groups were told that they could exercise on their own if they chose, but that the study's physical activity program would not be available to them. They received all exercise program materials at 6-month follow-up. Participants in both groups were also asked not to make significant changes in their dietary habits.	24
Lisa A. Cadmus ^[14] (2009)	Yale Exercise and Survivorship (YES) Study	Usual care (UC)	Both exercise interventions were based on the national recommendation of 30min of moderate-to-vigorous physical activity 5 days per week. The YES Study exercise intervention consisted of a supervised training program at a local health club. Participants exercised at the club during designated sessions 3 days/week, supervised by exercise physiologists from the study staff, and exercised an additional 2 days/week either at the health club or on their own.	Participants assigned to the IMPACT and YES usual care groups were told that they could exercise on their own if they chose, but that the study's physical activity program would not be available to them. They received all exercise program materials at 6-month follow-up. Participants in both groups were also asked not to make significant changes in their dietary habits.	24
Panagiotis Pelekasis ^[15] (2015)	Stress management and health promotion program	Observational control program	The intervention group received an 8-week stress management and health promotion program. This consisted of 6 weekly, 30-minute sessions, starting at the first and ending at the sixth week, carried out in the oncology unit. These sessions were not received on the same day as their standard chemotherapy treatment.	an approximately 15-minute placebo effect meeting was carried out with the primary researchers (PP and GZ) every time patients visited the oncology unit for chemotherapy. These ranged from 3 to 6 for each person, depending on their chemotherapy sessions. These meetings had a general educational content on cancer-specific topics.	8
Jianyin Qiu ^[16] (2013)	Group Cognitive Behavioral Therapy (GCBT)	Waitlist control (WLC)	The intervention was a closed, treatment protocol-guided group intervention, in which patients met weekly for 10 two-hour sessions. One month following the end of the intervention, one booster session was provided. In the treatment group, each patient received three sessions for each treatment component.	In the Waitlist control (WLC) group, each patient was provided an educational booklet. The booklet covered topics from facts on breast cancer, treatment and related side effects to the guidelines for rehabilitation. The psychological distress experienced by breast cancer patients was also mentioned, and coping strategies were recommended.	10
Zhen Guo ^[17] (2013)	Psychosocial care + radiation therapy (RT)	Radiation therapy (RT)	Conductors should (a) show a good medical ethic and kindly attitude to patients, which could increase safe and confident feeling, and relieve their nervous tension to make them cooperate with treatment; (b) explain the necessity of tumor radiotherapy and introduce its principles, methods, adverse reactions during radiotherapy, prevention methods and treatment for side effects, so that patients may have some knowledge of radiotherapy; (c) analyze a variety of favorable factors with patients and their relatives together, encourage patients to maintain an optimistic mood, establish the confidence to conquer disease, and cooperate with the treatment	The control group received RT only. Patients in the control group of the study received the usual education and medication from their therapist coordinator, in addition to RT.	6
Elin Børøsund ^[18] (2020)	StressProffen (an application-based stress-management)	Usual care (UC)	Participants will get access to two modules per week for five weeks (total 10 modules). The app consists of stress management education, cognitive behavioral interventions and relaxation training exercises.	Participants will get treatment as usual during the study. After the one year study follow up they will receive the stress management app.	5
MF Damholdt ^[19] (2015)	Web-based cognitive training (eCogT) with telephone support	Waitlist control (WLC)	The program consists of several tasks centred on six cognitive domains: attention, processing speed, learning, memory, working memory and problem-solving. Each task is structured as a computer game with ten difficulty levels. Every week, the participants trained two cognitive domains with four different tasks. Each domain and the individual tasks were repeated one time during the training period. Tasks were made available to the individual participants on a weekly basis.	Waitlist control (WLC) group who is offered cognitive training at the end of the data collection period.	6

Roy A. Willems ^[20] (2016)	Web-Based Cognitive Rehabilitation	Waitlist control (WLC)	This protocol consists of six steps: needs assessment, specification of objectives, selecting theories and applications, producing materials, program implementation, and evaluation. The KNW consists of eight modules, of which seven are self-management training modules. Participants start by filling in a baseline questionnaire that enables tailoring. Participants then receive personalized advice on which of the modules deserve their attention. Within a module, the information is tailored further, eventually resulting in a personalized action plan.	The Waitlist control (WLC) group had access to the intervention after the last measurement. During the waiting period, this group received care as usual.	24
Richard Bränström ^[21] (2012)	Mindfulness Training Program	Waitlist control (WLC)	The intervention involved eight 2-h weekly sessions and consisted of experiential and group exercises.	The waiting list participants were scheduled to participate in the intervention program after approximately 6 months.	8
Florien W. Boele ^[22] (2018)	Internet-based guided self-help (Glioma intervention (GI))	Glioma Waitlist control (WLC) (GWL)	Patients in the GI group could take part in the intervention directly following baseline assessments. The intervention was an adaptation of a 5 week online guided self-help course founded on the principles of PST. The intervention consisted of five modules with examples and exercises. During the intervention, patients described what they felt to be important in their lives, they made a list of their problems and concerns, and worked on improving coping strategies to deal with these issues. Online support from a coach was provided to facilitate successful completion of the intervention.	GWL patients could take part in the intervention after a 12-week interval.	5
Penelope Schofield ^[23] (2016)	Nurse-led group consultation intervention (Nurse counselling)	Usual care (UC)	All consultations comprising the intervention package were delivered by a specialist uro-oncology nurse. Group consultations were scheduled at critical times in the illness/treatment trajectory when patients often experience increased information needs and distress – specifically, beginning of treatment (week 1), mid-treatment (week 4), treatment completion (week 7) and 6-weeks post-treatment (week 13).	All prostate cancer patients attend a minimum of one individual consultation with a specialist uro-oncology or radiation oncology nurse, then as required throughout their treatment. Nurses provide written information about treatment and side effects; referrals may be initiated also.	7
William Breitbart ^[24] (2011)	Individual Meaning-Centered Psychotherapy (IMCP)	Therapeutic massage (TM)	IMCP is a manualized 7-week intervention designed to assist patients with advanced cancer in sustaining or enhancing a sense of meaning, peace, and purpose in their lives as they face limitations due to progression of disease and treatment.IMCP uses didactics,experiential exercises,and psychotherapeutic techniques that promote the use of sources of meaning as resources in coping with advanced cancer. Seven 1-hour sessions address specific sources of meaning as well as themes related to cancer and identity, legacy, hope, and the finiteness of life. Patients are also assigned related readings and homework exercises.	Patients randomly assigned to TM received seven 1-hour sessions with a licensed massage therapist. TM involves manipulation of the soft tissue of the whole body or particular area softhebody.The duration of TM sessions was comparable to the length of IMCP sessions in a comparable setting, but massage therapists deliberately restricted the nature and degree of verbal interaction during sessions.	7
S. Dolbeault ^[25] (2009)	Psycho-educational intervention	Waiting-list control	The 8-week programme of 2 h sessions comprised of thematic discussions, information and training in stress management techniques.	Assessments were performed three times on all participants: 1 week before starting the immediate intervention (E1), the second after completion of the intervention (E2) and the third, one week before the beginning of the deferred intervention (E3).	8
K. Ashing ^[26] (2014)	Telephonic-based psychoeducational intervention	Usual care (UC)	paraprofessionally delivered telephonic-based psychoeducational intervention (telephone sessions plus survivorship booklet)	control condition (survivorship booklet only)	12
Ummavathy Periasamy ^[27] (2017)	Managing Patients on Chemotherapy by Pharmacists (Nurse counselling)	Treatment as-usual (TAU)	The intervention group received chemotherapy counseling by the pharmacist-in-charge of this study based on the “Managing Patients on Chemotherapy” module during their baseline, 1st follow-up, 2nd follow-up and 3rd follow-up sessions. The intervention was takes place at designated locations in the hospital and each session is designed to last 45 min ±10 min. The psychological assessment and chemotherapy counseling was done by the pharmacist-in-charge for this study which was trained by a clinical psychologist before starting the actual study.	The patients in the control group received treatment as-usual (TAU). This consisted of some general explanation by the pharmacist based on their own knowledge and this usually only occurs during the first cycle of chemotherapy. However, the control group received the educational module at the end of study.	18
Sue Hall ^[28] (2015)	Dignity therapy (DT)+ standard palliative care (SPC)	Standard palliative care (SPC)	The intervention group received dignity therapy, as described in box 1, in addition to standard palliative care. The intervention was delivered by DO, PM, CG or IJH, all of whom had been trained by Professor Harvey Max Chochinov (who developed the therapy).	Standard care comprised assessment by a multi-professional palliative care team, including nurses, a psychosocial worker and doctors trained in providing psychosocial and spiritual support.	2
Barrie R. Cassileth ^[29] (2003)	Music therapy	Standard care (SC)	Patients randomized to music therapy received live music therapy from trained music therapists in their rooms. All study therapists were experienced music therapists who had worked on the bone marrow transplant unit before treating their first study patient. Music therapy sessions were individualized.	Patients in the control arm received standard care. Control subjects could listen to music if they so chose, but were not visited by a music therapist and received no structured music therapy intervention.	2
Lisa M. Gudenkauf ^[30] (2015)	Group-based cognitive–behavioral stress management (CBSM)	Health education (HE)	The intervention involved in-session experiential exercises to teach CBT techniques as well as out-of-session assignments for at-home practice of CBT skills. Specific intervention content was condensed to a 5-week protocol covering awareness of stressors, cognitive restructuring, coping skills training, and skills for social support utilization, anger management to promote conflict resolution, and assertiveness training to promote support seeking and emotional expression.	HE served as an attention and time-matched control group with educational content.	5
Lisa M. Gudenkauf ^[30] (2015)	Relaxation training (RT)	Health education (HE)	Group members were provided with audio recordings of the group leader reciting relaxation exercises and were encouraged to practice these exercises daily. Selection of specific RT content for the 5-week intervention was based partly on feedback obtained from women following the 10-week CBSM group intervention. RT modules included abdominal breathing, progressive muscle relaxation, guided imagery, and meditation.	HE served as an attention and time-matched control group with educational content.	5

H. S. Vadiraja ^[31] (2009)	Yoga program with brief supportive therapy	Brief supportive therapy (supportive counseling)	Interventions were conducted over a 6-week period for both the groups during the course of their adjuvant radiotherapy with one group receiving an integrated yoga program and the other brief supportive therapy as individual sessions. The yoga intervention consisted of a set of asanas, breathing exercises, pranayama, meditation, and yogic relaxation techniques with imagery. Participants were required to attend a minimum of 3 in-person sessions per week for 6 weeks during their adjuvant radiotherapy treatment in the hospital and to practice at home on the remaining days.	The control intervention consisted of brief supportive therapy with education that is routinely offered to patients as a part of their care in this center. We chose to have this as a control intervention mainly to control for the nonspecific effects of the yoga program that may be associated with factors such as attention, support, and a sense of control as described in our earlier study. Subjects and their caretakers underwent counseling by a trained social worker during their hospital visits for adjuvant radiotherapy. The control group received 3 or 4 such counseling sessions during a 6-week period,	6
Miek C. Jong ^[32] (2018)	Yoga program+ standard care (SC)	Standard care (SC)	The yoga program consisted of weekly sessions of 75min at the hospital over a period of 12 weeks. Women entered the yoga program 1–2 weeks before the start of chemotherapy.	SC was provided according to the hospital guidelines. This was an individual mixture of (neo) adjuvant chemotherapy, surgery (mastectomy or lumpectomy), radiotherapy, and/or immunotherapy, as well as support from oncology nurses throughout the process.	12
Elizabeth Foley ^[33] (2010)	Mindfulness-based cognitive therapy (MBCT)	Wait-list condition	Treatment sessions involved intensive training in mindfulness meditation, the provision of theoretical material, and group discussion, as directed by the original MBCT manual (Segal et al., 2002). The program was delivered in eight weekly 2-hr sessions with a group of 8–12 individuals. Participants were provided with handouts containing information pertinent to each session, including suggested reading from Jon Kabat-Zinn’s Full Catastrophe Living (1990). All participants received a copy of this text, which discusses the main themes of the MBCT/MBSR programs: the various forms of mindfulness meditation, the mind–body connection, stress, and reactivity. Daily home practice of mindfulness meditation of up to one hour was recommended, and 40-min recordings of three classic meditations were given to support this practice: the body scan, a moving meditation, and a general mindfulness meditation (recorded by Elizabeth Foley; refer to Segal et al., 2002, for scripts of these meditations). A daylong session of meditation was facilitated for participants between Sessions 6 and 7 of the course. This involved 5 hr of silent meditation, during which participants were guided in the continuous practice of mindfulness by Elizabeth Foley, and concluded with a period of group discussion.	The wait-list participants received the MBCT training following their second assessment and completed psychometric measures immediately after the course.	8
Harvey Max Chochinov ^[34] (2011)	Dignity therapy (DT)	Standard palliative care (SPC)	Dignity therapy was provided by a psychologist, psychiatrist, or experienced palliative-care nurse. Group supervision, led by the principal investigator, took place every 6–8 weeks throughout the study, with videoconferencing to connect all three study sites.	Participants assigned to standard palliative care had access to the complete range of palliative-care-support services that were available to all study patients, including specialist palliative-care physicians and nurses, social workers, chaplains, and psychologists or psychiatrists. No participating site provided a formal approach to addressing generativity issues.	1
Harvey Max Chochinov ^[34] (2011)	Client-centred care	Standard palliative care (SPC)	Client-centred care is a supportive psychotherapeutic approach, in which the research nurse therapist guides the patient through discussions that focus on here-and-now issues—ie, participants are asked about their illness, associated symptoms, and what is being done to address their distress. The content of client-centred care was kept as distinct from dignity therapy as much as possible and did not focus on issues of generativity, meaning, or purpose.	Participants assigned to standard palliative care had access to the complete range of palliative-care-support services that were available to all study patients, including specialist palliative-care physicians and nurses, social workers, chaplains, and psychologists or psychiatrists. No participating site provided a formal approach to addressing generativity issues.	1
Pei-Hua Wu ^[35] (2018)	Psychoeducational interventions (PEIs)	Traditional pamphlet education	The experimental group participated in PEI, a brief and highly structured program consisting of two parts: (a) an educational manual that addressed depression, anxiety, disease-specific care knowledge, self-efficacy, and resilience and (b) a self-assessment of learning. The PEI was conducted in six 60-minute sessions during five chemotherapy treatments.	The control group received only traditional pamphlet education. Participants in the control group were exposed only to the traditional pamphlet education approach (consultation from nurses and information sheets) in the outpatient department.	15
Gitta Kleijn ^[36] (2018)	Life Review Therapy combined with Memory Specificity Training (LRT-MST)	Waiting-list control	LRT-MST consists of four weekly sessions on a particular lifetime period: childhood, adolescence, adulthood, and whole life span. For each period, 14 questions are designed to prompt specific positive memories. Participants are explicitly encouraged to retrieve positive specific memories to the positively stated questions. Each interview, conducted in Dutch, took approximately 1 hour and was led by a psychologist who was trained in the LRT-MST-protocol “Dear Memories”.	During visits to the hospital, physicians and nurses provided emotional support and advice how to cope with deterioration of quality of life on an ad hoc basis. If urgent problems emerged, the patient was referred to other services, like a social worker, a psychologist or their general practitioner.	4
Mandy Ho ^[37] (2020)	Physical activity (PA)	Usual care (UC)	Participants were encouraged to increase PA progressively to achieve the general health target of 30 min of moderate-tovigorous PA (MVPA) 5 days a week in the first 6 months and progressing toward the target of 60 min of MVPA 5 days a week over the next 6 months. Similarly, participants received individual face-to-face motivational interviews, motivational phone calls every 2 weeks, monthly HAPA-stage-of-change matched information pamphlets, a quarterly newsletter for experience sharing among participants by mail, and quarterly group meeting over the first 12 months. All participants were given a pedometer and a monthly PA log for tracking their levels of PA.	Participants in the usual care (control) group received five pamphlets containing general healthy lifestyle advice, including healthy eating, increase PA, maintaining a normal body weight, quit smoking, and avoid alcohol abuse. The pamphlets were posted to participants at every 2 months during the initial 12 months.	48
Yan SUN ^[38] (2021)	Psychological nursing and health education	Routine care	Psychological nursing combined with health education was given to the observation group.	Routine care was conducted to the control group.	48
Victoria White ^[39] (2018)	Information-based, breast cancer specific website help	Usual care (UC)	The “informe” (Information for Me) website is a self-directed information resource for young women with breast cancer. The website was organised around the different stages of breast cancer treatment. Women were invited to monitor their emotional state using the thermometer image from the distress thermometer. Women completing the distress thermometer were provided with feedback regarding how they were doing with. Women were invited to complete the distress thermometer every time they logged onto the website. The website also offered a diary function for women to record their thoughts or feelings. Women could access “informe” as often as they liked, whenever they liked over a 6-month study period.	Participants in this group received usual care from their treating clinicians. While UCG participants could not access the intervention website, there were no restrictions on their access to other websites or resources.	24

Rianne Henrica Johanna Golsteijn ^[40] (2018)	Computer-tailored physical activity	Usual care Waitlist control (WLC)	Participants in the intervention group received computer-tailored PA advice at three time points (at baseline, after 2 months and after 3 months) both online on a secured website and on paper (by mail). The advice was generated automatically using a message library, questionnaire data and computer-based data-driven decision rules.	The usual care control group received the OncoActive intervention after completing the last measurement (T3).	16
Holger Cramer ^[41] (2016)	Yoga intervention (90 min once weekly)	Waitlist control	The yoga group participated in weekly 90-min classes of traditional hatha yoga over a period of 10 weeks. In each study center, the yoga intervention was conducted in a single group. The classes were led by a single yoga teacher at each site. Patients were encouraged to practice yoga at home daily, although no minimal practice time was required.	Patients in the control group were wait listed and did not participate in any study intervention for the first 22 weeks of the trial. Patients continued their self-directed usual care.	10
Eva Rames Nissen ^[42] (2019)	Therapist assisted internet-delivered mindfulness-based cognitive therapy (iMBCT) program	Care-as-usual (CAU)	Each of the eight 1 week modules included written material, audio exercises, writing tasks, cancer-specific patient examples, and videos with patients and experts. Participants completed a weekly training diary and mailed it to their therapist who gave written, asynchronous feedback on a prearranged day of the week. Participants were given access to the next module after submitting the tasks of the week. After completing the program, which included an optional 1 week break, participants had access to treatment materials for 6 months.	Wait-list controls received auto generated emails asking them to complete online questionnaires at times T2, T3, and T4. The reminder procedures were identical for the intervention and control group.	10
Lara Traeger ^[43] (2015)	Nursing Intervention to Enhance Outpatient Chemotherapy Symptom Management (Nurse counselling) plus standard oncology care	Standard oncology care	Participants will receive 4 planned phone calls from nurse practitioners during their first 2 cycles of chemotherapy, in order to proactively monitor and address chemotherapy-related symptoms.	Control participants received MGH standard oncology care.	8
Ana-Maria Vranceanu ^[44] (2016)	Mind-body therapy via videoconferencing (the Relaxation Response Resiliency Program for neurofibromatosis [3RP-NF])	Attention placebo control (Health Enhancement Program for NF [HEP-NF])	For both conditions, group treatment sessions (8 sessions for each condition) were 90 minutes. The therapist was a clinical psychologist (A.-M.V.) with prior experience in delivering the 3RP in person to patients with NF as well as other populations. Both study treatments included rehearsal, repetition, and review of previously learned skills. Patients in both conditions were mailed a patient manual designed for a sixth-grade comprehension level to accommodate for learning disabilities and other cognitive issues associated with NF. Patients in the 3RP-NF were also mailed a relaxation CD. The intervention group participated in a Kyusho Jitsu intervention twice a week over a period of 6 months. The therapeutic intervention consisted of a 24-week holistic orientated exercise training based on “Kyusho Jitsu—the art of vital points.” The training was performed 2 times a week for 90 minutes per session.	The HEP-NF was adapted from the HEP8 and included educational information on NF stress and symptoms, followed by modules focused on teaching information on nutrition, exercise, and communication with medical providers. Each session included a review of the previous sessions. The last session also included information on continuing to maintain the changes made during the program. NF-specific materials were gathered from the Children’s Tumor Foundation Web site.	8
Jannike L. Salchow ^[45] (2021)	Kyusho Jitsu exercise	Received no intervention	The intervention group participated in a Kyusho Jitsu intervention twice a week over a period of 6 months. The therapeutic intervention consisted of a 24-week holistic orientated exercise training based on “Kyusho Jitsu—the art of vital points.” The training was performed 2 times a week for 90 minutes per session.	The control group received no intervention, and only had contact with the researchers at their assessment appointments.	24
Talita Uchoa Lima ^[46] (2020)	Music therapy	Verbal instructions for self-relaxation techniques	The music intervention was performed using a preselected playlist organized by the researchers, with relaxing music including classical, traditional works containing slow, consistent rhythmic, melodic instrumental pieces, and wellknown movie music tracks that have been used in a previous study and demonstrated benefits in controlling symptoms and quality of life. The playlist contained classic music and movie music tracks.	Participants received verbal instructions for self-relaxation techniques but did not undergo the music intervention.	9
Caroline J. Hoffman ^[47] (2012)	Mindfulness-Based Stress Reduction (MBSR)	Standard care (SC)	From a consensus within the literature, a standardized MBSR program was divided into 8 weekly classes of 2 hours in length, except the first and last classes were 2.25 hours in length, plus one 6-hour day of mindfulness in week 6. Home practice was delivered by four 45-minute compact discs of formal mindfulness practices and a manual. Participants were asked to practice for 40 to 45 minutes for 6 or 7 d/wk.	Wait-listed controls continued with their lives as usual before participating in MSBR after the study period. Controls were offered measurement tools at T1, T2, and T3 while the experimental group had their MBSR program.	8
N. van der Spek ^[48] (2017)	Meaning-centered group psychotherapy for cancer survivors (MCGP-CS)	Care as usual (CAU)	MCGP-CS is a manualized 8-week intervention that makes use of didactics, group discussions and experimental exercises that focus around themes related to meaning and cancer survivorship. The sessions lasted 2 h each and were held weekly. The participants used a workbook (called Life lessons portfolio) and completed homework assignments every week. MCGP-CS was led by a psychotherapist with considerable experience in treating patients with cancer. The psychotherapists partaking in this study were trained in MCGP-CS during a pilot study.	Cancer survivors assigned to the CAU study arm did not participate in one of the group interventions. If a patient in the CAU study arm asked the researcher for psychological care, he or she was referred to their general practitioner. Health care uptake was monitored, to enable detailed post-hoc description of what CAU entailed.	8
N. van der Spek ^[48] (2017)	Supportive group psychotherapy (SGP)	Care as usual (CAU)	SGP is an 8-week social supportive group therapy following Payne et al. (2009). The sessions lasted 2 h and were held weekly. Each group was supervised by a psychotherapist with considerable experience in treating patients with cancer. In SGP no specific attention is paid to meaning. The psychotherapists were trained to avoid group discussions on meaning-related topics. The psychotherapist has an unconditionally positive regard and empathetic understanding, stimulates patients to actively share their experiences, and focuses on positive emotions and expression of feelings.	Cancer survivors assigned to the CAU study arm did not participate in one of the group interventions. If a patient in the CAU study arm asked the researcher for psychological care, he or she was referred to their general practitioner. Health care uptake was monitored, to enable detailed post-hoc description of what CAU entailed.	8
Jiemin Zhu ^[49] (2018)	Mobile Breast Cancer e-Support Program	Care-as-usual (CAU)	BCS+CAU participants did not need to pay for BCS access, and the usernames expired 12 weeks after activation. Because 4 cycles of chemotherapy (3 weeks/cycle) are the minimum recommended standard, BCS program supported women for 12 weeks covering from the beginning of the 1st cycle to the end of the 4th cycle of chemotherapy. The BCS program included 4 components: (1) a Learning forum; (2) a Discussion forum; (3) an Ask-the-Expert forum; and (4) a Personal Stories forum.	Women receiving CAU alone did not have BCS access. For both conditions, CAU consisted of health supportive care while receiving chemotherapy as an inpatient. There were no restrictions in both groups in terms of performing other internet searches for information or social support.	12
Kathrin Milbury ^[50] (2016)	Expressive writing (EW)	Neutral writing (NW)	Participants in the EW group were asked to write about their deepest emotions and thoughts regarding their cancer experience with slightly different probes at each session (eg, how the diagnosis and treatment interfere with their lives; treatment related decision making; and fears about the future).	Participants in the NW group were prompted to write about the following four neutral topics: dietary behaviors, physical activity and exercise behaviors, attitudes toward smoking and other substance use, and sleep habits. Participants in both groups were asked to complete four 20-minute writing assignments in their home over a 10-day period with at least 1 day and no more than 3 days between sessions	40
Josée Savard ^[51] (2004)	Cognitive behavioral therapy (CBT)	Waiting-List Control	The insomnia treatment consisted of eight weekly sessions of approximately 90 minutes, offered in groups of four to six patients. This multimodal approach combined behavioral, cognitive, and educational strategies that were described in a treatment manual given to all participants. Participants were instructed to continue completing the daily sleep diary throughout the treatment for clinical purposes.	Participants assigned to the control group waited a minimum of 8 weeks, which corresponded to the duration of the intervention, were assessed again on study variables, including completion of a sleep diary for a 2-week period, and then received CBT.	8
Lene Thorsen ^[52] (2005)	Supervised home-based flexible training program	Standard care (SC)	After T0, the patients in the intervention group received written information about some simple principles of training physiology. Thereafter, they received a supervised home-based flexible training program designed by an exercise instructor. The exercise period lasted for approximately 14 weeks with a minimum of two exercise sessions per week of at least 30 minutes. All patients were contacted every 2 weeks by the instructor for discussion about choice of activity and frequency, duration, and intensity of the training sessions, and adjustments were made if necessary.	The control group did not receive a personalized training program. They were told to be as physically active as they would have been if they were not informed about this study.	14
Jane Turner ^[53] (2016)	Brief psychosocial care	Usual care (UC)	Patients allocated to the intervention were assigned in sequence to trained HPs at the site. Once a site was in intervention epoch, research personnel used baseline data to determine the level of intervention appropriate for each patient based on risk factors for distress and Distress Thermometer (DT) Scores using a cut-off of four: Usual care, Written selfdirected resource suit, HP-delivered intervention and Specialised treatment. HPs contacted patients offering up to four individual sessions, each up to a 30-min duration, either face-to-face or by telephone.	All patients in control and intervention epochs completed baseline measures. The patients were cut-off of two: High-intensity intervention and Usual care.	10

Laura Q. Rogers ^[54] (2017)	Multicomponent Better Exercise Adherence after Treatment for Cancer (BEAT Cancer) physical activity behavior change intervention	Usual care (UC)	The 3-month social cognitive theory-based BEAT Cancer intervention included 12 supervised exercise sessions with an exercise specialist that were tapered over the first 6 weeks to an exclusively unsupervised home-based program. Face-to-face update counseling sessions with the exercise specialist every two weeks occurred during the final 6 weeks of the intervention. Additional behavior change counseling was provided during six discussion group sessions led by trained facilitators during the first 9 weeks of the intervention. Participants randomized to receive the BEAT Cancer intervention were also given a personal heart rate monitor, educational notebook, and printed materials identical to that given to the usual care group. The finalized app incorporated patient-centered, interactive, and personalized features, including videos simulating patient and therapist interactions, aimed to teach skills for managing cancer-related anxiety. These skills were delivered over six sessions (approximately 20–30 minutes each), with corresponding homework exercises (approximately 10–15 minutes each), and a seventh session to review material from prior sessions. Participants randomly assigned to MBSR (BC) attended 2-hour sessions once per week for 6 weeks conducted by a clinical psychologist trained in MBSR and were provided training manuals and CDs to guide their practice. All participants received standard medical treatment consisting of weekly platinum-based chemoradiation, external beam radiation, and brachytherapy. HT sessions (approximately 20–30 min) were conducted by experienced practitioners and included five specific HT techniques designed to promote calm and facilitate balancing of energy flow in the body. Three nurses who were certified Healing Touch practitioners were the primary providers of the intervention. RT sessions (approximately 20–25 min) were conducted by a trained research assistant or graduate student who was present during the entire session and guided the relaxation process using manualized relaxation scripts. Three primary therapists provided the intervention. Participants were asked to log daily mindfulness practice. Program attendance was recorded and changes in mindfulness (Five Facet Mindfulness Questionnaire) measured as a manipulation check. Sessions took place at a cancer wellness center in a large quiet room. The MyCB + UC group undertook a single 30-minute online writing activity that used a modified EW prompt as the initial writing starting point. First, participants were instructed to think about a distressing event related to their body after breast cancer and to write freely to introduce the event. Next, they continued writing about their body image after cancer treatment guided by five self-compassionate prompts, commencing with a narrow focus on negative aspects of the self, then gradually moving to a broad selfcompassionate perspective, and concluding with a narrow focus on the personal situation (total of six writing parts). Iyengar yoga classes were conducted for 90 minutes twice a week for 12 weeks in groups of 4 to 6 women. Classes were taught by a certified Junior Intermediate Iyengar yoga instructor and an assistant under the guidance of a senior teacher. Iyengar yoga, a traditional form of Hatha yoga, prescribes specific therapeutic yoga practices for individuals with specific medical problems and conditions. The intervention group was encouraged to participate in Health Navigation regularly.Components of the 12-week, individually tailored intervention program were based on 2008 National Comprehensive Cancer Network guidelines and covered six strategic areas: energy conservation, physical activity, nutrition, sleep hygiene, pain control, and distress management. We added an additional area— general introduction to CRF—to introduce the topic and allow the participants to evaluate their CRF status. The LEACH program is based on 3 concepts—health education, leadership, and coaching, and it is managed through the interaction of a health master coach, health partners, and cancer patients. First, patients were given a 1-h health education workshop and a 3-h leadership workshop. Next, the Intervention group was also offered individual coaching by telephone for a 24-week period. A total of 16 sessions of tele-coaching were conducted: 30 min per week for 12 sessions, 30 min per 2 weeks for 2 sessions, and 30 min per month for 2 sessions were offered for the intervention group. Throughout the LEACH program, participants in the intervention group were provided individual coaching by telephone to practice patient health behaviors. The treatment condition, has three components. First was a storytelling telephone interview with the first author (M.W.), preceded by a 20–30 minute “getacquainted” phone call.The interview was recorded, on average lasting one hour(range 45–124 minutes). A story manuscript was composed of the patient’s words with interjections, false starts, repetitions and tangents removed, and phrases moved and transitions added to maintain narrative flow and clarity. Second was a password-protected miLivingStory website with links to online information, planning tools and support groups housed on the National Cancer Institute and the American Cancer Society websites, as well as tips on revising and sharing the story. All patients randomized to INS were contacted by telephone within a week and invited to a first session. Interventions used the same techniques such as relaxation, distraction, activity scheduling, and ways to improve communication, all derived from CBT. The training program consisted of a course of four 3-hour lectures covering knowledge and skills to assess and treat common psychosocial problems in cancer patients, with a follow-up meeting 5 months later.Subsequent assessments took place at 1, 3, and 6 months after inclusion. All patients randomized to IpS were contacted by telephone within a week and invited to a first session. Interventions used the same techniques such as relaxation, distraction, activity scheduling, and ways to improve communication, all derived from CBT.The 2 psychologists who performed the IPS had theoretical knowledge about cancer diseases and treatments, and had experience of counseling. Subjects completing the Pillars4Life program will select a course day/time that works for them from those offered. Each week the program will send an email approximately 15 minutes before class time with a link. Subjects will click the link to go to the "classroom," where they will enter their name and phone number. The program will call the number provided and the subject will listen to the audio over the phone, while watching the guide	The usual care participants received publically available, printed materials from the American Cancer Society. No physical activity-related counseling or instructions were given to the usual care participants beyond that contained in the printed materials. Patients assigned to the control group received a health education program similarly administered over a tablet during the 12-week study period. The program consisted of the same number of sessions (approximately 20–30 minutes each) as the CBT mobile app intervention but had no tailored programming logic, videos, or homework assignments. Participants randomly assigned to UC attended standard posttreatment clinic visits and were offered the MBSR(BC) program on study completion. Patients had assessments and blood sampling at the same timepoints as HT and RT. Patients had assessments and blood sampling at the same timepoints as HT and RT. The ACC consisted of a series of cancer recovery and health education classes. All participants were requested not to enroll in any other stress reduction or mind–body programs during the course of the study. Program uniformity and best practices across cohorts were ensured by using a certified MBSR instructor and standardization of content. The active control group undertook a single 30-minute online writing activity that commenced with the same initial modified EW prompt as the intervention group but without any self compassionate–focused writing prompts. This unstructured writing was in a six-part format (comparable to the intervention group), with participants instructed to continue writing with general instructions (“Please describe the event further”) and without the use of specific prompts until all writing parts were completed. Health education classes were conducted for 120 minutes once a week for 12 weeks in groups of 4 to 7 women. Classes were led by a PhD-level psychologist with clinical experience in the treatment of breast cancer survivors. The waiting-list control group waited a minimum of 12 weeks, which corresponded to the duration of the Health Navigation intervention, but was encouraged to continue routine care and routine medication. The control group was encouraged to continue their usual care and was given a health education booklet on physical activity, dietary habits, and distress management that was not based on the core strategies from the TTM of health behavior change, as well as a 4-h health education lecture on physical activity, dietary habits, distress management, and screening for a 2nd cancer. The “control” website, contained the miLivingStory cancer information, and support, but no story tips. A user’s manual was emailed and sent by mail. Standard care included regular contact with the patient’s oncologist and medical staff. Contact with psychiatrists, physiotherapists, or counselors was not offered regularly but was arranged if the patient’s physician or other medical staff judged this to be necessary or if the patient herself made a specific request. Standard care included regular contact with the patient’s oncologist and medical staff. Contact with psychiatrists, physiotherapists, or counselors was not offered regularly but was arranged if the patient’s physician or other medical staff judged this to be necessary or if the patient herself made a specific request. Subjects in this group will continue receiving standard care from their provider team.	12 12 6 6 6 8 12 12 12 24 8 24 24 18
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			and activities in the virtual classroom on their computer. Each class will last about an hour.		
Annette L. Stanton ^[66] (2013)	Internet-Based Program to Chronicle	Waiting-list control	Women were assigned to participate in a 3-hour workshop for hands-on creation of personal Web sites with a follow-up call to facilitate Web site use.	Patients in the control condition completed the baseline and follow-up assessments and otherwise received standard medical care. Participation in PCO was offered once women had completed the 6-month assessment.	24
Rainbow T. H. Ho ^[67] (2016)	Supportive-expressive group (SEG) therapy	Social support	The BMS therapy was conducted for 2 h once a week for 8 weeks, with 8–12 participants per group, and focused on nurturing a holistic healthy lifestyle, the normalization of traumatic experiences, and resilience in viewing suffering from cancer as an opportunity for personal growth. A range of activities were offered in the BMS intervention, with each activity lasting around an hour in total for the eight sessions. Two experienced social workers, who had received standard training in BMS treatment, were the group leaders of the sessions.	The control group was organized in the form of a social support self-help group and did not include any structured program. It comprised eight weekly sessions that lasted 2 h each with small groups of 8–12 participants. The group members designed the agenda and contents of the session on their own during the scheduled time.	8
Rainbow T. H. Ho ^[67] (2016)	Body-mind-spirit (BMS) intervention	Social support	The SEG therapy comprised weekly 2-h group sessions, with 8–12 participants per group, for 8 weeks, and was based on the supportive-expressive intervention model designed for breast cancer patients. The SEG group was led by two therapists who were a clinical psychologist and a medical social worker, who had received a standardized 2-day training workshop in SEG therapy and had studied the treatment manual. The therapists received supervision of the SEG group they conducted from the trainer twice at the end of the 1st and 4th sessions.	The control group was organized in the form of a social support self-help group and did not include any structured program. It comprised eight weekly sessions that lasted 2 h each with small groups of 8–12 participants. The group members designed the agenda and contents of the session on their own during the scheduled time.	8
Morten Quist ^[68] (2020)	Supervised, structured exercise training program (aerobic, strength, and relaxation training)	Usual care (UC)	The intervention comprised supervised group training (physical training and relaxation) carried out twice weekly in groups of 10–12 patients. Each session lasted 1.5 h and was supervised by a research physiotherapist. The training comprised warm-up exercises, strength training, aerobic training, and stretching.	Individuals in the control group received usual care and treatment as prescribed by their oncologist and were recommended to stay active during their chemotherapy.	12
Satoko Handa ^[69] (2020)	Breast cancer patient support system (BPSS) application (app) support	No-BPSS app support	They were asked to access the BPSS website using a smartphone or personal computer to save the URL address for the BPSS app. The patients' symptoms were recorded using a new version of the Common Terminology Criteria for Adverse Events, version 4.0, with simplified terminology for severity classification. Blank fields were available to allow the patients to note any symptoms other than the 12 listed.	The patients allocated to the no-BPSS app group received ordinary instructions regarding symptoms and side effect management during their treatment. These patients received explanatory materials compiled by the anticancer agent manufacturers, and the medical staff recommended that the patients record their progress using their own notes in a method convenient for them.	12
Nanette Mutrie ^[70] (2007)	Supervised group exercise programme	Usual care (UC)	Women assigned to the intervention group received usual care from their healthcare team and, in addition, were invited to attend a supervised group exercise programme. The exercise programme ran for 12 weeks, and women were encouraged to attend two classes and do one additional exercise session at home each week. Fourteen exercise classes led by specifically trained exercise specialists took place in eight community exercise facilities that were all accessible by public transport. The exercise intervention was based on guidelines for prescription of exercise for cancer patients and survivors.	Women assigned to the control group received usual care from the healthcare team and completed all outcome measures on the same time frame as the intervention group. After randomisation, this group received a two page leaflet entitled “Exercise after cancer diagnosis,” which provided safe guidelines.	12
Ji Young Kim ^[71] (2019)	Home-based exercise program	Usual activities or exercises	the home-based exercise program aimed to increase the level of PA to 18 metabolic equivalent of task (MET) hours per week during the first 6 weeks. Then, the level of PA was increased to 27 MET-hours per week depending on individual health conditions during the intervention period.	The participants assigned to the control group were not prescribed a home-based exercise program and were instructed to continue with their usual activities or exercises during the intervention. At the end of the study, they were offered the two types of exercise DVDs and results of clinical tests. In addition, they were provided one education session on colorectal cancer followed by a question and answer period with their surgeon.	12
Inger Schou Bredal ^[72] (2014)	Psychoeducational group (PEG)	Support group (SG)	The PEG intervention included health education, enhancement of problem-solving skills, stress management, and psychological support. erventiontions were free of charge for the patients and were offered 1 to 8 weeks after surgery to groups of 4 to 10 patients. The PEG intervention consists of 5 weekly 2-hour sessions. Three nurses facilitated the PEG intervention.	The SG intervention consists of 3 weekly 2-hour sessions. The same 4 nurses facilitated the SG intervention.	8
Colleen A. Cuthbert ^[73] (2018)	Exercise	Wait-list control	The 12-week exercise intervention consisted of (a) twice weekly resistance exercise group classes at the Health and Wellness lab; (b) additional weekly independent aerobic exercise sessions to reach 150 min per week; and (c) seven group-based education sessions during the 12-week intervention.	Participants in the wait-list control group were enrolled in the exercise intervention after completing 12 weeks of control. All participants (intervention and control group) were invited to participate in a 12-week maintenance exercise program once they had completed the 12-week exercise intervention.	12
Kajal Gokal ^[74] (2015)	Self-managed home-based walking intervention	Usual care (UC)	Participants in the intervention group were provided with a pedometer and were asked to set goals and keep weekly diaries outlining the duration, intensity and exertion of their walking.	Those randomised to the control group received usual care alone.	12
M. Dieng ^[75] (2019)	Brief psychological intervention	Usual care (UC)	The intervention comprised a 76-page psychoeducational resource and three individually tailored, telephone-based sessions with a psychologist, scheduled at specific time points around participants' dermatological appointments.	Understanding Melanoma, was provided to all participants in the trial and it provides easy-to-read information about melanoma diagnosis, treatment and emotional and practical issues.	48
Kerry S. Courneya ^[76] (2007)	Supervised resistance exercise (RET)	Usual care (UC)	Participants exercised for the duration of their chemotherapy, including delays, beginning 1 to 2 weeks after starting chemotherapy and ending 3 weeks after chemotherapy. The AET group was asked to exercise three times per week on a cycle ergometer, treadmill, or elliptical beginning at 60% of their maximal oxygen consumption, or VO2max, for weeks 1 to 6 and progressing to 70% during weeks 7 to 12 and 80% beyond week 12.	The UC group was asked not to initiate an exercise program and was offered a 1-month exercise program after postintervention assessments.	4
Kerry S. Courneya ^[76] (2007)	Supervised aerobic exercise (AET)	Usual care (UC)	Participants exercised for the duration of their chemotherapy, including delays, beginning 1 to 2 weeks after starting chemotherapy and ending 3 weeks after chemotherapy. The RET group were asked to exercise three times per week performing two sets of eight to 12 repetitions of nine different exercises at 60% to 70% of their estimated onerepetition maximum.	The UC group was asked not to initiate an exercise program and was offered a 1-month exercise program after postintervention assessments.	4
Pernille Envold Bidstrup ^[77] (2023)	Nurse Navigation Intervention	Standard care	Patient-centered techniques are applied, such as (1) empathetic dialogue and forming of an alliance; (2) joint analysis of the situation, including cognitive behavioral therapy techniques such as cognitive restructuring; (3) assessment and prioritizing of needs for support; (4) psychoeducation; (5) goal setting using SMART (Specific, Measurable, Achievable, Relevant, and Time-bound) goals, including (when relevant) referral for management of pain at the oncology department or for management of clinical depression in up to 6 individual sessions with a project psychologist; (6) agreements, homework, and planning; and (7) debriefing.	Standard care included regular treatment, nurse support at chemotherapy and radiotherapy appointments, and municipality-based rehabilitation.	—

Sean R. Zion ^[78] (2023)	Cognitive Behavioral Digital Therapeutic	online health education program	Sessions consist of a combination of videos, learning exercises, and reflection activities, which can be completed in multiple sittings. The peer-facilitated group feed feature was designed to provide a welcoming virtual setting for participants to connect with each other via text and picture posts, comments, and direct messages to discuss attune's CBSM content, personal experiences, and offer support (see Appendix Fig AA1,1, online only for session content details and attune design).	Sessions contain information on a range of physical health topics (eg, maintaining bone health, risks of sun exposure, benefits of proper dental hygiene). Interactive learning exercises followed each session to ensure comprehension. HealthWatch has been used as a control in other studies of digital interventions	12
Nasib Babaei ^[79] (2023)	Virtual reminiscence therapy	Usual care (UC)	Virtual reminiscence therapy consisted of six sessions, approximately 30 min long, once a week, and each session had a different topic. The topics were as follows: week 1: Psychiatric nurse helped the patients to recall their memories of people with positive effects on their lives; week 2: The patients told memories of happy moments in their past; week 3: The patients talked about their achievements and their significance; week 4: The patients recalled significant turning points in their lives and how they were affected by them; week 5: the patients talked about their struggles with cancer and the importance of these struggles and their positive effects; week 6: The patients talked about their hopes for the future. A trained psychiatric nurse with a master’s degree in psychiatric nursing and clinical work experience conducted the reminiscence therapy intervention and collected the data. The psychiatric nurse provided counseling for the patients who had questions or specific problems during the study, and the patients were referred to a specialist if necessary.	the control group only received routine care after chemotherapy	6
Yening Zhang ^[80] (2024)	Online managing cancer and living meaningfully	Wait-list Control (WLC) groups	CALM therapy is a brief, structured, individual psychological therapy. CALM therapy focuses on four therapeutic areas: (1) symptom management and communication with medical oncology staff; (2) self-change and relationships with loved ones; (3) sense of meaning and purpose for living; (4) the future and mortality (future, hope, and death). We have added the fifth therapeutic area-(5) fear of cancer progression as the topic was repeated by the patients in the pre-experiment	The WLC group initially received only usual care	——
Lena Saltbæk ^[81] (2024)	Nurse-Led Individualized Follow-Up	Regular Physician-Led Visits	The intervention follow-up program consisted of a selfmanagement intervention, regular reporting of symptoms using PRO questionnaires, and support in symptom management and navigation. The program was delivered by five experienced oncology nurses, who had received specialized training through a 6-day course focusing on the GSD method, as well as on breast cancer, late effects, symptoms of recurrence, and navigation, as previously described	Usual care follow-up was reduced while this study was planned. To compare the intervention with an internationally recognizable follow-up program, we decided to keep the control follow-up program as it was defined before these changes. Patients allocated to the control group received biannual appointments with a physician in the oncology outpatient clinic including unstructured symptom assessment for breast cancer recurrence and late effects and physical examination. In the case of new symptoms between scheduled appointments, patients could contact the out patient clinic, and when relevant, an extra consultation with a physician was scheduled	——
José A E Custers ^[82] (2024)	individual blended cognitive behavioral therapy	Usual care (UC)	therapy sessions included psychoeducation, cognitive restructuring, behavior modification and relaxation. Therapy content targeted three types of distress in different modules: (1) distress due to physical consequences (gastrointestinal problems, stoma-related issues, post-cancer fatigue, neuropathy, pain and sexual dysfunction), (2) anxiety and uncertainty, and (3) depressive mood.	Participants randomized to CAU received questionnaires to obtain trial outcomes but did not have access to the bCBT program	16
Isabel Alves ^[83] (2024)	Exercise	Usual care (UC)	Four Wii Fit® games, using Nintendo Wii®, were selected for the intervention: Wii Fit Aerobics - Basic Step, Wii Fit - Balance Games Penguin Slide, Wii Fit Super Hula Hoop, and Wii Fit Training Plus –Bird’s-Eye Bull’s-Eye, with the objective of rehabilitating these patients during the postoperative period. In each session, the patient played the 4 games	The control group received the usual care provided for this type of surgery until discharge, including early mobilization, such as early rising from bed and ambulation	1
Yufan Yuan ^[84] (2024)	Cognitive-behaviour therapy	Usual care (UC)	1) narrated the physiological effects of stress; 2) cognitive-behavioral explanations of stress and emotions; 3) identified cognitive disorders and automatic thinking; 4) rational thinking replacement; 5) stress coping skills training; 6) assertiveness training; 7) anger management; 8) review and conclusion.	The intervention in the normal care group lasted 120 minutes each time, which contained 30 minutes of disease-related education, 30 minutes of pelvic floor rehabilitation training, 30 minutes of physician-patient interaction, and 30 minutes of free time.	4
Huimin Sui ^[85] (2024)	Cognitive-behaviour therapy	Usual care (UC)	The didactic portion contained stress management (including stress awareness, thought replacement, cognitive restructuring, management of anger andstress, assertiveness, and coping skills), as well as information linkage to prostate cancer (including bodily changes, fears over progression, coping with symptoms, loss of sexual desire or function, and frustration with health care).	For the UC group, patients received usual care by the psychologists and trained assistant nurses once per week for 10 weeks after discharge	10

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Supplementary Table 5. Pharmacological interventions characteristics.

Author (year)	Intervention		Intervention description		Intervention Duration (Weeks)
	Treatment	Control	Treatment	Control	
Eylem Sahin Cankurtaran ^[1] (2008)	Mirtazapine	Placebo	The mean dosages of mirtazapine was 18.7 ± 9.1 (7.5–30 mg/day)	Placebo	6
Eylem Sahin Cankurtaran ^[1] (2008)	Imipramine	Placebo	The mean dosages of imipramine was 29.4 ± 34.4 (5–100 mg/day)	Placebo	6
Razavi D ^[2] (1996)	Fluoxetine	Placebo	Fluoxetine once a day at a dosage of 20mg	Placebo once a day	5
Dominique Musselman ^[3] (2006)	Paroxetine	Placebo	paroxetine treatment received 20mg/day for the first 4 weeks; thereafter, the dose could be invreased to 40mg/day	Placebo	6
Dominique Musselman ^[3] (2006)	Desipramine	Placebo	desipramine treatment received 25mg/evening for the first 4 days, with a subsequent forced titration to 125mg/day at the rate of 20mg every 7 days, during the second, third, and fourth weeks of the study	Placebo	6
Gary R. Morrow ^[4] (2003)	Paroxetine	Placebo	20 mg of paroxetine once daily.	20 mg of placebo once daily.	8
Joseph A. Roscoe ^[5] (2005)	Paroxetine	Placebo	20 mg of paroxetine once daily.	Placebo	12

KEES VAN HEERING ^[6] (1996)	Mianserin	Placebo	During the first week mianserin was administered at 30 mg/day, and during the remainder of the study at 60 mg/day.	Placebo	6
Michael J. Fisch ^[7] (2003)	Fluoxetine	Placebo	Fluoxetine (20-mg tablets)	An identical placebo tablet	12
Carlos Centeno ^[8] (2012)	Methylphenidate	Placebo	The study offered five different dosage levels, with total daily doses ranging between 10 mg and 45 mg	Each dose of methylphenidate was matched by a corresponding dose of placebo	4
Ng Chong Guan ^[9] (2014)	Mirtazapine+Methylphenidate	Mirtazapine	Patients received a fixed dosage of mirtazapine (30 mg at 10 pm) throughout the entire study period. Methylphenidate was initially dosed at 5 mg twice daily (8 am and 12 noon), but the protocol allowed one dosage increase to 10 mg twice daily from day 3 onwards at the discretion of the treating physician.	Patients received a fixed dosage of mirtazapine (30 mg at 10 pm) throughout the entire study period. The placebo treated group were given a twice-daily dosage patients received sealed capsules of identical color and shape twice daily.	4
Ebrahim Salehifar ^[10] (2020)	Bupropion	Placebo	Bupropion was administered 75 mg/day for the first three days and 150 mg/day (75 mg/BID)	Control group received placebo instead of bupropion with the same conditions	6

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Supplementary Table 6 A. Patients’ characteristics: Effects of non-pharmacological interventions to reduce depressive symptoms in cancer patients.

Author (year)	Years/Mean (SD)		Number (N)		Sex (N)				Educational status (N)			
					Treatment		Control		Treatment		Control	
			Treatment	Control								
	Treatment	Control			Male	Female	Male	Female	≤High School	University/Graduate	≤High School	University/Graduate
Kim, Yeon Hee ^[1] (2018)	47.9 (8.4)	48.1 (6.9)	30	30	0	30	0	30	15	15	21	9
William Breitbart ^[2] (2018)	58.1 (10.2)	57.1 (10.9)	109	104	28	81	26	78	—	—	—	—
William Breitbart ^[2] (2018)	58.8 (12.0)	57.1 (10.9)	108	104	37	71	26	78	—	—	—	—
Katrin Hardoerfer ^[3] (2018)	59 (12)	56 (14)	37	33	5	32	3	30	37	0	33	0
Kurt Kroenke ^[4] (2015)	58.7 (11.0)	59.0 (10.6)	202	203	74	128	56	147	128	74	119	84
M.J. Murphy ^[5] (2019)	53.28 (9.22)	53.3 (10.09)	53	61	7	46	6	55	31	22	31	30
Marc Serfaty ^[6] (2019)	59.5 (10.3)	59.5 (12.4)	115	115	41	74	37	78	73	42	71	44
Gary Rodin ^[7] (2018)	59.05 (10.55)	59.10 (11.48)	151	154	91	60	94	60	69	82	70	84
Di Shao ^[8] (2021)	40.3 (7.0)	44.4 (8.2)	72	72	0	72	0	72	53	19	56	16
Jane McCusker ^[9] (2021)	58.3 (11.3)	56.9 (13.0)	121	124	30	91	22	102	17	104	20	104
A. M. H. Krebber ^[10] (2016)	62.5 (8.7)	61.6 (10.0)	75	81	47	28	48	33	—	—	—	—
Vanessa Strong ^[11] (2005)	56.6 (11.4)	56.6 (12.3)	101	99	31	70	28	71	—	—	—	—
Xiaomei Dong ^[12] (2018)	< 50 (7) , 50-60 (17) , 60-70 (17), >70 (4)	< 50 (4) , 50-60 (17) , 60-70 (21), >70 (3)	45	45	21	24	22	23	—	—	—	—
Xiaomei Dong ^[12] (2018)	< 50 (4) , 50-60 (15) , 60-70 (19), >70 (7)	< 50 (4) , 50-60 (17) , 60-70 (21), >70 (3)	45	45	24	21	22	23	—	—	—	—
Wenwei Ren ^[13] (2019)	46.8 (8.9)	47.1 (8.3)	98	196	0	98	0	196	—	—	—	—
Wenwei Ren ^[13] (2019)	47.3 (8.7)	47.1 (8.3)	98	196	0	98	0	196	—	—	—	—
Lisa A. Cadmus ^[14] (2009)	54.5 (8.2)	54.0 (10.9)	25	25	0	25	0	25	8	17	9	18
Lisa A. Cadmus ^[14] (2009)	56.5 (9.5)	55.1 (7.7)	37	38	0	37	0	38	15	22	22	16
Panagiotis Pelekasis ^[15] (2015)	56.64 (40)	55.25 (34)	25	28	0	25	0	28	21	4	25	3
Jianyin Qiu ^[16] (2013)	51.68 (5.95)	49.58 (8.03)	31	31	0	31	0	31	24	7	24	7
Zhen Guo ^[17] (2013)	20-49 (56) , 50-69 (33) , 70-79 (0)	20-49 (57) , 50-69 (31) , 70-79 (1)	89	89	38	51	37	52	56	33	53	36
Elin Børøsund ^[18] (2020)	51.7 (10.5)	52.3 (12)	84	88	15	69	16	72	17	67	16	72
MF Damholdt ^[19] (2015)	54.98 (8.51)	54.56 (8.74)	94	63	0	94	0	63	42	52	30	31
Roy A. Willems ^[20] (2016)	56.26 (10.84)	56.28 (11.45)	221	188	42	179	37	151	127	61	158	63
Richard Bränström ^[21] (2012)	51.8 (9.86)		21	37	0	21	1	36	—	—	—	—
Florien W. Boele ^[22] (2018)	43.58 (11.69)	46.43 (12.28)	45	44	19	26	18	26	25	20	24	20
Penelope Schofield ^[23] (2016)	67.2 (6.9)	67.6 (6.7)	165	166	165	0	166	0	—	—	—	—
William Breitbart ^[24] (2011)	54.4 (11.6)		64	56	female72; male58				—	—	—	—
S. Dolbeault ^[25] (2009)	54.5 (9.3)	51.6 (9.6)	102	101	0	102	0	101	—	—	—	—
K. Ashing ^[26] (2014)	51.9 (10.6)	53.9 (10.4)	99	100	0	99	0	100	45	53	43	56
Ummavathy Periasamy ^[27] (2017)	67.46 (1.38)	63.52 (1.43)	81	80	34	47	42	38	18	63	22	58
Sue Hall ^[28] (2015)	64.91 (15.96)	65.30 (17.91)	22	23	9	13	13	10	—	—	—	—
Barrie R. Cassileth ^[29] (2003)	53 (11)	51 (12)	36	33	22	14	10	23	—	—	—	—
Lisa M. Gudenkauf ^[30] (2015)	54.62 (9.2)	54.67 (9.1)	55	58	0	55	0	58	—	—	—	—
Lisa M. Gudenkauf ^[30] (2015)	53.69 (11.5)	54.67 (9.1)	70	58	0	70	0	58	—	—	—	—
H. S. Vadiraja ^[31] (2009)	30-70		44	44	0	44	0	44	44	0	44	0
Miek C. Jong ^[32] (2018)	51 (8)	51 (7.3)	47	36	0	47	0	36	—	—	—	—
Elizabeth Foley ^[33] (2010)	54.82 (9.08)	55.52 (11.89)	55	60	13	42	13	47	—	—	—	—
Harvey Max Chochinov ^[34] (2011)	64.2 (14.6)	66.7 (14.2)	108	111	56	52	50	61	49	59	47	64
Harvey Max Chochinov ^[34] (2011)	64.3 (14.3)	66.7 (14.2)	107	111	55	52	50	61	41	65	47	64
Pei-Hua Wu ^[35] (2018)	51.2 (9.18)	51.2 (10.71)	20	20	0	20	0	20	18	2	13	7
Gitta Kleijn ^[36] (2018)	64.2 (8.5)	61.2 (9.9)	55	52	29	26	28	24	32	23	33	19
Mandy Ho ^[37] (2020)	66.6 (9.5)	64.9 (9.4)	56	56	40	16	30	26	11	45	4	52
Yan SUN ^[38] (2021)	51-72	50-71	42	42	28	14	30	12	—	—	—	—
Victoria White ^[39] (2018)	43.6 (5.0)	43.9 (5.3)	202	177	0	202	0	177	48	154	42	134

Rianne Henrica Johanna Golsteijn ^[40] (2018)	66.55 (7.07)	66.38 (8.21)	249	229	212	37	204	25	179	69	161	67
Holger Cramer ^[41] (2016)	68.70 (9.13)	67.81 (10.37)	27	27	17	10	16	11	16	11	18	8
Eva Rames Nissen ^[42] (2019)	55.11 (10.26)	56.22 (9.22)	96	41	0	96	0	41	—	—	—	—
Lara Traeger ^[43] (2015)	<65 (44) , ≥65 (16)	<65 (41) , ≥65 (19)	60	60	16	44	16	44	17	43	18	42
Ana-Maria Vranceanu ^[44] (2016)	42.86 (13.45)	39.90 (11.17)	31	32	9	22	8	24	5	26	2	30
Jannike L Salchow ^[45] (2021)	54.23 (7.846)	51.52 (8.412)	30	21	0	30	0	21	—	—	—	—
Talita Uchoa Lima ^[46] (2020)	49.5 (10.65)	50.76 (9.45)	16	17	0	16	0	17	—	—	—	—
Caroline J. Hoffman ^[47] (2012)	49.0 (9.26)	50.1 (9.14)	114	115	0	114	0	115	—	—	—	—
N. van der Spek ^[48] (2017)	58.6 (10.7)	57.3 (10.4)	57	57	17	40	6	51	Low: 18, Medium: 20, High: 19			Low: 17, Medium: 14, High: 25
N. van der Spek ^[48] (2017)	55.5 (9.6)	57.3 (10.4)	56	57	7	49	6	51	Low: 9, Medium: 25, High: 22			Low: 17, Medium: 14, High: 25
Jiemin Zhu ^[49] (2018)	46.2 (8.5)	48.2 (8.1)	57	57	0	57	0	57	49	8	53	4
Kathrin Milbury ^[50] (2016)	58.1 (9.8)	57.6 (9.9)	138	139	83	55	86	53	39	99	30	109
Josée Savard ^[51] (2004)	54.81 (7.01)	53.37 (7.72)	27	30	0	27	0	30	10	17	15	15
Lene Thorsen ^[52] (2005)	39.0 (8.4)	39.1 (8.6)	59	52	19	40	17	35	—	—	—	—
Jane Turner ^[53] (2016)	56.5 (12.77)	61.2 (12.73)	247	222	64	183	76	146	118	125	112	108
Laura Q. Rogers ^[54] (2017)		54.4 (8.5)	110	112	0	110	0	112		year: 15.5 (2.6)		
JOSEPH A. GREER ^[55] (2019)	55.86 (10.08)	57.03 (12.42)	72	73	17	55	21	52	16	56	15	58
Cecile A. Lengacher ^[56] (2016)	56.5 (10.2)	57.6 (9.2)	167	155	0	167	0	155	30	137	27	127
Susan K. Lutgendorf ^[57] (2010)	48.1 (16.0)	48.0 (13.8)	21	19	0	21	0	19	11	10	9	10
Susan K. Lutgendorf ^[57] (2010)	43.1 (9.6)	48.0 (13.8)	20	19	0	20	0	19	9	11	9	10
Linda Witek Janusek ^[58] (2019)	55.0 (10.1)	55.2 (10.1)	84	84	0	84	0	84	year: 15.6 (3.1) , mean (SD)			year: 15.1 (2.6) , mean (SD)
Kerry A. Sherman ^[59] (2018)	57.50 (8.98)	57.23 (9.97)	149	155	0	149	0	155	61	85	57	97
Julienne E. Bower ^[60] (2011)	54.4 (5.7)	53.3 (4.9)	16	15	0	16	0	15	6	10	7	8
Young Ho Yun ^[61] (2012)	> 45 (71) , ≤45 (65)	> 45 (75) , ≤45 (62)	136	137	36	100	38	99	7	129	8	129
Young Ho Yun ^[62] (2017)	50.52 (10.21)	51.04 (7.55)	134	72	24	110	18	54	66	66	39	33
Meg Wise ^[63] (2018)	57 (8.5)	57 (9.1)	49	37	9	40	9	28	—	—	—	—
Cecilia Arving ^[64] (2007)	55 (34-72),	55 (25-87)	60	59	0	60	0	59	—	—	—	—
Cecilia Arving ^[64] (2007)	55 (23-75)	55 (25-87)	60	59	0	60	0	59	—	—	—	—
S. K. Smith ^[65] (2018)	56.1 (8.9)	57.1 (8.6)	37	52	0	37	1	51	10	27	14	38
Annette L. Stanton ^[66] (2013)	55 (12)	56 (10)	46	42	0	46	0	42	17	29	12	30
Rainbow T. H. Ho ^[67] (2016)	47.2 (7.9)	47.2 (7.0)	49	57	0	49	0	57	34	15	42	15
Rainbow T. H. Ho ^[67] (2016)	48.8 (6.2)	47.2 (7.0)	51	57	0	51	0	57	33	18	42	15
Morten Quist ^[68] (2020)	65.2 (8.2)	63.5 (8.7)	110	108	55	55	52	56	—	—	—	—
Satoko Handa ^[69] (2020)	49.9 (25-72)	49.9 (30-69)	47	48	47	0	48	0	12	35	7	41
Nanette Mutrie ^[70] (2007)	51.3 (10.3)	51.8 (8.7)	99	102	0	99	0	102	—	—	—	—
Ji Young Kim ^[71] (2019)	55.7 (8.7)	56.8 (10.2)	37	34	18	19	17	17	18	19	23	11
Inger Schou Bredal ^[72] (2014)	54.9 (10.2)	54.6 (9.5)	182	185	0	182	0	185	—	—	—	—
Colleen A. Cuthbert ^[73] (2018)	51.42 (12.6)	55.03 (11.76)	38	39	14	24	16	23	6	32	6	33
Kajal Gokal ^[74] (2015)	52.08 (11.7)	52.36 (8.9)	25	25	0	25	0	25	17	8	22	3
M. Dieng ^[75] (2019)	60.2 (10.9)	57.0 (12.5)	100	100	71	29	41	59	31	69	29	72
Kerry S. Courneya ^[76] (2007)	49.5 (25-76)	49.0 (26-78)	82	82	0	82	0	82	31	51	29	53
Kerry S. Courneya ^[76] (2007)	49.0 (30-75)	49.0 (26-78)	78	82	0	78	0	82	27	51	29	53
Pernille Envold Bidstrup ^[77] (2023)	55.8 (11.1)	56.7 (11.4)	156	153	0	156	0	153	—	—	—	—
Sean R. Zion ^[78] (2023)	52.39 (11.58)	52.49 (11.35)	226	223	185	41	177	46	5	7	218	217
Nasib Babaei ^[79] (2023)	62	62	76	76	50	26	50	26	58	18	46	30
Yening Zhang ^[80] (2024)	45.11 (8.88)	49.65 (10.94)	19	17	0	19	0	17	10	9	11	6
Lena Saltbæk ^[81] (2024)	59.71 (9.43)	60.08 (9.65)	251	252	0	251	0	252	—	—	—	—
José A E Custers ^[82] (2024)	62.5 (9.5)	64.9 (9.1)	41	43	24	17	25	18	26	15	22	21
Isabel Alves ^[83] (2024)	62.3 (39–81)	63.1 (30–78)	35	35	29	15	24	10	—	—	—	—

Yufan Yuan ^[84] (2024)	48.5 (41.8-57.0)	52.0 (45.5-61.0)	86	86	0	86	0	86	63	23	57	29
Huimin Sui ^[85] (2024)	60.8 (8.9)	62.9 (9.2)	81	79	81	0	79	0	59	22	61	18

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Supplementary Table 6 B. Patients’ characteristics: Effects of non-pharmacological interventions to reduce depressive symptoms in cancer patients.

Author (year)	Cancer (N)		Cancer Stage (N)										Outcome Scale	Baseline depression level/mean (SD)	
	Treatment	Control	Treatment					Control						Treatment	Control
			I	II	III	IV	Unspecified	I	II	III	IV	Unspecified			
Kim, Yeon Hee ^[1] (2018)	Breast cancer 30	Breast cancer 30	3	19	8	0	0	6	15	9	0	0	Hospital Anxiety and Depression Scale (HADS)	8.4 (3.3)	8.2 (2.5)
William Breitbart ^[2] (2018)	Breast cancer 13, Colorectal cancer 14, Lung cancer 11, Ovarian cancer 17, Pancreatic cancer 18, Other cancers 19	Breast cancer 12, Colorectal cancer 11, Lung cancer 11, Ovarian cancer 11, Pancreatic cancer 9, Other cancers 10	0	0	0	109	0	0	0	0	104	0	Hospital Anxiety and Depression Scale (HADS)	5.53 (3.8)	5.62 (3.7)
William Breitbart ^[2] (2018)	Breast cancer 9, Colorectal cancer 8, Lung cancer 21, Ovarian cancer 10, Pancreatic cancer 18, Other cancers 21	Breast cancer 12, Colorectal cancer 11, Lung cancer 11, Ovarian cancer 11, Pancreatic cancer 9, Other cancers 10	0	0	0	108	0	0	0	0	104	0	Hospital Anxiety and Depression Scale (HADS)	5.99 (3.2)	5.62 (3.7)
Katrin Hardoerfer ^[3] (2018)	Breast cancer 20, Lymphoma/Leukemia 3, Colorectal Cancer 4, Brain Tumors 1, Gynecological Cancer 3, Prostate Cancer 2, Malignant Melanoma 2, Others 2	Breast Cancer 14, Lymphoma/Leukemia 5, Colorectal Cancer 3, Brain Tumors 4, Gynecologic Cancers 1, Prostate Cancer 1, Malignant Melanoma 1, Others 4	—	—	—	—	—	—	—	—	—	—	the Patient Health Questionnaire_2 (PHQ-2)	1.50 (1.30)	1.85 (1.35)
Kurt Kroenke ^[4] (2015)	Breast 55, Lung 42, Gastrointestinal 40, Lymphoma and Blood 22, Urogenital 17, Others 26	Breast 63, Lung 39, Gastrointestinal 30, Lymphoma and Blood 31, Urogenital 24, Other 16	—	—	—	—	—	—	—	—	—	—	20-item Hopkins Symptom Checklist [HSCL-20]	1.64 (0.63)	1.64 (0.65)
M.J. Murphy ^[5] (2019)	Breast cancer 33, Prostate cancer 4, Gynecologic oncology 3, Lymphoma 2, Bowel cancer 2, Melanoma 2, Other tumors 7	Breast cancer 43, Prostate cancer 2, Gynecologic oncology 3, Lymphoma 3, Bowel cancer 2, Melanoma 2, Other tumors 6	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	8.64 (1.99)	8.99 (1.95)
Marc Serfaty ^[6] (2019)	—	—	—	—	—	—	—	—	—	—	—	—	Beck Depression Inventory score (BDI)	25.2 (10.4)	24.5 (9.7)
Gary Rodin ^[7] (2018)	Breast cancer 9, Lung cancer 16, Sarcoma 5, Melanoma 2, Endocrine tumors 3, Gastrointestinal tract 26, Gynecological tumors 22, Urinary tract tumors 18	Breast cancer 8, Lung cancer 12, Sarcoma 6, Melanoma 2, Endocrine tumors 3, Gastrointestinal tract 26, Gynecological tumors 27, Urinary tract tumors 16	—	—	—	—	—	—	—	—	—	—	the Patient Health Questionnaire-9 (PHQ-9)	7.45 (4.96)	7.41 (4.75)
Di Shao ^[8] (2021)	Breast cancer 72	Breast cancer 72	8	38	18	8	—	6	34	23	9	—	the Patient Health Questionnaire-9 (PHQ-9)	8.28 (3.96)	6.60 (3.77)
Jane McCusker ^[9] (2021)	Breast cancer 69、Blood cancer 17、Urinary system cancer 12、Obstetrics and Gynecology Cancer 12、Other 19	Breast cancer 72、Blood cancer 17、Urinary system cancer 9、Obstetrics and Gynecology Cancer 7、Other 19	—	—	—	—	—	—	—	—	—	—	Center for Epidemiologic Studies Depression Scale (CES-D)	23.9 (8.5)	24.9 (10.0)
A. M. H. Krebber ^[10] (2016)	Head and neck tumors70, Lung cancer5	Head and neck tumors 77, Lung cancer 4	17	15	12	22	8	22	10	17	30	2	Hospital Anxiety and Depression Scale (HADS)	8.2 (3.7)	9.5 (3.8)
Vanessa Strong ^[11] (2005)	Breast cancer 43, Gynecological cancer 16, Colorectal cancer 7, Other 35	Breast cancer 44, Gynecological cancer 15, Colorectal cancer 6, Other 34	—	—	—	—	—	—	—	—	—	—	the Symptom Checklist-20 depression scale (SCL-20)	2.35	2.25
Xiaomei Dong ^[12] (2018)	Rectal and Colon Cancer 45	Rectal and Colon Cancer 45	—	—	—	—	—	—	—	—	—	—	Hamilton Depression Scale (HAMD)	15.13 (3.58)	14.96 (4.91)
Xiaomei Dong ^[12] (2018)	Rectal and Colon Cancer 45	Rectal and Colon Cancer 45	—	—	—	—	—	—	—	—	—	—	Hamilton Depression Scale (HAMD)	13.33 (3.98)	14.96 (4.91)
Wenwei Ren ^[13] (2019)	Breast cancer 98	Breast cancer 196	28	45	14	0	11	38	111	36	0	11	Hamilton Depression Scale (HAMD)	13.4 (4.9)	11.4 (2.7)
Wenwei Ren ^[13] (2019)	Breast cancer 98	Breast cancer 196	20	61	10	0	7	38	111	36	0	11	Hamilton Depression Scale (HAMD)	12.1 (3.2)	11.4 (2.7)
Lisa A. Cadmus ^[14] (2009)	Breast cancer 25	Breast cancer 25	13	8	0	—	4	9	8	3	—	5	Center for Epidemiologic Studies Depression Scale (CES-D)	10.7 (7.3)	12.2 (6.5)
Lisa A. Cadmus ^[14] (2009)	Breast cancer 37	Breast cancer 38	20	10	3	—	4	10	18	6	—	4	Center for Epidemiologic Studies Depression Scale (CES-D)	9.3 (6.0)	9.2 (8.6)
Panagiotis Pelekasis ^[15] (2015)	Breast cancer 25	Breast cancer 28	1	13	10	1	—	0	14	11	3	—	Depression Anxiety Stress Scales-21 (DASS-21)	18.88 (22)	17.86 (32)
Jianyin Qiu ^[16] (2013)	Breast cancer 31	Breast cancer 31	21 (0-1)	7	III+IV (3)		0	0+1 (15)	11	III+IV (5)		0	Hamilton Depression Scale (HAMD)	20.61 (2.68)	20.68 (3.18)
Zhen Guo ^[17] (2013)	Nasopharyngeal cancer 31, Breast cancer 19, Gynecologic oncology 14, Lung cancer 7, Other cancers 15	Nasopharyngeal cancer 31, Breast cancer 22, Gynecologic oncology 17, Lung cancer 7, Other cancers 15	—	—	—	—	—	—	—	—	—	—	Self-rating Depression Scale (SDS)	55.44 (9.18)	54.53 (8.30)
Elin Børøsund ^[18] (2020)	Breast cancer 39, Brain cancer 9, Prostate cancer 6, Lymphoma 4, Colon cancer 4, Other cancers 22	Breast cancer 44, Brain cancer 4, Prostate cancer 4, Lymphoma 4, Colon cancer 4, Other cancers 28	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	5.7 (4.9-6.5)	5.2 (4.3-6.1)
MF Damholdt ^[19] (2015)	Breast cancer 94	Breast cancer 63	—	—	—	—	—	—	—	—	—	—	Beck Depression Inventory score (BDI)	13.02 (8.52)	15.00 (8.70)
Roy A. Willems ^[20] (2016)	Breast cancer 134, Other 54	Breast cancer 157 , Other 64	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	3.45 (2.99)	3.43 (3.41)
Richard Bränström ^[21] (2012)	Breast cancer 24, Gynecological cancer 10, Lymphoma cancer 5, Pancreatic cancer 1, Neck Cancer 1		—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	6.41 (4.46)	7.18 (3.55)
Florien W. Boele ^[22] (2018)	Ganglioglioma 1, Astrocytoma 21, Oligodendroglioma 10, Oligoastrocytoma 6, Glioblastoma 6, Unspecified glioma 1	Pontine glioma 1, Astrocytoma 17, Oligodendroglioma 11, Oligoastrocytoma 7, Glioblastoma 7, Meningioma 1	—	—	—	—	—	—	—	—	—	—	Center for Epidemiologic Studies Depression Scale (CES-D)	21.96 (5.9)	24.98 (6.9)
Penelope Schofield ^[23] (2016)	Prostate cancer 165	Prostate cancer 166	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	2.8 (2.9)	2.6 (2.8)
William Breitbart ^[24] (2011)	Breast cancer 32, Colon cancer 19, Pancreatic cancer 11, Ovarian cancer 10, Lung cancer 4, Unknown 44						III (40); IV (80)						Hospital Anxiety and Depression Scale (HADS)	2.09 (0.61)	1.85 (0.49)
S. Dolbeault ^[25] (2009)	Breast cancer 102	Breast cancer 101	—	—	—	—	—	—	—	—	—	—	Profile of Mood States (POMS)	12.38 (11.45)	13.46 (11.95)
K. Ashing ^[26] (2014)	Latino breast cancer 99	Latino breast cancer 100	41	41	15	—	—	43	43	14	—	—	Center for Epidemiologic Studies Depression Scale (CES-D)	25.4 (10.2)	14.8 (10.8)
Ummavathy Periasamy ^[27] (2017)	—	—	7	16	30	28	—	9	12	28	31	—	the Patient Health Questionnaire-9 (PHQ-9)	1.40 (1.06)	1.28 (1.03)
Sue Hall ^[28] (2015)	Lips / Mouth 0 Digestion 4 Breathing 2 Soft Tissue 6 Breast 2 Female Genitals 1 Male Genitals 1 Urinary 0 Eyes / Brain 2 Thyroid 1 Lymph 3	Lips / Mouth 1 Digestion 5 Breathing 6 Soft Tissues 2 Breast 1 Female Genitalia 1 Male Genitalia 3 Urinary 1 Eyes / Brain 1 Thyroid 1 Lymph 1	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	5.50 (3.84)	5.65 (3.39)
Barrie R. Cassileth ^[29] (2003)	Hodgkin 4, Non-Hodgkin lymphoma 16, Myeloma/Amyloidosis 16	Hodgkin 4, Non-Hodgkin lymphoma 15, Myeloma/Amyloidosis 14	—	—	—	—	—	—	—	—	—	—	Profile of Mood States (POMS)	2.7 (2.7)	2.4 (2.5)
Lisa M. Gudenkauf ^[30] (2015)	Breast cancer 55	Breast cancer 58	31	11	2	0	11 (0)	29	13	4	0	12 (0)	Affects Balance Scale, Depression subscale (ABS-dep)	1.96 (0.61)	1.67 (0.65)
Lisa M. Gudenkauf ^[30] (2015)	Breast cancer 70	Breast cancer 58	29	13	4	0	12 (0)	29	13	4	0	12 (0)	Affects Balance Scale, Depression subscale (ABS-dep)	1.96 (0.65)	1.67 (0.65)
H. S. Vadiraja ^[31] (2009)	Breast cancer 44	Breast cancer 44	2	11	31	—	—	3	7	34	—	—	Hospital Anxiety and Depression Scale (HADS)	7.57 (4.02)	8.00 (3.47)
Miek C. Jong ^[32] (2018)	Breast cancer 47	Breast cancer 36	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	5.3 (4.4)	5.3 (4.4)

Elizabeth Foley ^[33] (2010)	Breast 26, Gynecology 6, Lymphoma 6, Prostate 4, Bowel and Colon 3, Lung 2, Head and Neck 2, Melanoma 1, Myeloma 1, Leukemia 0, Other 4	Breast 22, Gynecology 1, Lymphoma 2, Prostate 4, Bowel and Colon 6, Lung 2, Head and Neck 3, Melanoma 5, Myeloma 5, Leukemia 3, Other 7	6	20	16	13	—	10	17	18	15	—	Hamilton Depression Scale (HAMD)	16.02 (7.28)	14.38 (8.12)
Harvey Max Chochinov ^[34] (2011)	Lung cancer 15, Breast 10, Gastrointestinal 30, Urogenital 12, Gynecology 3, Blood 5, Brain 4, Other solid tumors 23	Lung cancer 15, Breast 8, Gastrointestinal 48, Urogenital 9, Gynecology 3, Blood 6, Brain 2, Other solid tumors 20	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	5·86 (3·86)	6·03 (4·02)
Harvey Max Chochinov ^[34] (2011)	Lung cancer 18, Breast 11, Gastrointestinal 29, Genitourinary 8, Gynecology 5, Blood 3, Brain 3, Other solid tumors 24	Lung cancer 15, Breast 8, Gastrointestinal 48, Urogenital 9, Gynecology 3, Blood 6, Brain 2, Other solid tumors 20	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	6·30 (4·04)	6·03 (4·02)
Pei-Hua Wu ^[35] (2018)	Breast cancer 20	Breast cancer 20	7	8	3	2	0	2	6	7	5	0	Hospital Anxiety and Depression Scale (HADS)	7.10 (3.84)	7.75 (3.63)
Gitta Kleijn ^[36] (2018)	Lung cancer 31, Head and neck cancer 1, Blood cancer 12, Breast cancer 3, Other tumors 8	Lung cancer 35, Head and neck cancer 1, Blood cancer 11, Breast cancer 2, Other tumors 3	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	6.1 (4.1)	5.9 (4.1)
Mandy Ho ^[37] (2020)	Colorectal cancer 56	Colorectal cancer 56	8	27	20		—	12	24	20		—	Hospital Anxiety and Depression Scale (HADS)	12.0 (3.2)	11.8 (3.4)
Yan SUN ^[38] (2021)		—	—	—	—	—	—	—	—	—	—	—	Hamilton Depression Scale (HAMD)	23.9 (5.1)	23.6 (4.5)
Victoria White ^[39] (2018)	Breast cancer 202	Breast cancer 177	98	98	2	—	—	84	92	1	—	—	Hospital Anxiety and Depression Scale (HADS)	4.4 (3.3)	4.1 (3.6)
Rianne Henrica Johanna Golsteijn ^[40] (2018)	Prostate Cancer 149, Colorectal Cancer 100	Prostate cancer 143, Colorectal cancer 86	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	3.54 (3.54)	2.80 (2.91)
Holger Cramer ^[41] (2016)	Colorectal cancer 27	Colorectal cancer 27	10	6	10	—	—	10	5	11	—	—	Hospital Anxiety and Depression Scale (HADS)	3.19 (3.01)	3.92 (2.94)
Eva Rames Nissen ^[42] (2019)	Breast cancer 96	Breast cancer 41	—	—	—	—	—	—	—	—	—	—	Beck Depression Inventory score (BDI)	15.5 (7.3)	17.4 (7.6)
Lara Traeger ^[43] (2015)	Breast cancer 30, Lung cancer 15, Colorectal cancer 15	Breast cancer 30, Lung cancer 15, Colorectal cancer 15	—	—	—	—	—	—	—	—	—	—	the Patient Health Questionnaire_4 (PHQ-4)	5 (8.3)	5 (8.3)
Ana-Maria Vranceanu ^[44] (2016)	Neurofibromas 32	Neurofibromas 31	—	—	—	—	—	—	—	—	—	—	the Patient Health Questionnaire-9 (PHQ-9)	16.06 (5.56)	18.16 (5.28)
Jannike L. Salchow ^[45] (2021)	Breast cancer 30	Breast cancer 21	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	10.2 (1.6)	10.8 (1.9)
Talita Uchoa Lima ^[46] (2020)	Breast cancer 16	Breast cancer17	5	11	—	—	—	2	15	—	—	—	Beck Depression Inventory score (BDI)	18.7 (9.48)	21.0 (9.6)
Caroline J. Hoffman ^[47] (2012)	Breast cancer 114	Breast cancer 115	34	47	22	—	0 (11)	45	47	17	—	0 (6)	Profile of Mood States (POMS)	12.79 (10.76)	15.70 (12.79)
N. van der Spek ^[48] (2017)	Breast cancer 30, Colon cancer 15, Others 12	Breast cancer 42, Colon cancer 10, Others 5	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	5.1 (3.5)	4.4 (3.3)
N. van der Spek ^[48] (2017)	Breast cancer 40, Colon cancer 12, Others 4	Breast cancer 42, Colon cancer 10, Others 5	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	4.5 (3.3)	4.4 (3.3)
Jiemin Zhu ^[49] (2018)	Breast cancer 57	Breast cancer 57	9	28	19	1	—	12	21	23	1	—	Hospital Anxiety and Depression Scale (HADS)	12.6 (2.0)	12.6 (2.4)
Kathrin Milbury ^[50] (2016)	Renal cell carcinoma 138	Renal cell carcinoma 139	50	18	26	40	4	49	18	25	42	5	Center for Epidemiologic Studies Depression Scale (CES-D)	10.3 (9.7)	11.3 (8.9)
Josée Savard ^[51] (2004)	Breast cancer 27	Breast cancer 30	18	10	1	0	0	17	11	2	0	0	Hospital Anxiety and Depression Scale (HADS)	4.64 (3.74 to 5.54)	2.62 (1.82 to 3.42)
Lene Thorsen ^[52] (2005)	Breast Cancer 21, Gynecological Cancer 13, Lymphoma 14, Testicular Cancer 11	Breast Cancer 21, Gynecological Cancer 11, Lymphoma 11, Testicular Cancer 9	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	2.9 (2.7)	3.1 (3.6)
Jane Turner ^[53] (2016)		—	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	4.03 (3.29)	3.76 (3.18)
Laura Q. Rogers ^[54] (2017)	Breast Cancer 110	Breast cancer 112					DCIS (24), I (93), II (78), III (27)						Hospital Anxiety and Depression Scale (HADS)	4.8 (3.3)	4.7 (3.5)
JOSEPH A. GREER ^[55] (2019)	Gastrointestinal cancer 23, Gynecological cancer 10, Lung cancer 9, Breast cancer 8, Melanoma 10, Sarcoma 7, Urinary tract cancer 2, Peritoneal cancer 3, Thyroid cancer 0	Gastrointestinal cancer 18, Gynecological cancer 14, Lung cancer 15, Breast cancer 8, Melanoma 5, Sarcoma 7, Urinary tract cancer 5, Peritoneal cancer 0, Thyroid cancer 1	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	6.97 (3.35)	6.79 (3.11)
Cecile A. Lengacher ^[56] (2016)	Breast cancer 167	Breast cancer 155	53	61	32	—	0 (21)	56	54	26	—	0 (19)	Center for Epidemiologic Studies Depression Scale (CES-D)	10.87 (6.89)	10.04 (6.46)
Susan K. Lutgendorf ^[57] (2010)	Cervical cancer 21	Cervical cancer 19	—	—	—	—	—	—	—	—	—	—	Center for Epidemiologic Studies Depression Scale (CES-D)	19.96 (16.53)	21.8 (8.89)
Susan K. Lutgendorf ^[57] (2010)	Cervical cancer 20	Cervical cancer 19	—	—	—	—	—	—	—	—	—	—	Center for Epidemiologic Studies Depression Scale (CES-D)	21.54 (11.26)	21.8 (8.89)
Linda Witek Janusek ^[58] (2019)	Breast cancer 80	Breast cancer 80	41	14	7	—	0 (18)	50	9	2	—	0 (19)	Center for Epidemiologic Studies Depression Scale (CES-D)	13.67 (11.26)	13.84 (9.21)
Kerry A. Sherman ^[59] (2018)	Breast cancer 149	Breast cancer 155	—	—	—	—	—	—	—	—	—	—	Depression Anxiety Stress Scales-21 (DASS-21)	4.97 (5.07)	4.87 (4.96)
Julienne E. Bower ^[60] (2011)	Breast cancer 16	Breast cancer 15	—	—	—	—	—	—	—	—	—	—	Beck Depression Inventory score (BDI)	15.5 (7.5)	14.3 (7.5)
Young Ho Yun ^[61] (2012)	Breast cancer 52, Stomach cancer 29, Colon cancer 17, Uterine cancer 12, Lung cancer 10, Thyroid cancer 16	Breast cancer 54, Stomach cancer 26, Colon cancer 19, Uterine cancer 19, Lung cancer 10, Thyroid cancer 9	80	36	20	—	—	65	48	24	—	—	Hospital Anxiety and Depression Scale (HADS)	5.65 (3.09)	5.73 (3.30)
Young Ho Yun ^[62] (2017)	Stomach 34, Lung 5, Breast 81, Large Intestine 6, Gynecology 5, Others 1	Stomach 17, Lung 3, Breast 42, Large Intestine 5, Gynecology 4	69	38	16	1	7	31	28	4	1	4	Hospital Anxiety and Depression Scale (HADS)	6.4 (3.5)	6.1 (3.1)
Meg Wise ^[63] (2018)	Advanced cancer 49	Advanced cancer 37	—	—	—	—	—	—	—	—	—	—	Profile of Mood States (POMS)	0.60 (0.69)	0.59 (0.44)
Cecilia Arving ^[64] (2007)	Breast cancer 60	Breast cancer 59	43	12	5	—	—	43	12	4	—	—	Hospital Anxiety and Depression Scale (HADS)	4 (4)	4 (3)
Cecilia Arving ^[64] (2007)	Breast cancer 60	Breast cancer 59	44	11	5	—	—	43	12	4	—	—	Hospital Anxiety and Depression Scale (HADS)	4 (3)	4 (3)
S. K. Smith ^[65] (2018)	Breast cancer 37	Breast cancer 52	—	—	—	—	—	—	—	—	—	—	the Patient Health Questionnaire-8 (PHQ-8)	10.3 (5.6)	10.3 (6.1)
Annette L. Stanton ^[66] (2013)	Breast cancer 46	Breast cancer 42	—	—	—	—	—	—	—	—	—	—	Center for Epidemiologic Studies Depression Scale (CES-D)	11 (9)	12 (10)
Rainbow T. H. Ho ^[67] (2016)	Breast cancer 49	Breast cancer 57	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	4.9 (3.6)	4.5 (3.0)
Rainbow T. H. Ho ^[67] (2016)	Breast cancer 51	Breast cancer 57	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	4.1 (3.0)	4.5 (3.0)
Morten Quist ^[68] (2020)	Non-Small Cell Lung Cancer (NSCLC) 96, Small Cell Lung Cancer (SCLC) 14	Non-Small Cell Lung Cancer (NSCLC) 96, Small Cell Lung Cancer (SCLC) 12	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	4.0 (3.7)	4.3 (3.6)
Satoko Handa ^[69] (2020)	Breast cancer 52	Breast cancer 50	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	—	—

Nanette Mutrie ^[70] (2007)	Breast cancer 69	Breast cancer102	—	—	—	—	—	—	—	—	—	—	Beck Depression Inventory score (BDI)	11.8 (6.9)	13.0 (7.4)
Ji Young Kim ^[71] (2019)	Colon cancer 27, Rectal cancer 10	Colon cancer 19, Rectal cancer 15	—	21	16	—	—	—	12	22	—	—	the Patient Health Questionnaire (PHQ)	4.0 (4.5)	4.2 (4.3)
Inger Schou Bredal ^[72] (2014)	Breast cancer 182	Breast Cancer 185	107	57	13	0	carcinoma in situ 5	116	57	10	0	carcinoma in situ 2	Hospital Anxiety and Depression Scale (HADS)	4.3 (3.9)	4.9 (3.7)
Colleen A. Cuthbert ^[73] (2018)	Breast 7, Prostate 10, Colorectum 6, Blood 5, Others 10	Breast 10, Prostate 5, Colorectum 3, Blood 8, Others 13	—	—	—	—	—	—	—	—	—	—	Center for Epidemiologic Studies Depression Scale (CES-D)	17.03 (11.31)	19.03 (11.48)
Kajal Gokal ^[74] (2015)	Breast cancer 25	Breast cancer 25	0	5	20	—	—	1	8	16	—	—	Hospital Anxiety and Depression Scale (HADS)	5.52 (3.79)	6.68 (4.00)
M. Dieng ^[75] (2019)	Melanoma 70	Melanoma 81	64	34	0	0	0 (2)	57	38	0	0	0 (5)	Depression Anxiety Stress Scales-21 (DASS-21)	3.86 (6.01)	3.46 (6.49)
Kerry S. Courneya ^[76] (2007)	Breast cancer 82	Breast cancer 82	22	45	15	—	—	20	52	10	—	—	Center for Epidemiologic Studies Depression Scale (CES-D)	13.8 (10.1)	13.9 (9.7)
Kerry S. Courneya ^[76] (2007)	Breast cancer 78	Breast cancer 82	18	50	10	—	—	20	52	10	—	—	Center for Epidemiologic Studies Depression Scale (CES-D)	12.8 (9.8)	13.9 (9.7)
Pernille Envoid Bidstrup ^[77] (2023)	Breast cancer 156	Breast cancer 153	—	—	—	—	—	—	—	—	—	—	the 9-item Patient Health Questionnaire (PHQ-9)	7.84 (5.05)	8.34 (5.13)
Sean R. Zion ^[78] (2023)	Brain 1, Breast 111, Colon 12, Endometrial 4, Leukemia 9, Lung 16, Lymphoma 10, Other Cancers 16, Ovarian 19, Pancreatic 1, Prostate 4, Thyroid 6	Brain1, Breast 108, Colon 13, Endometrial 9, Leukemia 4, Lung 13, Lymphoma 8, Other Cancers 19, Ovarian 14, Pancreatic 7, Prostate 8, Thyroid 2	74	73	78	—	—	71	77	75	—	—	The PROMIS-Depression Short Form v1.0 8b (PROMIS-D)	59.49 (5.65)	59.34 (5.55)
Nasib Babaei ^[79] (2023)	Gastric cancer 76	Gastric cancer 76	—	—	—	—	—	—	—	—	—	—	Beck Depression Inventory score (BDI)	22.45 (0.35)	22.42 (0,42)
Yening Zhang ^[80] (2024)	Breast cacner 19	Breast cacner 17	—	—	—	19	—	—	—	—	17	—	the nine-item Patient Health Questionnaire (PHQ-9)	13.42 (5.96)	11.06 (6.69)
Lena Saltbæk ^[81] (2024)	Breast cacner 251	Breast cacner 252	151	100	—	—	—	161	91	—	—	—	Patient Health Questionnaire (PHQ)	6.12 (5.01)	5.78 (4.71)
José A E Custers ^[82] (2024)	Colorectal cancer 41	Colorectal cancer 43	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	7.3 (3.5)	7.3 (3.8)
Isabel Alves ^[83] (2024)	Intestinal Cancer 20, gastric Cancer 12, other 3	Intestinal Cancer 25, gastric Cancer 7, other 3	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	4.8 (3.6)	5.4 (3.5)
Yufan Yuan ^[84] (2024)	Cervical cancer 86	Cervical cancer 86	—	—	—	—	—	—	—	—	—	—	Self-rating Depression Scale (SDS)	49.19 (12.10)	48.80 (12.70)
Huimin Sui ^[85] (2024)	Prostate cancer 81	Prostate cancer 79	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	6.50 (3.10)	6.60 (3.30)

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Supplementary Table 6 C. Patients’ characteristics: Effects of pharmacological interventions to reduce depressive symptoms in cancer patients.

Author (year)	Years/Mean(SD)		Number (N)		Sex (N)				Educational status (N)			
	Treatment	Control	Treatment	Control	Treatment		Control		Treatment		Control	
					Male	Female	Male	Female	≤High School	University/Graduate	≤High School	University/Graduate
Eylem Sahin Cankurtaran ^[1] (2008)	46 (34-50), median (25%-75%)	47.5 (40-56), median (25%-75%)	20	20	7	13	7	13	18	2	16	4
Eylem Sahin Cankurtaran ^[1] (2008)	43 (26-49), median (25%-75%)	47.5 (40-56), median (25%-75%)	13	20	5	8	7	13	10	3	16	4
Razavi D ^[2] (1996)	53.2 (11.4)	52.6 (11.3)	30	39	7	23	7	32	—	—	—	—
Dominique Musselman ^[3] (2006)	54.6 (12.7)	58.6 (12.8)	13	11	0	13	0	11	1	12	2	9
Dominique Musselman ^[3] (2006)	47.7 (9.0)	58.6 (12.8)	11	11	0	11	0	11	5	6	2	9
Gary R. Morrow ^[4] (2003)	56.5 (12.6)	56.3 (12.3)	244	235	49	195	67	168	110	134	114	121
Joseph A. Roscoe ^[5] (2005)	52.2 (9.3)	52.2 (10.2)	44	50	0	44	0	50	—	—	—	—
KEES VAN HEERING ^[6] (1996)	51 (8)	53 (8)	28	27	—	28	—	27	—	—	—	—
Michael J. Fisch ^[7] (2003)	61	59	83	80	46	37	36	44	—	—	—	—
Carlos Centeno ^[8] (2012)	74 (45–87) , (median and limits)	70 (40–83) , (median and limits)	31	38	17	14	23	15	—	—	—	—
Ng Chong Guan ^[9] (2014)	59.52 (11.3)	55.89 (11.5)	44	44	10	34	20	24	—	—	—	—
Ebrahim Salehifar ^[10] (2020)	60.21 (9.9)	53.69 (12.87)	13	14	4	9	7	7	—	—	—	—

Reference

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Supplementary Table 6 D. Patients’ characteristics: Effects of pharmacological interventions to reduce depressive symptoms in cancer patients.

Author (year)	Cancer (N)	Cancer Stage (N)										Outcome Scale	Baseline depression level/mean (SD)			
		Treatment					Control						Treatment	Control		
		I	II	III	IV	Unspecified	I	II	III	IV	Unspecified					
	Treatment	Control														
Eylem Sahin Cankurtaran ^[11] (2008)	—	—	—	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	12.5 (5.1)	11.4 (4.6)
Eylem Sahin Cankurtaran ^[11] (2008)	—	—	—	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	10.7 (3.8)	11.4 (4.6)
Razavi D ^[2] (1996)	Gynecological, Breast, Blood		—	—	—	—	—	—	—	—	—	—	—	Montgomery-Asberg Depression Rating Scale (MADRS)	26.1 (7.1)	25.2 (7.7)
Dominique Musselman ^[3] (2006)	Breast 13	Breast 11	3	7	1	2	—	7	4	0	0	—	—	Hamilton Depression Scale (HAMD)	21.00 (5.66)	23.91 (4.99)
Dominique Musselman ^[3] (2006)	Breast 11	Breast 11	0	6	1	4	—	7	4	0	0	—	—	Hamilton Depression Scale (HAMD)	23.00 (6.16)	23.91 (4.99)
Gary R. Morrow ^[4] (2003)	Breast 140, Lung 35, Blood 28, Gynecology 17, Gastrointestinal 9, Other 15	Breast 119, Lung 31, Blood 35, Gynecology 20, Gastrointestinal 20, Others 10	—	—	—	—	—	—	—	—	—	—	—	Center for Epidemiologic Studies Depression Scale (CES-D)	14.8 (0.67)	15.8 (0.67)
Joseph A. Roscoe ^[5] (2005)	Breast 44	Breast 50	—	—	—	—	—	—	—	—	—	—	—	Center for Epidemiologic Studies Depression Scale (CES-D)	14.7 (7.36)	14.7 (9.40)
KEES VAN HEERING ^[6] (1996)	Breast 28	Breast 27	—	—	—	—	—	—	—	—	—	—	—	Hamilton Rating Scale for Depression (HRSD)	21.0 (3.6)	21.6 (5.4)
Michael J. Fisch ^[7] (2003)	Breast 13, Chest 27, Gastrointestinal 15, Urogenital 10, Other 18	Breast 14, Chest 20, Gastrointestinal 19, Urogenital 6, Other 21	—	—	—	—	—	—	—	—	—	—	—	Brief Zung Self-Rating Depression Scale (BZSDS)	24.44 (6.56)	23.09 (5.91)
Carlos Centeno ^[8] (2012)	Digestive 7; Lung 8; Genito-urinary 5; Other 11	Digestive 14; Lung 8; Genito-urinary 10; Other 6	—	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	12.8 (3.6)	13.4 (3.2)
Ng Chong Guan ^[9] (2014)	Breast 20, Upper Gastrointestinal Tract 2, Colon 1, Kidney 2, Pancreas 4, Bones 2, Urinary Tract and Prostate 3, Uterus, Cervical and Ovary 4, Others 6	Breast 14, Upper gastrointestinal tract 5, Colon 8, Kidney 2, Pancreas 2, Bone 3, Urinary tract and prostate 3, Uterus, cervix and ovary 1, Other 6	—	—	—	—	—	—	—	—	—	—	—	Montgomery-Asberg Depression Rating Scale (MADRS)	31.89 (6.24)	32.25 (6.14)
Ebrahim Salehifar ^[10] (2020)	Breast 5; Colorectal 3; Prostate 2; Gastric 1; Other 2	Breast 5; Colorectal 4; Prostate 2; Gastric 2; Other 1	—	—	—	—	—	—	—	—	—	—	—	Hospital Anxiety and Depression Scale (HADS)	5.7 (2.5)	7 (3.1)

Reference

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Supplementary Table 7. Heterogeneity Analysis of Network Meta-analysis Results

Outcome	Comparisons	Pooled Mean Difference (95% CI)		
		Pooled Pairwise	Pooled Network	I ² (%)
Depression (non-pharmacological interventions)	Psychotherapy vs Usual care	-0.48 (-0.61, -0.34)	-0.43 (-0.55, -0.30)	88.10%
	Yoga therapy vs Usual care	-0.36 (-0.87, 0.15)	-0.14 (-0.55, 0.28)	36.10%
	Education and support of person with cancer vs Usual care	-0.23 (-0.40, -0.05)	-0.30 (-0.45, -0.14)	69.90%
	Reminiscence therapy vs Usual care	-0.75 (-1.60, 0.16)	-0.49 (-1.20, 0.27)	—
	Exercise vs Usual care	-0.22 (-0.45, 0.01)	-0.22 (-0.45, 0.02)	6.00%
	Massage and touch therapy vs Usual care	-0.50 (-1.60, 0.57)	-0.76 (-1.40, -0.15)	—
	Music therapy vs Usual care	-0.31 (-0.98, 0.35)	-0.32 (-0.99, 0.36)	41.80%
	Relaxation therapy vs Usual care	-0.22 (-0.91, 0.46)	-0.59 (-1.10, -0.10)	0.00%
	Education and support of person with cancer vs Expressive writing	0.05 (-0.50, 0.60)	0.05 (-0.50, 0.61)	0.00%
	Education and support of person with cancer vs Psychotherapy	-0.01 (-0.30, 0.29)	0.13 (-0.05, 0.31)	74.50%
	Massage and touch therapy vs Psychotherapy	-0.47 (-1.30, 0.36)	-0.33 (-0.94, 0.28)	—
	Relaxation therapy vs Psychotherapy	-0.84 (-1.70, 0.01)	-0.16 (-0.64, 0.33)	—
	Education and support of person with cancer vs Yoga therapy	-0.53 (-1.20, 0.13)	-0.16 (-0.58, 0.26)	0.00%
Depression (non-pharmacological interventions)	Exercise vs Usual care	-0.22 (-0.43, -0.01)	-0.22 (-0.43, -0.01)	6.00%
	Massage and touch therapy vs Usual care	-0.51 (-1.50, 0.51)	-0.69 (-1.30, -0.09)	—
	Dignity therapy vs Usual care	-0.02 (-0.58, 0.54)	-0.12 (-0.63, 0.40)	0.00%
	Music therapy vs Usual care	-0.31 (-0.92, 0.31)	-0.31 (-0.93, 0.32)	41.20%
	Relaxation therapy vs Usual care	-0.22 (-0.86, 0.42)	-0.38 (-0.82, 0.07)	0.00%
	SME and CSE for negative emotions vs Usual care	-0.52 (-0.76, -0.29)	-0.49 (-0.72, -0.26)	87.00%
	Meaning Centered Psychotherapy vs Usual care	-0.47 (-0.94, -0.01)	-0.39 (-0.79, 0.01)	36.20%
	Supportive psychotherapy vs Usual care	-0.20 (-0.50, 0.10)	-0.24 (-0.50, 0.02)	0.00%

	Yoga therapy vs Usual care	-0.36 (-0.83, 0.11)	-0.12 (-0.50, 0.26)	36.00%
	Education and support of person with cancer vs Usual care	-0.22 (-0.38, -0.07)	-0.26 (-0.41, -0.12)	69.50%
	Cognitive behavioural therapy vs Usual care	-0.61 (-0.90, -0.33)	-0.60 (-0.84, -0.36)	90.20%
	Mindfulness vs Usual care	-0.35 (-0.63, -0.07)	-0.35 (-0.63, -0.07)	64.80%
	Reminiscence therapy vs Usual care	-1.30 (-1.80, -0.83)	-1.10 (-1.50, -0.68)	97.40%
	Relaxation therapy vs Massage and touch therapy	0.14 (-0.85, 1.10)	0.31 (-0.36, 0.98)	—
	Meaning Centered Psychotherapy vs Massage and touch therapy	0.47 (-0.28, 1.20)	0.30 (-0.29, 0.89)	—
	Education and support of person with cancer vs Dignity therapy	0.07 (-0.66, 0.80)	-0.15 (-0.67, 0.37)	—
	Education and support of person with cancer vs Relaxation therapy	0.31 (-0.46, 1.10)	0.12 (-0.34, 0.57)	—
	Cognitive behavioural therapy vs Relaxation therapy	-0.22 (-1.00, 0.56)	-0.22 (-0.70, 0.26)	—
	Education and support of person with cancer vs Expressive writing	0.05 (-0.44, 0.54)	0.05 (-0.45, 0.55)	0.00%
	Education and support of person with cancer vs SME and CSE for negative emotions	-0.31 (-1.20, 0.59)	0.23 (-0.04, 0.49)	—
	Supportive psychotherapy vs Meaning Centered Psychotherapy	0.07 (-0.45, 0.62)	0.15 (-0.27, 0.57)	0.00%
	Education and support of person with cancer vs Supportive psychotherapy	0.04 (-0.40, 0.48)	-0.03 (-0.30, 0.25)	0.00%
	Education and support of person with cancer vs Yoga therapy	-0.53 (-1.10, 0.08)	-0.14 (-0.53, 0.24)	0.00%
	Cognitive behavioural therapy vs Education and support of person with cancer	-0.40 (-0.77, -0.03)	-0.33 (-0.58, -0.09)	80.80%
	Reminiscence therapy vs Education and support of person with cancer	0.07 (-0.77, 0.90)	-0.84 (-1.30, -0.40)	—
Depression (pharmacological interventions)	Mirtazapine vs Placebo	-0.85 (-2.10, 0.42)	-0.85 (-2.10, 0.44)	—
	Imipramine vs Placebo	0.09 (-1.30, 1.40)	0.08 (-1.20, 1.40)	—
	Fluoxetine vs Placebo	-0.38 (-1.20, 0.44)	-0.38 (-1.20, 0.49)	0.00%
	Paroxetine vs Placebo	-0.15 (-0.75, 0.62)	-0.13 (-0.75, 0.68)	53.90%
	Desipramine vs Placebo	0.13 (-1.30, 1.60)	-0.24 (-1.40, 1.10)	—
	Mianserin vs Placebo	-1.10 (-2.30, 0.09)	-1.10 (-2.40, 0.16)	—

SME and CSE for negative emotions = Symptom management education and coping skills for negative emotions.

Supplementary Table 8. Inconsistency Analysis of Network Meta-analysis Results

Outcome	Comparisons	Pooled Mean Difference (95% CI)			<i>P</i>
		Direct	Indirect	Network	
Depression (non-pharmacological interventions)	Psychotherapy vs Usual care	-0.48 (-0.61, -0.34)	-0.04 (-0.40, 0.32)	-0.43 (-0.55, -0.30)	0.02
	Yoga therapy vs Usual care	-0.36 (-0.87, 0.16)	0.25 (-0.43, 0.93)	-0.14 (-0.55, 0.27)	0.16
	Education and support of person with cancer vs Usual care	-0.23 (-0.40, -0.06)	-0.60 (-0.92, -0.29)	-0.30 (-0.45, -0.14)	0.04
	Massage and touch therapy vs Usual care	-0.50 (-1.50, 0.48)	-0.90 (-1.80, -0.05)	-0.76 (-1.40, -0.15)	0.54
	Relaxation therapy vs Usual care	-0.24 (-0.90, 0.42)	-0.95 (-1.70, -0.22)	-0.59 (-1.10, -0.10)	0.15
	Education and support of person with cancer vs Psychotherapy	0.01 (-0.28, 0.30)	0.20 (-0.02, 0.43)	0.13 (-0.05, 0.31)	0.30
	Massage and touch therapy vs Psychotherapy	-0.47 (-1.30, 0.37)	-0.17 (-1.10, 0.72)	-0.33 (-0.94, 0.28)	0.63
	Relaxation therapy vs Psychotherapy	-0.84 (-1.60, -0.08)	0.14 (-0.50, 0.77)	-0.16 (-0.64, 0.33)	0.05
	Education and support of person with cancer vs Yoga therapy	-0.53 (-1.20, 0.13)	0.08 (-0.46, 0.61)	-0.16 (-0.58, 0.26)	0.16
	Relaxation therapy vs Education and support of person with cancer	-0.31 (-1.10, 0.51)	-0.02 (-0.67, 0.63)	-0.29 (-0.78, 0.21)	0.58
	Relaxation therapy vs Massage and touch therapy	0.14 (-0.70, 0.98)	0.27 (-0.74, 1.30)	0.17 (-0.52, 0.86)	0.84
Depression (non-pharmacological interventions)	Massage and touch therapy vs Usual care	-0.50 (-1.40, 0.42)	-0.91 (-1.80, -0.03)	-0.69 (-1.30, -0.09)	0.53
	Relaxation therapy vs Usual care	-0.23 (-0.85, 0.39)	-0.48 (-1.20, 0.19)	-0.38 (-0.82, 0.07)	0.59
	SME and CSE for negative emotions vs Usual care	-0.52 (-0.76, -0.29)	0.07 (-0.86, 0.99)	-0.49 (-0.72, -0.26)	0.22
	Meaning Centered Psychotherapy vs Usual care	-0.47 (-0.94, -0.01)	-0.02 (-1.20, 1.10)	-0.39 (-0.79, 0.01)	0.48
	Supportive psychotherapy vs Usual care	-0.20 (-0.51, 0.10)	-0.32 (-0.90, 0.26)	-0.24 (-0.49, 0.02)	0.73
	Yoga therapy vs Usual care	-0.36 (-0.83, 0.12)	0.29 (-0.34, 0.92)	-0.12 (-0.51, 0.26)	0.11
	Education and support of person with cancer vs Usual care	-0.23 (-0.38, -0.08)	-0.38 (-0.69, -0.07)	-0.26 (-0.41, -0.12)	0.39
	Cognitive behavioural therapy vs Usual care	-0.62 (-0.91, -0.33)	-0.51 (-0.95, -0.08)	-0.60 (-0.84, -0.36)	0.68
	Relaxation therapy vs Massage and touch therapy	0.14 (-0.62, 0.90)	0.57 (-0.45, 1.60)	0.31 (-0.35, 0.98)	0.51
	Meaning Centered Psychotherapy vs Massage and touch therapy	0.47 (-0.29, 1.20)	0.06 (-0.88, 0.98)	0.30 (-0.29, 0.89)	0.50

Education and support of person with cancer vs Dignity therapy	0.07 (-0.62, 0.77)	-0.36 (-1.30, 0.54)	-0.15 (-0.67, 0.37)	0.45
Education and support of person with cancer vs Relaxation therapy	0.31 (-0.45, 1.10)	0.02 (-0.59, 0.64)	0.12 (-0.34, 0.57)	0.56
Cognitive behavioural therapy vs Relaxation therapy	-0.22 (-0.93, 0.48)	-0.29 (-0.94, 0.36)	-0.22 (-0.69, 0.25)	0.89
Education and support of person with cancer vs SME and CSE for negative emotions	-0.32 (-1.20, 0.60)	0.27 (0.01, 0.55)	0.23 (-0.04, 0.49)	0.22
Supportive psychotherapy vs Meaning Centered Psychotherapy	0.09 (-0.41, 0.59)	0.33 (-0.47, 1.10)	0.15 (-0.27, 0.57)	0.62
Education and support of person with cancer vs Supportive psychotherapy	0.04 (-0.40, 0.47)	-0.07 (-0.42, 0.29)	-0.03 (-0.30, 0.25)	0.71
Education and support of person with cancer vs Yoga therapy	-0.53 (-1.1, 0.08)	0.11 (-0.38, 0.61)	-0.14 (-0.53, 0.25)	0.11
Cognitive behavioural therapy vs Education and support of person with cancer	-0.44 (-0.80, -0.08)	-0.21 (-0.56, 0.14)	-0.33 (-0.58, -0.09)	0.38

SME and CSE for negative emotions = Symptom management education and coping skills for negative emotions.

	Rank 1 st	Rank 2 nd	Rank 3 rd	Rank 4 th	Rank 5 th	Rank 6 th	Rank 7 th	Rank 8 th
Usual care	0.00	0.00	0.00	0.00	0.01	0.10	0.43	0.46
Psychotherapy	0.04	0.22	0.46	0.23	0.05	0.01	0.00	0.00
Yoga therapy	0.01	0.02	0.04	0.07	0.11	0.17	0.22	0.36
Education and support of person with cancer	0.00	0.01	0.05	0.23	0.37	0.27	0.07	0.00
Exercise	0.01	0.02	0.06	0.18	0.27	0.28	0.15	0.03
Massage and touch therapy	0.64	0.20	0.08	0.04	0.02	0.01	0.01	0.00
Music therapy	0.08	0.12	0.13	0.15	0.13	0.14	0.11	0.13
Relaxation therapy	0.22	0.41	0.18	0.10	0.05	0.03	0.01	0.00

Depression (Age≥55)	Rank Probability (%)						
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	Rank 1 st	Rank 2 nd	Rank 3 rd	Rank 4 th	Rank 5 th	Rank 6 th	Rank 7 th
Usual care	0.00	0.00	0.00	0.02	0.12	0.40	0.46
Expressive writing	0.27	0.21	0.12	0.12	0.12	0.09	0.08
Psychotherapy	0.09	0.23	0.28	0.25	0.12	0.03	0.00
Yoga therapy	0.12	0.12	0.09	0.11	0.16	0.16	0.24
Education and support of person with cancer	0.06	0.21	0.31	0.26	0.13	0.03	0.00
Reminiscence therapy	0.42	0.15	0.09	0.09	0.09	0.07	0.09
Exercise	0.04	0.08	0.10	0.16	0.26	0.23	0.13

Depression (Non-breast cancer or multiple cancer types)	Rank Probability (%)									
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	Rank 1 st	Rank 2 nd	Rank 3 rd	Rank 4 th	Rank 5 th	Rank 6 th	Rank 7 th	Rank 8 th	Rank 9 th	Rank 10 th
Usual care	0.00	0.00	0.00	0.00	0.01	0.04	0.14	0.30	0.35	0.16
Expressive writing	0.12	0.11	0.09	0.08	0.08	0.08	0.08	0.08	0.11	0.17
Psychotherapy	0.03	0.14	0.26	0.26	0.18	0.09	0.03	0.01	0.00	0.00
Yoga therapy	0.06	0.09	0.09	0.09	0.09	0.10	0.11	0.11	0.12	0.14
Education and support of person with cancer	0.00	0.02	0.06	0.14	0.22	0.25	0.19	0.09	0.02	0.00
Reminiscence therapy	0.22	0.17	0.12	0.09	0.08	0.07	0.07	0.06	0.06	0.06
Exercise	0.01	0.03	0.06	0.09	0.13	0.16	0.18	0.16	0.11	0.06
Massage and touch therapy	0.41	0.23	0.12	0.07	0.05	0.04	0.03	0.02	0.01	0.01
Music therapy	0.07	0.07	0.07	0.06	0.06	0.07	0.08	0.09	0.12	0.31
Relaxation therapy	0.07	0.13	0.12	0.11	0.10	0.10	0.10	0.09	0.09	0.09

Depression (Breast cancer)		Rank Probability (%)							
		Rank 1 st	Rank 2 nd	Rank 3 rd	Rank 4 th	Rank 5 th	Rank 6 th	Rank 7 th	Rank 8 th
	Usual care	0.00	0.00	0.00	0.00	0.01	0.11	0.41	0.47
	Expressive writing	0.08	0.20	0.20	0.11	0.10	0.11	0.09	0.11
	Psychotherapy	0.01	0.15	0.38	0.31	0.12	0.03	0.01	0.00
	Yoga therapy	0.00	0.03	0.06	0.07	0.10	0.17	0.25	0.32
Education and support of person with cancer		0.00	0.01	0.09	0.26	0.37	0.23	0.05	0.00
	Exercise	0.00	0.03	0.10	0.18	0.24	0.28	0.15	0.02
	Music therapy	0.29	0.30	0.11	0.06	0.05	0.06	0.05	0.07
	Relaxation therapy	0.62	0.28	0.06	0.02	0.01	0.01	0.00	0.00

Depression (Intervention duration <12 weeks)		Rank Probability (%)								
		Rank 1 st	Rank 2 nd	Rank 3 rd	Rank 4 th	Rank 5 th	Rank 6 th	Rank 7 th	Rank 8 th	Rank 9 th
Education and support of person with cancer	Usual care	0.00	0.00	0.00	0.00	0.01	0.08	0.29	0.42	0.20
	Psychotherapy	0.02	0.09	0.22	0.29	0.23	0.12	0.03	0.00	0.00
	Yoga therapy	0.01	0.03	0.05	0.06	0.08	0.14	0.19	0.19	0.25
	Reminiscence therapy	0.01	0.05	0.13	0.22	0.27	0.21	0.09	0.02	0.00
	Exercise	0.24	0.17	0.13	0.09	0.09	0.09	0.07	0.06	0.07
	Massage and touch therapy	0.01	0.03	0.04	0.05	0.07	0.11	0.15	0.18	0.36
	Music therapy	0.43	0.24	0.12	0.07	0.05	0.04	0.03	0.01	0.01
	Relaxation therapy	0.10	0.12	0.12	0.10	0.10	0.13	0.12	0.10	0.11
		0.18	0.28	0.20	0.12	0.09	0.07	0.04	0.02	0.01

Depression (Intervention duration ≥12 weeks)		Rank Probability (%)				
	Rank 1 st	Rank 2 nd	Rank 3 rd	Rank 4 th	Rank 5 th	Rank 6 th
Usual care	0.00	0.00	0.00	0.02	0.25	0.73
Expressive writing	0.26	0.18	0.15	0.15	0.17	0.09
Psychotherapy	0.44	0.38	0.14	0.03	0.01	0.00
Yoga therapy	0.24	0.14	0.12	0.13	0.19	0.17
Education and support of person with cancer	0.01	0.13	0.35	0.36	0.15	0.00
Exercise	0.05	0.16	0.24	0.29	0.25	0.01

Depression (No or mild depression)		Rank Probability (%)									
		Rank 1 st	Rank 2 nd	Rank 3 rd	Rank 4 th	Rank 5 th	Rank 6 th	Rank 7 th	Rank 8 th	Rank 9 th	Rank 10 th
	Usual care	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.06	0.32	0.62
	Expressive writing	0.01	0.07	0.19	0.20	0.11	0.09	0.11	0.11	0.07	0.04
	Psychotherapy	0.00	0.01	0.07	0.21	0.29	0.24	0.13	0.04	0.01	0.00
	Yoga therapy	0.00	0.00	0.02	0.05	0.06	0.07	0.13	0.22	0.28	0.17
Education and support of person with cancer		0.00	0.00	0.03	0.13	0.26	0.29	0.19	0.07	0.01	0.00
	Reminiscence therapy	0.08	0.18	0.27	0.13	0.07	0.06	0.06	0.07	0.05	0.04
	Exercise	0.00	0.00	0.02	0.06	0.09	0.15	0.25	0.28	0.14	0.01
	Massage and touch therapy	0.37	0.34	0.14	0.05	0.02	0.02	0.02	0.02	0.01	0.01
	Music therapy	0.02	0.07	0.15	0.14	0.09	0.07	0.10	0.13	0.11	0.13
	Relaxation therapy	0.52	0.32	0.10	0.03	0.01	0.01	0.01	0.00	0.00	0.00

Depression (Moderate or severe depression)		Rank Probability (%)				
	Rank 1 st	Rank 2 nd	Rank 3 rd	Rank 4 th	Rank 5 th	Rank 6 th
Usual care	0.00	0.01	0.09	0.25	0.39	0.26
Psychotherapy	0.67	0.24	0.07	0.02	0.00	0.00
Education and support of person with cancer	0.01	0.16	0.25	0.27	0.19	0.12
Exercise	0.06	0.17	0.18	0.18	0.15	0.26
Massage and touch therapy	0.20	0.24	0.17	0.11	0.11	0.17
Relaxation therapy	0.06	0.18	0.24	0.18	0.16	0.19

Depression (pharmacological interventions)		Rank Probability (%)									
		Rank 1 st	Rank 2 nd	Rank 3 rd	Rank 4 th	Rank 5 th	Rank 6 th	Rank 7 th	Rank 8 th	Rank 9 th	Rank 10 th
	Placebo	0.00	0.00	0.00	0.01	0.02	0.07	0.16	0.29	0.32	0.14
	Mirtazapine and methylphenidate	0.90	0.05	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00
	Mirtazapine	0.00	0.25	0.28	0.19	0.11	0.06	0.04	0.03	0.02	0.01
	Imipramine	0.00	0.01	0.03	0.05	0.07	0.09	0.10	0.11	0.15	0.39
	Fluoxetine	0.00	0.02	0.06	0.14	0.24	0.23	0.14	0.08	0.05	0.03
	Paroxetine	0.00	0.00	0.01	0.03	0.07	0.16	0.25	0.24	0.16	0.08
	Desipramine	0.01	0.04	0.07	0.11	0.14	0.14	0.12	0.11	0.13	0.15
	Mianserin	0.05	0.46	0.23	0.11	0.06	0.03	0.02	0.01	0.01	0.01
	Methylphenidate	0.02	0.12	0.21	0.24	0.15	0.10	0.06	0.04	0.03	0.03

Bupropion	0.01	0.05	0.08	0.11	0.13	0.13	0.11	0.10	0.12	0.16
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Depression (Age < 55)		Rank Probability (%)					
	Rank 1 st	Rank 2 nd	Rank 3 rd	Rank 4 th	Rank 5 th	Rank 6 th	Rank 7 th
Placebo	0.00	0.01	0.07	0.20	0.31	0.29	0.11
Mirtazapine	0.30	0.33	0.16	0.09	0.06	0.05	0.02
Imipramine	0.02	0.07	0.13	0.13	0.13	0.16	0.36
Fluoxetine	0.09	0.15	0.20	0.17	0.13	0.12	0.14
Paroxetine	0.02	0.06	0.14	0.20	0.21	0.21	0.17
Desipramine	0.07	0.13	0.18	0.16	0.14	0.15	0.18
Mianserin	0.50	0.24	0.11	0.06	0.03	0.03	0.02

Depression (Age≥55)		Rank Probability (%)				
	Rank 1 st	Rank 2 nd	Rank 3 rd	Rank 4 th	Rank 5 th	
Placebo	0.00	0.03	0.16	0.41	0.41	
Fluoxetine	0.23	0.37	0.24	0.10	0.07	
Paroxetine	0.06	0.14	0.27	0.30	0.23	
Methylphenidate	0.53	0.26	0.12	0.05	0.04	
Bupropion	0.18	0.21	0.22	0.14	0.25	

Depression (Non-breast cancer or multiple cancer types)		Rank Probability (%)				
	Rank 1 st	Rank 2 nd	Rank 3 rd	Rank 4 th	Rank 5 th	
Placebo	0.00	0.02	0.12	0.40	0.46	
Fluoxetine	0.15	0.41	0.30	0.10	0.04	
Paroxetine	0.05	0.13	0.28	0.33	0.21	
Methylphenidate	0.61	0.22	0.10	0.04	0.03	
Bupropion	0.19	0.22	0.20	0.13	0.26	

Depression (Breast cancer)		Rank Probability (%)			
	Rank 1 st	Rank 2 nd	Rank 3 rd	Rank 4 th	
Placebo	0.02	0.24	0.37	0.38	
Paroxetine	0.05	0.27	0.38	0.31	

Desipramine	0.14	0.37	0.21	0.28
Mianserin	0.79	0.12	0.05	0.04

Depression (Intervention duration <12 weeks)		Rank Probability (%)								
	Rank 1 st	Rank 2 nd	Rank 3 rd	Rank 4 th	Rank 5 th	Rank 6 th	Rank 7 th	Rank 8 th	Rank 9 th	Rank 10 th
Placebo	0.00	0.00	0.01	0.02	0.07	0.16	0.25	0.27	0.17	0.05
Mirtazapine and methylphenidate	0.78	0.10	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00
Mirtazapine	0.01	0.23	0.24	0.18	0.12	0.07	0.05	0.04	0.04	0.02
Imipramine	0.01	0.02	0.05	0.07	0.10	0.10	0.11	0.11	0.15	0.28
Fluoxetine	0.02	0.06	0.09	0.12	0.15	0.14	0.11	0.10	0.10	0.10
Paroxetine	0.00	0.01	0.02	0.04	0.07	0.11	0.15	0.19	0.22	0.18
Desipramine	0.02	0.04	0.07	0.10	0.12	0.13	0.12	0.11	0.14	0.16
Mianserin	0.09	0.34	0.20	0.13	0.08	0.05	0.03	0.03	0.02	0.02
Methylphenidate	0.05	0.13	0.18	0.19	0.14	0.10	0.06	0.05	0.05	0.05
Bupropion	0.03	0.07	0.10	0.12	0.13	0.12	0.10	0.09	0.11	0.14

Depression (No or mild depression)		Rank Probability (%)			
	Rank 1 st	Rank 2 nd	Rank 3 rd	Rank 4 th	
Placebo	0.00	0.05	0.34	0.61	
Fluoxetine	0.52	0.31	0.12	0.05	
Paroxetine	0.16	0.41	0.36	0.07	
Bupropion	0.32	0.23	0.17	0.28	

Depression (Moderate or severe depression)		Rank Probability (%)							
	Rank 1 st	Rank 2 nd	Rank 3 rd	Rank 4 th	Rank 5 th	Rank 6 th	Rank 7 th	Rank 8 th	Rank 9 th
Placebo	0.00	0.00	0.02	0.06	0.16	0.31	0.29	0.13	0.03
Mirtazapine and methylphenidate	0.75	0.11	0.05	0.03	0.02	0.01	0.01	0.01	0.01
Mirtazapine	0.01	0.25	0.26	0.19	0.11	0.07	0.05	0.04	0.02
Imipramine	0.01	0.03	0.06	0.10	0.13	0.14	0.17	0.18	0.19
Fluoxetine	0.03	0.07	0.11	0.15	0.20	0.14	0.12	0.10	0.09
Paroxetine	0.01	0.02	0.03	0.04	0.06	0.07	0.11	0.21	0.45
Desipramine	0.02	0.04	0.06	0.09	0.11	0.12	0.15	0.25	0.15
Mianserin	0.11	0.34	0.21	0.13	0.08	0.05	0.04	0.03	0.02

Methylphenidate	0.06	0.14	0.20	0.22	0.14	0.08	0.07	0.05	0.04
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SME and CSE for negative emotions = Symptom management education and coping skills for negative emotions.

Relaxation therapy	0.54
Expressive writing	0.47
SME and CSE for negative emotions	0.69
Meaning Centered Psychotherapy	0.55
Supportive psychotherapy	0.36
Yoga therapy	0.24
Education and support of person with cancer	0.40
Cognitive behavioural therapy	0.80
Mindfulness	0.52
Reminiscence therapy	0.99

SME and CSE for negative emotions = Symptom management education and coping skills for negative emotions.
The SUCRA of 1 represents the best and 0 represents the worst.

Supplementary Table 11 Meta-regression analysis showing the association between publication year, age, gender, sample size, duration of intervention and the depression.

Covariates	non-pharmacological interventions (Publication Year)	non-pharmacological interventions (Gender)	non-pharmacological interventions (Sample size)
B (95%CI)	-0.16 (-0.35, 0.03)	0.06 (-0.14, 0.27)	0.15 (-0.05, 0.34)
Covariates	pharmacological interventions (Publication Year)	pharmacological interventions (Gender)	pharmacological interventions (Sample size)
B (95%CI)	-0.06 (-2.43, 2.42)	0.13 (-1.44, 1.80)	-0.10 (-1.20, 0.93)

All the studies included were assessed for publication year and baseline clinical characteristics, including gender (male or female), sample size. Meta-regression analysis is performed based on these covariates. B (Beta) is the regression coefficient. The 95% confidence interval (CI) included 0, the covariate was considered to be not statistically significant.

Supplementary Table 12. Network meta-analysis of non-pharmacological interventions for direct and indirect comparisons by CINeMA approach.

Comparison	Number of studies	Within-study bias	Reporting bias	Indirectness	Imprecision	Heterogeneity	Incoherence	Confidence rating
Education and support of person with cancer vs Expressive writing	2	No concerns	Low risk	No concerns	Major concerns	No concerns	No concerns	Low
Education and support of person with cancer vs Psychotherapy	9	Some concerns	Low risk	No concerns	No concerns	Major concerns	No concerns	Low
Education and support of person with cancer vs Relaxation therapy	1	Some concerns	Low risk	No concerns	Major concerns	No concerns	No concerns	Low
Education and support of person with cancer vs Reminiscence therapy	1	Some concerns	Some concerns	No concerns	Major concerns	No concerns	No concerns	Low
Education and support of person with cancer vs Usual care	22	Some concerns	Low risk	No concerns	No concerns	Major concerns	No concerns	Low
Education and support of person with cancer vs Yoga therapy	2	Some concerns	Low risk	No concerns	Major concerns	No concerns	No concerns	Low
Exercise vs Usual care	13	Some concerns	Some concerns	No concerns	No concerns	Major concerns	No concerns	Low
Massage and touch therapy vs Psychotherapy	1	Some concerns	Low risk	No concerns	Major concerns	No concerns	No concerns	Low
Massage and touch therapy vs Relaxation therapy	1	Some concerns	Low risk	No concerns	Major concerns	No concerns	No concerns	Low
Massage and touch therapy vs Usual care	1	Some concerns	Low risk	No concerns	Major concerns	No concerns	No concerns	Low
Music therapy vs Usual care	2	Major concerns	Some concerns	No concerns	Major concerns	No concerns	No concerns	Very low
Psychotherapy vs Relaxation therapy	1	Some concerns	Low risk	No concerns	Major concerns	No concerns	No concerns	Low
Psychotherapy vs Usual care	37	Some concerns	Low risk	No concerns	No concerns	Major concerns	No concerns	Low
Relaxation therapy vs Usual care	2	Some concerns	Low risk	No concerns	Major concerns	No concerns	No concerns	Low
Reminiscence therapy vs Usual care	1	Some concerns	Low risk	No concerns	Major concerns	No concerns	No concerns	Low
Yoga therapy vs Usual care	3	Some concerns	Some concerns	No concerns	No concerns	Major concerns	No concerns	Low
Education and support of person with cancer vs Exercise	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Education and support of person with cancer vs Massage and touch therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Education and support of person with cancer vs Music therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Exercise vs Expressive writing	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Exercise vs Massage and touch therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Exercise vs Music therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Exercise vs Psychotherapy	0	Some concerns	-	No concerns	No concerns	Major concerns	No concerns	Low
Exercise vs Relaxation therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Exercise vs Reminiscence therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Exercise vs Yoga therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Expressive writing vs Massage and touch therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Expressive writing vs Music therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Expressive writing vs Psychotherapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Expressive writing vs Relaxation therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Expressive writing vs Reminiscence therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Expressive writing vs Usual care	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Expressive writing vs Yoga therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Massage and touch therapy vs Music therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Massage and touch therapy vs Reminiscence therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Massage and touch therapy vs Yoga therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Music therapy vs Psychotherapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Music therapy vs Relaxation therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Music therapy vs Reminiscence therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Music therapy vs Yoga therapy	0	Major concerns	-	No concerns	Major concerns	No concerns	No concerns	Very low
Psychotherapy vs Reminiscence therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Psychotherapy vs Yoga therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Relaxation therapy vs Reminiscence therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Relaxation therapy vs Yoga therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Reminiscence therapy vs Yoga therapy	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low

Supplementary Table 13. Network meta-analysis of pharmacological interventions for direct and indirect comparisons by CINeMA approach.

Comparison	Number of studies	Within-study bias	Reporting bias	Indirectness	Imprecision	Heterogeneity	Incoherence	Confidence rating
Bupropion vs Placebo	1	Some concerns	Some concerns	No concerns	Major concerns	No concerns	No concerns	Low
Desipramine vs Paroxetine	1	Some concerns	Some concerns	No concerns	Major concerns	No concerns	No concerns	Low
Desipramine vs Placebo	1	Some concerns	Some concerns	No concerns	Major concerns	No concerns	No concerns	Low
Fluoxetine vs Placebo	2	Major concerns	Some concerns	No concerns	No concerns	Major concerns	No concerns	Very low
Imipramine vs Mirtazapine	1	Some concerns	Some concerns	No concerns	No concerns	Major concerns	No concerns	Low
Imipramine vs Placebo	1	Some concerns	Some concerns	No concerns	Major concerns	No concerns	No concerns	Low
Methylphenidate vs Placebo	1	Major concerns	Some concerns	No concerns	No concerns	Major concerns	No concerns	Very low
Mianserin vs Placebo	1	Major concerns	Some concerns	No concerns	No concerns	Major concerns	No concerns	Very low
Mirtazapine vs Mirtazapine and methylphenidate	1	Some concerns	Some concerns	No concerns	No concerns	No concerns	No concerns	Low
Mirtazapine vs Placebo	1	Some concerns	Some concerns	No concerns	No concerns	Major concerns	No concerns	Low
Paroxetine vs Placebo	3	Some concerns	Some concerns	No concerns	Major concerns	No concerns	No concerns	Low
Bupropion vs Desipramine	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Bupropion vs Fluoxetine	0	Major concerns	-	No concerns	Major concerns	No concerns	No concerns	Very low
Bupropion vs Imipramine	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Bupropion vs Methylphenidate	0	Major concerns	-	No concerns	Major concerns	No concerns	No concerns	Very low
Bupropion vs Mianserin	0	Major concerns	-	No concerns	Major concerns	No concerns	No concerns	Very low
Bupropion vs Mirtazapine	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Bupropion vs Mirtazapine and methylphenidate	0	Some concerns	-	No concerns	No concerns	Major concerns	No concerns	Low
Bupropion vs Paroxetine	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Desipramine vs Fluoxetine	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Desipramine vs Imipramine	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Desipramine vs Methylphenidate	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Desipramine vs Mianserin	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Desipramine vs Mirtazapine	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Desipramine vs Mirtazapine and methylphenidate	0	Some concerns	-	No concerns	No concerns	Major concerns	No concerns	Low
Fluoxetine vs Imipramine	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Fluoxetine vs Methylphenidate	0	Major concerns	-	No concerns	Major concerns	No concerns	No concerns	Very low
Fluoxetine vs Mianserin	0	Major concerns	-	No concerns	Major concerns	No concerns	No concerns	Very low
Fluoxetine vs Mirtazapine	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Fluoxetine vs Mirtazapine and methylphenidate	0	Some concerns	-	No concerns	No concerns	Major concerns	No concerns	Low
Fluoxetine vs Paroxetine	0	Major concerns	-	No concerns	Major concerns	No concerns	No concerns	Very low
Imipramine vs Methylphenidate	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Imipramine vs Mianserin	0	Some concerns	-	No concerns	No concerns	Major concerns	No concerns	Low
Imipramine vs Mirtazapine and methylphenidate	0	Some concerns	-	No concerns	No concerns	No concerns	No concerns	Low
Imipramine vs Paroxetine	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Methylphenidate vs Mianserin	0	Major concerns	-	No concerns	Major concerns	No concerns	No concerns	Very low
Methylphenidate vs Mirtazapine	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Methylphenidate vs Mirtazapine and methylphenidate	0	Some concerns	-	No concerns	No concerns	Major concerns	No concerns	Low
Methylphenidate vs Paroxetine	0	Major concerns	-	No concerns	Major concerns	No concerns	No concerns	Very low
Mianserin vs Mirtazapine	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Mianserin vs Mirtazapine and methylphenidate	0	Some concerns	-	No concerns	No concerns	Major concerns	No concerns	Low
Mianserin vs Paroxetine	0	Major concerns	-	No concerns	No concerns	Major concerns	No concerns	Very low
Mirtazapine vs Paroxetine	0	Some concerns	-	No concerns	Major concerns	No concerns	No concerns	Low
Mirtazapine and methylphenidate vs Paroxetine	0	Some concerns	-	No concerns	No concerns	No concerns	No concerns	Low
Mirtazapine and methylphenidate vs Placebo	0	Some concerns	-	No concerns	No concerns	No concerns	No concerns	Low