

EFFECT OF SPIRITUAL CARE INTERVENTIONS ON BEREAVEMENT OUTCOMES AMONG CAREGIVERS OF PALLIATIVE PATIENTS: A SYSTEMATIC REVIEW

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ABSTRACT

Objective

This review examined the acceptability, feasibility, and efficacy of spirituality-integrated interventions for carers (CGs) of terminally ill or palliative patients, as well as the components that need to be modified to meet their psychological needs better.

Materials and methods

The review is consistent with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) criteria. We searched Scopus, PubMed, and Web of Science for research on spiritually integrated therapies and CGs from January 2016 to August 2025. Google Scholar and relevant article bibliographies were checked for additional qualifiers. Two researchers assessed the titles, abstracts, and full texts of prospective qualifying papers. The collective discussion resolved conflicts. The updated Cochrane Collaboration's methodology 2.0 was employed to classify the total risk of bias (RoB) for each reviewed investigation as low risk, some concerns, or high risk.

Results

A search of electronic databases revealed 233 studies, and 63 duplicates were removed. This led to 170 title and abstract screening investigations. For full-text evaluation, 53 publications met the inclusion criteria. The review included 21 RCTs on spiritually integrated therapies for CGs. The evaluated studies showed that CGs participating in a spirituality-based intervention improved their emotional, physical, and spiritual well-being. Five of 21 RCTs examined using RoB 2.0 had high RoB, nine had some concerns, and seven had low RoB.

Conclusion

The majority of CGs indicated an enhanced feeling of spiritual wellness and better physical and mental health in caring situations in comparison to control settings.

Keywords

Caregivers, End-of-life care, Mindfulness, Palliative care, Spirituallyintegrated

INTRODUCTION

Patients and their families often feel distressed by terminal illnesses requiring palliative care (PC). Terminal sickness causes physical symptoms such as pain, nausea, and dyspnoea and mental ones like depression, social isolation, and spiritual suffering. Professional evaluation and aid for physical, mental, and social anguish are common, but spiritual distress is disregarded.^{1,2} Spiritual discomfort can increase anxiety or futility, and question personal values and beliefs for many people.³ Specialised PC programs provide spiritual treatment through interdisciplinary healthcare specialists, including clinicians. The team is better than a conventional PC at solving complex physical, emotional, and spiritual issues due to their training. The World Health Organisation,⁴ PC Australia,⁵ and

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European Association for Palliative Care⁶ recognise the need for spiritual care. New research suggests that spirituality is “the dynamic aspect of human existence that has to do with how people (both individually and collectively) feel, express, and/or seek transcendence, meaning, and purpose, as well as how they relate to the present, to themselves, to others, to nature, to the significant and/or sacred” despite ongoing ambiguity.⁷

Spiritual care includes existential, psychological, religious, and social/interpersonal components to reduce spiritual discomfort.⁸ Dignity therapy, life review, meaning-centred therapies, fostering hope, meditation, mindfulness-based stress reduction, and yoga are the main spiritual care modalities identified in a recent study.⁷ If professionals who provide care acknowledge spirituality as a fundamental part of their clinical practice but lack the knowledge, innate abilities, specialised training, and time to provide spiritual care tailored to the person’s needs and preferences, there are gaps in theory and practice. Spiritual care competency aligns the profile and skills needed for carers. This skill may aid excellent spiritual care.⁹

Carers (CGs) typically work without support and are overlooked, even though their psychological state might affect patients’ clinical and emotional well-being, who rely on them for management and support.¹⁰ Thus, giving them psychological abilities to manage stressful events is vital to their well-being and the mental health of patients, emphasising the importance of therapies for this group. Psychosocial therapy for CGs has shown that psychological correlate teaching is effective.¹¹ Oncology caretakers have recently been interested in mindfulness-based therapies (MBI).

Mindfulness-based stress reduction (MBSR) and its cancer-specific counterpart, the mindfulness cancer recovery program (MBCR), have been shown to assist CGs.¹² However, most research has concentrated on patients and disregarded CGs.¹³ Non-pharmacological mindfulness-based breathing treatments with music may reduce caregiving stress, burden, and burnout.¹⁴ Being rather than doing is the heart of spiritual care, which can alter clients and practitioners. Spiritual care integrates compassion and spirituality as much as care itself, creating a holistic approach. There are a few frameworks for formulating and assessing spiritual care indicators.¹⁵ This review examined the acceptability, feasibility, and efficacy of spirituality-integrated interventions for CGs of terminally ill patients or those

receiving PC, as well as the components that need to be modified to better meet the psychological needs of this unique caregiving group.

MATERIALS AND METHODS

The review adheres to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) criteria.¹⁶

Research question

The research question was, “Are spiritually-integrated interventions viable, acceptable, and efficacious in alleviating the burden, enhancing quality of life, and mitigating psychological distress among CGs of PC patients with terminal illnesses?”

Sources of Information and Search Methodology

Research examining the effects of spiritually integrated therapies on CGs, published between January 2016 and August 2025, was obtained from the Scopus, PubMed, and Web of Science databases. The literature searches employed the subsequent terms: (“Spiritual care” OR “Spiritually-integrated” OR “mindfulness-based” OR “stress reduction” OR “MBCT” OR “MBSR”) AND (“caregivers” OR “family caregivers” OR “caregiving” OR “informal caregiver” OR “family carer”) AND (“palliative care” OR “hospice care” OR “terminal care” OR “palliative medicine” OR “palliative assistance” OR “ambulatory assistance”). The bibliographies of relevant articles and Google Scholar were scrutinised for further qualifying works. Two distinct researchers reviewed the titles, abstracts, and complete texts of potentially qualifying studies. Conflicts were resolved through collective deliberation.

Criteria for Eligibility

The eligibility criteria were formulated employing the PICOS (Population, Intervention, Comparison, Outcomes, and Study design) framework to provide a systematic and comprehensive selection process.

Population: Adult CGs, aged 18 and older, for individuals with terminal illnesses or chronic conditions necessitating PC.

Intervention: Research focusing on the spiritual health of CGs or incorporating a spiritual dimension, such as MBSR, MBCRM MBI, or acceptance-based therapies.

Comparator: Comparison groups either did not receive spiritually-integrated interventions, continued other treatments excluding spiritually-integrated

interventions, or were placed on a waiting list.

Outcome: The study result encompassed assessments of a minimum of one spiritual or existential construct of carers in relation to quality of life, emotional symptoms, distress, wellness, hope, and purpose in life, utilising a formerly validated questionnaire or tools.

Study design: The eligible investigations were randomised controlled trials (RCTs) or employed a random assignment mechanism for participant allocation to intervention and control groups.

Publications that outlined an intervention or assessed its feasibility without reporting CG results were removed, along with case studies, case series, editorial reviews, and cohort studies. Systematic and narrative reviews were eliminated.

Process of Selecting Studies

Initially, two separate specialists assessed titles and abstracts to exclude extraneous content. Secondly, full-text publications of possibly pertinent research were assessed based on the defined criteria. The disagreements among reviewers were reconciled through discussion or by contacting a third expert to reach a consensus.

Data Extraction Procedure

A consistent data extraction form was utilised to document critical features and study results systematically. Two specialists simultaneously collected data on trial design, demographics, intervention techniques, and primary outcomes. The obtained data were verified for reliability, and discrepancies were resolved through iterative conversations.

Evaluation of Study Quality

The updated Cochrane Collaboration's methodology 2.0.¹⁷ was employed to classify the total risk of bias (RoB) for each reviewed investigation as low risk, some concerns, or high risk. A study was considered 'low RoB' if all arenas had low risk, 'some concerns' if at least one field had a concern without a high risk designation in an individual domain, and 'high RoB' if at least one domain had a high RoB or more than one domain had some concerns.

RESULTS

The selection strategy for this review is illustrated in Figure 1. A search of electronic databases revealed 233 studies. 63 duplicates were removed. This led to 170 title and abstract screening investigations. 53

publications met the inclusion criteria for full-text evaluation. 21 RCTs^{13,18-37} examined how spiritually integrated therapies affected CGs. Table 1 outlines the characteristics and intervention strategies of the investigations that were included.

The United States of America presented the highest number of studies (n = 11).^{18,21,25-27,29,31,32,34,36,37} Three of the reviewed investigations were conducted in China,^{20,23,28} and two in Iran,^{13,30} while the remaining studies comprised one each from the Netherlands,³³ Sweden,³⁵ Turkey,¹⁹ Italy,²⁴ and Spain.²² The participants comprised CGs of those with cancer,^{13,18,19,25,27,29,31-34,36} dementia,^{23,28,37} glioblastoma,²¹ glioma,²⁶ heart failure,²⁵ renal failure,³⁰ amyotrophic lateral sclerosis,²⁴ frail elderly individuals,²⁰ and female CGs of chronic diseases.²² Subjects in one of the research studies were sourced from palliative home care.³⁵

Investigations that met the inclusion criteria had diverse measurement tools. The Hospital Anxiety and Depression Scale,^{21,23-25,28,29,31,33,35} Centre for Epidemiological Studies-Depression scale,^{23,26,28,34} Profile of Mood States-Brief,³⁶ and PROMIS scale^{18,25,27,32} for anxiety or depression were used to assess depression, anxiety, and despair. Spiritual health was assessed using the Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being scale (FACIT-SP).^{21,31,32} The Life Attitude Profile-Revised assessed life meaning and purpose.³¹ The Peace, Equanimity, and Acceptance in the Cancer Experience questionnaire (PEACE) assessed sickness acceptance, highlighting challenges and serenity.²⁷ The Linear Analogue Self-Assessment, Satisfaction with Life Scale,²² and Medical Outcomes Study 36-item short version measured quality of life.²⁶ Some studies assessed CGs' physical health, although most focused on patients undergoing therapy. The Brief Fatigue Inventory²⁶ and Health Index showed fatigue was the main physical symptom for CGs.³⁵ The Distress Thermometer was employed to quantify the distress levels of carers.^{27,32}

The short-form Inventory of Complicated Mourning was used to assess CG mourning manifestations.³⁴ The CG Competence Scale and Preparedness for Caregiving Scale assessed caregiving preparedness.³⁵ Six^{13,19,20,24,29,31} of 21 studies used webcasts and multimedia. Four studies^{25,27,32,34} evaluated early PC for spiritual health via phone. Applebaum et al.²¹ combined online and offline interventions. The spiritual health of cancer survivors was positively influenced by the self-administered



web-based Meaning Centred Psychotherapy, as noted by Applebaum et al.,³¹ particularly in the area of deriving meaning and benefits from caregiving. Lapid et al.³⁶ found that a structured multidisciplinary group intervention on life review, meaning and purpose, hope, grief, blessings, and spiritual resources improved the spiritual health of advanced cancer CGs. According to Mosher et al.,²⁷ family CGs of advanced lung cancer patients who received telephone-based Acceptance and Commitment Therapy (ACT) experienced fewer disease-related concerns. Mosher et al.³² observed that telephone-based peer support and coping strategies for patients and CGs did not improve spiritual health. Milbury et al.²⁶ observed that spirituality-integrated caregiving improved physical and emotional fatigue. In two other trials, the drugs dramatically reduced CGs' depression and anxiety.^{31,36} MEANING group existential well-being increased over time, but standard care controls showed little change.¹⁸

According to Sotoudeh et al.,³⁰ the interventions led to a substantial decrease in the perceived burden or distress that CGs experienced. The Dionne-Odom et al.³⁴ experiment is the first to examine how early PC telemedicine helps grieving family CGs. Early PC helps family CGs manage everyday obligations when care recipients are healthier and require less care. Therefore, CGs may be better positioned during this period of reduced stress to learn future skills and knowledge.³⁴ The experimental group may have a better quality of life than the control group due to the MBSR mindfulness program.¹⁹ Pagnini et al.²⁴ found that aware CGs had lower care burden and higher quality of life scores. These findings may affect healthcare workers working with CGs and emphasise the need for mindfulness-based therapy in caring contexts.

Quality of the reviewed studies

The RoB assessment result is shown in Figure 2. Figure 3 illustrates the quality of evidence in the reviewed studies. Five of the 21 RCTs examined using RoB 2.0 had high RoB,^{19,20,24,36,37} nine had some concerns,^{13,21,22,26,29-31,33,35} and seven had low RoB.^{18,23,25,27,28,32,34} Four studies addressed randomisation but provided little or no data, indicating potential bias.^{26,30,31,37} Seven studies^{13,19,22,29,30,33,35} had significant bias concerns due to deviations from the intended interventions, while three studies^{20,24,37} had high RoB due to the lack of participant and personnel blinding. Seven studies^{13,19,22,29,30,33,35} had some bias concerns due to deviations from the intended

interventions, and three studies^{20,24,37} had high RoB due to a lack of participant and personnel blinding. Missing data raised bias concerns in two investigations.^{31,36} Since participants or assessors were aware of their intervention assignment, eight studies had measurement bias concerns.^{13,22,26,30,31,35,36} All studies had low RoB in outcome selection, except one,³⁶ which had significant RoB due to data exclusion in its conclusions.

DISCUSSION

This systematic review examined spirituality-integrated therapy for terminally ill CGs across multiple studies. The current review shows that a spirituality-based intervention can improve CGs' emotional, physical, and spiritual well-being. Previous thorough reviews of CGs of chronically unwell or terminally ill patients support this observation.^{38,39} With a broader definition of spirituality, the study found mindfulness, meditation, meaning, values, purpose, existential concerns, and prayer in the therapies. Different CG groups have different backgrounds, hence their techniques vary. Beyond psycho-social interventions for individuals, groups, and families, the present review found music therapies, meditation, and yoga to reduce CGs' spiritual stress, with most showing promising results. Besides intervention techniques, the study found diversity among spiritual care professionals, including palliative nurses, trained psychologists, therapists, social workers, and clergy. Additionally, the review addressed the implementation of technology-based interventions for carers of terminally ill individuals, including telephone conversations,^{25,27,32,34} social media platforms, and webcasts.^{13,19-21,24,29,31} Research on terminally ill patients and their CGs has been underfunded, forcing investigators to provide retrospective data, case reports, and smaller pilot studies instead of multisite RCTs.³⁹ Due to inadequate descriptions of randomisation procedures, a lack of blinding, and outcome measurement methods in many reviewed studies, five studies had high RoB^{19,20,24,36,37} and nine studies^{13,21,22,26,29-31,33,35} raised concerns about study quality.

Spiritual health is now recognised as a critical factor that impacts the quality of life of individuals who are undergoing specialised PC.¹ Over the past decade, clinical studies⁴⁰ and systematic reviews^{1,41,42} have

shown that spiritual care interventions improve inner peace,⁷ a sense of belonging, and a sense of meaning, purpose, and value in life. CGs of patients with chronic illnesses face a variety of challenges, such as financial and social concerns, access to services, respite care, individual counselling requirements, and assistance with caregiving responsibilities. MBIs improve attention, emotion control, positive affect, adaptive coping, and self-compassion, potentially boosting psychological aspects. Thus, while MBIs may be more effective and quantifiable in treating stress, anxiety, and depression, they may struggle to improve health-related quality of life, which is affected by many physical, psychological, financial, and social factors. Consequently, further research is necessary to improve understanding of the impact of MBIs on the quality of life of the CGs.³⁸

Meaning-Centered Psychotherapy (MCP) improves spiritual health and reduces existential distress in advanced cancer patients⁴³ and has been extended to CGs. Meaning-Centered Psychotherapy for Cancer CGs (MCP-C) helps CGs find meaning and purpose in caregiving.⁴⁴ MCP-C helps CGs understand how meaning may be resources, reduce strain, and reduce despair, especially in end-of-life care.^{21,31} Acceptance and Commitment Therapy (ACT) enhances psychological flexibility to reduce the interference of challenging thoughts, emotions, and symptoms with meaningful activities, unlike traditional cognitive-behavioural therapy, which aims to alleviate symptoms and modify maladaptive emotions.^{45,46} Psychological flexibility involves understanding the present while acting on core values.⁴⁷ Hayes et al.⁴⁸ found that the ACT paradigm states that mindfulness, perspective-taking, acceptance, cognitive defusion, value transparency, and committed action increase psychological flexibility.

According to this review, PC should prioritise spiritual care competency development. Spirituality is crucial for everyone and reduces pain in this atmosphere. Professionals must understand patients' and families' spiritual demands while meeting their own, which deserve respect. Professionals recognise the need for spiritual growth for emotional and professional growth. Professionals must practise self-care and self-awareness to meet patient, family, and colleague needs. Those who are uncomfortable with spirituality will be unable to use appropriate spiritual care practices, worsening the suffering of patients, families, and

themselves. Implementing structured educational and training programs to improve professionals' spiritual awareness, knowledge, and attitudes will foster spiritual intelligence, humility, and ongoing critical reflection on their professional and personal spiritual experiences. This investment in undergraduate and postgraduate education will improve students' spiritual care to patients and families. An eclectic approach that embraces diversity in society is needed.^{15,49}

This study indicates that spiritually-integrated therapies, such as Mindfulness-Based Stress Reduction (MBSR), can enhance caregivers' mental health in the short term, but their long-term effectiveness is uncertain, warranting further research. It is important to consider caregivers' traits, such as independence and care needs, as these may influence stress levels and overall quality of life. Spiritual treatment should be routinely included in healthcare planning for specialised palliative care due to its positive impact on spiritual and psychological health. Many terminally ill patients face psychoexistential anxiety, necessitating systematic provision of spiritual interventions as standard care.³ Qualified interdisciplinary palliative care professionals, including nurses and social workers, should regularly administer these services.⁵⁰⁻⁵⁵ Collaboration among local hospice facilities and mental health institutions is essential for ensuring the availability of spiritual care, particularly in cases of increased distress.⁵¹ Our study indicates that spiritual care treatments benefit patients in PC, though the most effective therapies at various stages are still unclear. Future research should explore optimal frequency and dosage of spirituality-integrated therapies, such as biweekly dignity therapy with shorter sessions, to better inform clinical trial designs and treatment outcomes while aligning with patients' religious and cultural beliefs.

CONCLUSION

This review identified evidence supporting spirituality-integrated therapies for CGs of terminally ill patients receiving PC. The majority of CGs indicated an enhanced feeling of spiritual wellness and better physical and mental health in caring situations in comparison to control settings. The numerous spiritual care interventions found enable healthcare workers to choose personalised spiritual care strategies based on individuals' spiritual requirements and cultural backgrounds to enhance outcomes.

Table 1: Characteristics of the reviewed studies

Author-Year	Study design and location	Sample size	CGs of terminal disease	Spiritual intervention	Outcome measured	Study inference
Mosher et al., 2024(18)	Pilot RCT; USA	33	Advanced cancer	Group-based MBI to Enhance Quality of Life and Promote Advanced Care Planning (MEANING) for patient-CG dyads addressing issues (six weekly 2-hour courses)	CQoLC, Advance Care Planning Engagement Survey, ZBI, PHQ, GAD-7, PROMIS, Sleep Disturbance- Short Form, Mini-MAC, PEACE	MBIs can improve the quality of life and advanced care planning for advanced cancer patients and CGs.
Türkoğlu et al., 2024(19)	RCT; Turkey	104	Advanced cancer	Eight-week online MBSR program	CQOLC, CSS	The training influenced stress reduction and enhanced quality of life.
Sui et al., 2023(20)	Single-blinded pilot RCT; China	32	Frail Older Adults	MBI utilising social media, incorporating mindfulness meditation and self-administered acupressure for 20 minutes daily, five days a week, over a duration of eight weeks.	CPSS, CPSQI, CMAAS, simple frailty questionnaire	The results show that a social media-based MBI using acupressure and meditation can reduce stress in family CGs of fragile ageing people and improve sleep and mindfulness.
Applebaum et al. 2022(21)	Mixed method pilot trial; USA	55	Glioblastoma multiforme	MCP-C (seven-session conducted in-person and internet-based)	DT, LAP-R, ATCS, CRA, HADS, FACIT-Sp-12, FSSQ, BFS	MCP-C initially helped CGs find meaning and purpose in Glioblastoma care despite the limitations.
Yousefi et al., 2022(13)	Pre-test, post-test clinical trial; Iran	24	Advanced Cancer	Virtual (9-week duration, 60-90 minutes each session) E-MBCR with a 3-month post-intervention evaluation	WHO-5 index, CDRS, ZBI	E-MBCR can improve the psychological well-being, coping skills, and internal quality of life of cancer patients' CGs while reducing the mental strain of caregiving during this difficult time.
Fernández-Portero et al., 2021(22)	Double-blinded RCT; Spain	59	CGs (women) for the elderly adults with chronic disease	MABI One 60-minute session every week for a duration of 12 weeks	SWLS, GHQ-12, CDRS, ZBI	MABI reduce family carers' burdens, improving their resilience, well-being, and health.
Kor et al., 2021(23)	RCT; China	56	People with dementia	A modified MBCT program consisting of seven group sessions, each lasting two hours, over a duration of ten weeks.	CPSS, BRS, HADS, CESD, FFMQ-SF, NPI-Q, ZBI (Chinese version)	MBCT effectively diminished stress and enhanced psychological health.
Pagnini et al., 2021(24)	RCT; Italy	11	Amyotrophic lateral sclerosis	An online, non-meditative active learning mindfulness intervention conducted on a specially designed website over a duration of five weeks	ALS- Specific Quality of Life-Revised, HADS, Self-Administered ALS Functional Rating Scale-Revised, SF-36, ZBI	ALS patients and their CGs had better quality of life and less psychological issues after the intervention.
Dionne-Odom et al. 2020(25)	Two-site single blind RCT; USA	158	NYHA class III or IV and/or AHA or ACC stages C or D heart failure	Structured telephonic sessions for psychological and problem-solving help Implement CHF-PC (four weekly meetings lasting 20 to 60 minutes) with the Charting Your Course–CG manual prepared by the study group, together with monthly follow-ups for a duration of 48 weeks.	BCOS, HADS, MBCB, PACS, PROMIS Global Health instrument	Did not demonstrate advantageous impacts for CGs over 16 weeks in comparison to standard care



Author-Year	Study design and location	Sample size	CGs of terminal disease	Spiritual intervention	Outcome measured	Study inference
Milbury et al. 2019(26)	Pilot RCT; USA	10	Glioma	Dyadic yoga (12 sessions, 45 minutes each); guided meditation	CES-D; BFI; SF-36	Enhancements in fatigue, depression, and the mental aspect of quality of life for CGs
Mosher et al. 2019(27)	RCT; USA	25	Advanced stage of lung cancer	Acceptance and Commitment Therapy (ACT) consisting of six 50-minute telephone consultations and accompanying postal materials.	PROMIS; DT; PEACE	Substantial impact on disease management; telephone-based ACT is viable.
Kor et al., 2019(28)	Pilot single-blinded RCT; China	18	People with dementia	Group-oriented, seven-session program (2 hours each) revised MBCT program for a duration of 10 weeks	CPSS, BRS, HADS, CESD, FFMQ-SF, NPI-Q, ZBI (Chinese version)	The MBCT program is a viable and acceptable approach for addressing the daily challenges faced by CGs.
Kubo et al., 2019(29)	RCT; USA	13	Cancer	Access to Headspace, a commercial mindfulness app, for 8 weeks. Headspace classes were required daily during the 8-week intervention.	DT, HADS, PROMIS, FACT-G, CQOLC, FACT-G, BFI, PTGI, FFMQ-SF	CGs in the intervention group were more attentive and valued the convenience and mindfulness skills from the training.
Sotoudeh et al. 2019(30)	RCT; Iran	70	Hemodialysis (kidney failure)	With eight 90-minute sessions biweekly, this family-oriented educational and training program emphasises spirituality and prayer therapy.	ZBI	Substantial short-term reduction in CG stress and no enduring impact
Applebaum et al. 2018(31)	RCT; USA	84	Cancer	Five webcasts and delivered materials for Cancer CG Workshop self-directed care. Focus on spiritual health, especially meaning and purpose.	LAP-R; CRA; HADS; FACIT-SWBS; BFS	Significant increase in caregiving benefits; decrease in depressive symptoms
Mosher et al. 2018(32)	RCT; USA	25	Gastrointestinal cancer	Coping strategies telehealth intervention concentrating on peer assisting task (5, 60-minute, weekly telephone appointments and mailing materials)	FACIT-SP; PROMIS; DT; MOCS; ZBI	The intervention and control groups showed minimal reductions in patient and CG tiredness, anguish, and burden; peer help did not improve spiritual health.
Schellekens et al., 2017(33)	Multicenter, RCT; Netherlands	21	Lung cancer	An 8-week MBSR program, with eight weekly sessions of 2.5 hours each and one 6-hour silent day, together with daily 45-minute at home practice.	HADS, QLQ-C30-GHS, SPPIC, IMS-S, FFMQ, RRS-BR, SCS, IES	CGs appeared to derive no advantage from MBSR.
Dionne-Odom et al. 2016(34)	RCT; USA	44	Cancer (advanced stages)	A structured early palliative intervention (ENABLE III) conducted by telephone (three weekly sessions). Focused session theme on mediation and spirituality	PG13; CESD	A statistically insignificant variation was observed in the outcome measures.
Holm et al. 2016(35)	RCT; Sweden	119	Palliative home care	Group treatment and educational sessions (three, two-hour weekly courses). Examination of existential concerns; priest as a member of the therapeutic panel	PCS; CCS; RCS; CBS; HI; HADS	Minimal readiness and proficiency improvements; no effects on rewards, burden, worry, or sadness.



Author-Year	Study design and location	Sample size	CGs of terminal disease	Spiritual intervention	Outcome measured	Study inference
Lapid et al. 2016(36)	RCT; USA	116	Cancer (advanced stages)	Structured interdisciplinary group intervention on quality of life with six 90-minute sessions over four weeks and 10 phone calls. Spirituality and coping were discussed, along with spiritual health exams.	CQOLC; LASA; POMS-B	Spiritual health and quality of life improved; anxiety, depressive symptoms and fatigue reduced.
Brown et al., 2016(37)	RCT; USA	23	Family caregivers of dementia	An 8-week MBSR intervention comprising weekly sessions of 1.5 to 2 hours each.	AAQ II, PSS, POMS, MOS-SF-36, ZBI, FCI-MS	MBSR does not improve neuroendocrine or psychological health compared to social engagement.

MBI - mindfulness-based intervention; **CG** – Caregiver; **MCPC** - Meaning-Centered Psychotherapy for Cancer Caregivers; **CQoLC** - Caregiver Quality of Life Index-Cancer; **CSS** - Caregiver’s Stress Scale; **DT** - Distress Thermometer; **LAP-R** - Life Attitude Profile-Revised; **WHO-5** - World Health Organization Well-Being Index; **CDRS** - Connor and Davidson resilience scales; **E-MBCR** - Mindfulness-based cancer recovery; **CPSS** - Chinese version of the Perceived Stress Scale; **CPSQI** - Chinese version of the Pittsburgh Sleep Quality Index; **CMAAS** - Chinese version of the Mindful Attention and Awareness Scale; **ATCS** - Attitudes Towards Caregiving Scale; **CRA** - Caregiver Reaction Assessment; **HADS** - Hospital Anxiety and Depression Scale; **FACIT-Sp-12** - Functional Assessment of Chronic Illness Therapy—Spiritual Well-Being 12 Item Scale; **SWLS** - Satisfaction with Life Scale; **GHQ-12** - Goldberg Health Questionnaire; **MABI** - Mindfulness and acceptance-based Intervention; **MBCT** – Mindfulness-based cognitive therapy; **BRS** – Brief resilience scale; **FACT-G** - Functional Assessment of Cancer Therapy General Scale; **PTGI** - Posttraumatic Growth Inventory; **FFMQ-SF** – Five facets mindfulness questionnaire-short form; **NPI-Q** – Neuropsychiatric inventory questionnaire; **MBSR** - Mindfulness-based stress reduction; **QLQ-C30-GHS** - Quality of Life Questionnaire-Global Quality of Life subscale; **SPPIC** - Self-Perceived Pressure from Informal Care; **IMS-S** - Investment Model Scale-Satisfaction subscale; **SCS** - Self-Compassion Scale; **RRS-BR** - Ruminative Response Scale-Brooding subscale; **IES** - Impact of Event Scale; **FSSQ** - Duke-UNC Functional Social Support Questionnaire; **BFS** - Benefit Finding Scale; **ENABLE CHF-PC** - Educate, Nurture, Advise, Before Life Ends Comprehensive Heart Failure for Patients and Caregivers; **PHQ-8** - Patient Health Questionnaire; **GAD-7** - Generalized Anxiety Disorder; **PSQI** - Pittsburgh Sleep Quality Index; **FSI** - Fatigue Symptom Inventory; **ODCNF** - Openness to Discuss Cancer in the Nuclear Family; **Mini-MAC** - Mini-Mental Adjustment to Cancer; **NYHA** - New York Heart Association; **AHA** - American Heart Association; **ACC** - American College of Cardiology; **BCOS** - Bakas Caregiving Outcomes Scale; **MBCB** - Montgomery-Borgatta Caregiving Burden; **PROMIS** - Patient-Reported Outcomes Measurement Information System; **PEACE** - Peace, Equanimity, and Acceptance in the Cancer Experience; **MOCS** - Measure of Current Status; **ZBI** - Zarit Burden Interview; **PACS** - Positive Aspects of Caregiving Scale; **ENABLE** - Educate, Nurture, Advise, Before Life Ends; **PG13** - Prigerson Inventory of Complicated Grief-Short Form; **CESD** - Center for Epidemiological Study-Depression scale; **CCS** - Caregiver Competence Scale; **RCS** - Rewards of Caregiving Scale; **HI** - Health Index; **CBS** – Caregiver Burden Scale; **PCS** - Preparedness for Caregiving Scale; SF-36 - short-form survey; **BFI** - Brief Fatigue Inventory; **LASA** - Linear Analogue Self- Assessment; **POMS-B** - Profile of Mood States-Brief; **AAQ – II** - Acceptance and Action Questionnaire II; **PSS** – Perceived stress scale; **FCI-MS** - Mutuality scale of the Family Care Inventory; **MOS-SF-36** - Medical Outcomes Study Short-Form Health Survey

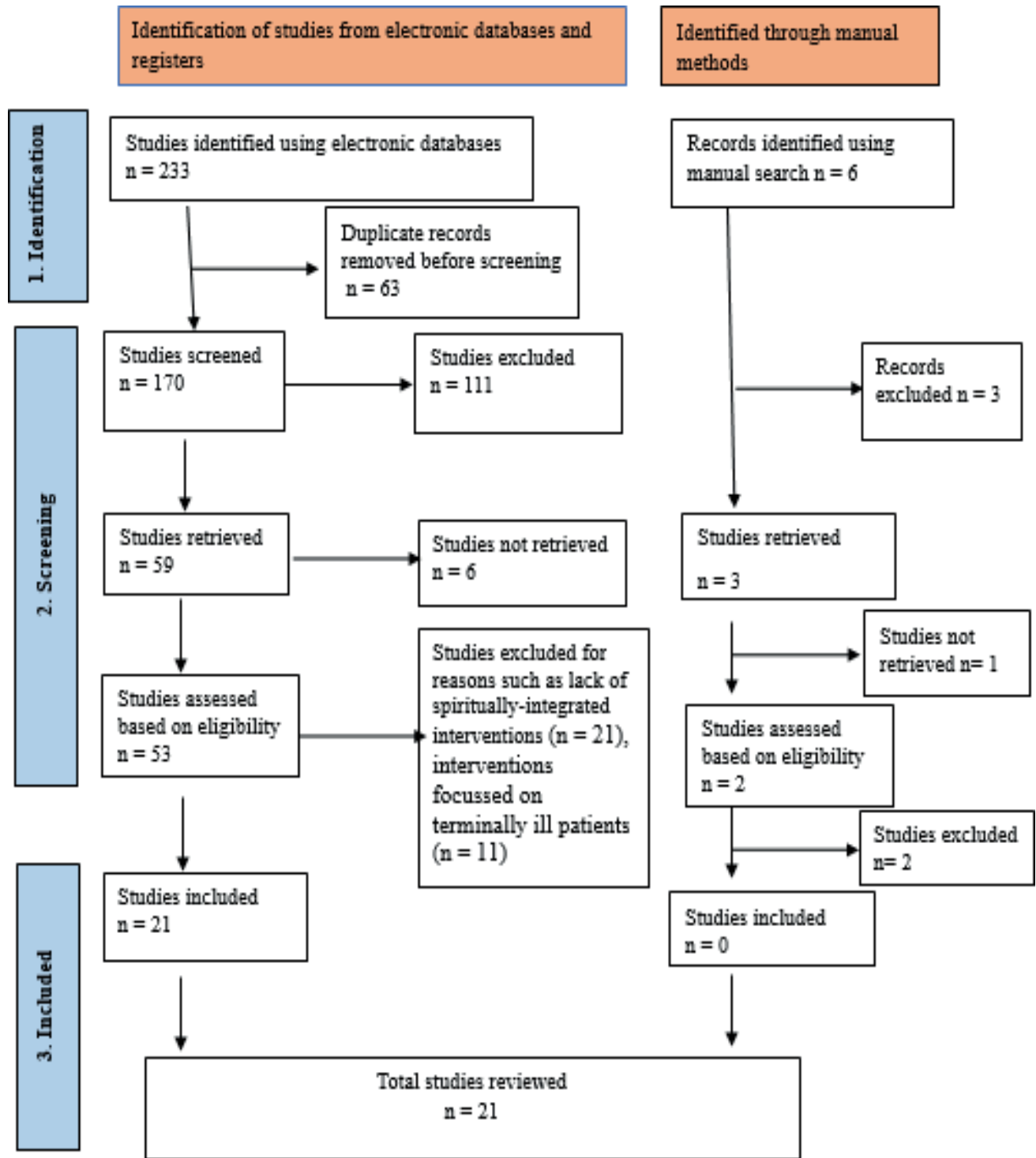


Figure 1: PRISMA (2020) flow chart of the reviewed studies

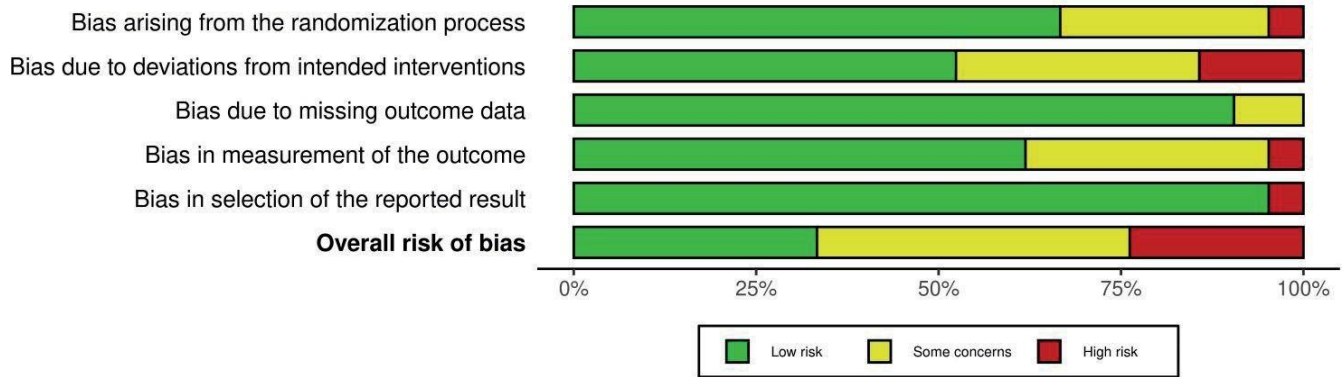


Figure 2: Quality of evidence of the reviewed studies using RoB 2 tool

Study	Risk of bias domains					Overall
	D1	D2	D3	D4	D5	
Mosher et al., 2024(18)	+	+	+	+	+	+
Türkoğlu et al., 2024(19)	X	-	+	+	+	X
Sui et al., 2023(20)	+	X	+	+	+	X
Applebaum et al. 2022(21)	-	+	+	+	+	-
Yousefi et al., 2022(13)	-	-	+	-	+	-
Fernández-Portero et al., 2021(22)	+	-	+	-	+	-
Kor et al., 2021(23)	+	+	+	+	+	+
Pagnini et al., 2021(24)	+	X	+	+	+	X
Dionne-Odom et al. 2020(25)	+	+	+	+	+	+
Milbury et al. 2019(26)	-	+	+	-	+	-
Mosher et al. 2019(27)	+	+	+	+	+	+
Kor et al., 2019(28)	+	+	+	+	+	+
Kubo et al., 2019(29)	+	-	+	-	+	-
Sotoudeh et al. 2019(30)	-	-	+	-	+	-
Applebaum et al. 2018(31)	-	+	-	+	+	-
Mosher et al. 2018(32)	+	+	+	+	+	+
Schellekens et al., 2017(33)	+	-	+	-	+	-
Dionne-Odom et al. 2016(34)	+	+	+	+	+	+
Holm et al. 2016(35)	+	-	+	+	+	-
Lapid et al. 2016(36)	+	+	-	-	X	X
Brown et al., 2016(37)	-	X	+	X	+	X

Domains:
 D1: Bias arising from the randomization process
 D2: Bias due to deviations from the intended intervention
 D3: Bias due to missing outcome data
 D4: Bias in measurement of the outcome
 D5: Bias in selection of the reported results

Judgement
 ● Low
 ● Some concerns
 ● High

Figure 3: Risk of bias across the reviewed studies



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