Asia-Pacific Journal of Oncology Nursing 12 (2025) 100697

Contents lists available at ScienceDirect

Asia-Pacific Journal of Oncology Nursing

journal homepage: www.apjon.org

Review

Death preparedness interventions for patients with advanced cancer: A systematic review

Xi Zhang [a,b], Meizhen Zhao [a], Tieying Zeng [a,*], Xiaoli Wei [c,**]

[a] Department of Nursing, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China
[b] School of Nursing, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, China
[c] Department of Oncology, Xiangyang Central Hospital, Affiliated Hospital of Hubei University of Arts and Science, Xiangyang, China

ARTICLE INFO

Keywords:
Death preparedness
Intervention
Patients
Advanced cancer
Systematic review

ABSTRACT

Objective: This study aims to synthesize and critically evaluate the current evidence on interventions aimed at enhancing death preparedness among patients with advanced cancer.
Methods: A comprehensive search of PubMed, Embase, Cochrane Library, CINAHL, ProQuest, and Web of Science was conducted to identify relevant studies. The review followed Systematic Review and Meta-Analysis Preferred Reporting Items (PRISMA) guidelines, with a structured assessment of study quality and intervention outcomes.
Results: Nine studies involving a total of 876 patients with advanced cancer met the inclusion criteria. Interventions demonstrated significant improvements in overall death preparedness, with additional benefits observed in psychological well-being and functional status. Most interventions incorporated death education, psychological support, and meaning-centered psychotherapy.
Conclusions: Interventions appear to be effective in enhancing death preparedness among patients with advanced cancer. Future research should focus on refining intervention components, clearly defining outcome measures, and aligning strategies with individualized patient needs and goals.
Systematic review registration: PROSPERO CRD420250652562.

Introduction

Death is a universal human concern that has inspired much reflection and contemplation throughout the ages.[1] As individuals, we know that life is finite and accordingly prepare for death well in advance of the end of life.[2] This is especially true for those suffering from diseases such as advanced cancer or heart failure.[3] Advanced cancer is a life-limiting condition that often presents patients and their families with profound physical, emotional, and psychological challenges.[4–6] As the disease progresses, the focus of care often shifts from curative treatments to palliative interventions aimed at improving the patient's quality of life (QoL), managing symptoms, and addressing emotional and spiritual concerns.[7,8]

A critical aspect of care for patients with advanced cancer is death preparedness—a multidimensional concept involving cognitive, emotional, behavioral, and social dimensions.[9–12] This preparation includes making decisions about end-of-life care, establishing advance directives, legacy planning, addressing existential and spiritual concerns, and ensuring emotional support for both the patient and their family.[13,14] Death preparedness can significantly reduce anxiety, depression, and uncertainty in patients, promote symptom management, and foster a sense of autonomy and dignity.[15–19] However, despite its importance, many patients experience inadequate support in this area, leading to increased distress and unresolved emotional and spiritual needs.[14,20]

Although the importance of death preparedness for patients with advanced cancer has been widely recognized, research on interventions to enhance this process remains limited. Existing studies have explored interventions such as psychological counseling and communication skills training to better prepare patients for the end of life.[21,22] However, the effectiveness and applicability of these interventions vary, and there is a need for a comprehensive review to better understand which interventions are most effective in promoting death preparedness and improving the QoL for these patients, providing evidence-based clinical recommendations for health care providers and patients.

This systematic review was undertaken to address this gap in the literature. The review aims to identify, assess, and synthesize the existing evidence on death preparedness interventions for patients with advanced

* *Corresponding author.*
** *Corresponding author.*
E-mail addresses: 984451641@qq.com (T. Zeng), 1258876433@qq.com (X. Wei).

https://doi.org/10.1016/j.apjon.2025.100697
Received 20 February 2025; Accepted 7 April 2025

cancer. By evaluating the quality and outcomes of these interventions, this review will provide valuable insights into the types of interventions that have been studied, their effectiveness, and the impact they have on patient outcomes. Furthermore, the review will highlight gaps in current research and recommend areas for future exploration.

Methods

Preregistration

This study was registered in the International Prospective Register of Systematic Reviews (PROSPERO) at the National Institute for Health and Care Research (ID: CRD420250652562). The Systematic Review and Meta-Analysis Preferred Reporting Items (PRISMA) 2020 guidelines[23] were used to design and report the study.

Eligibility criteria

We used the patient, problem or population, intervention, comparison, control or comparator, outcome, temporality or timing, and setting (PICOTS) framework[24] to define our inclusion and exclusion criteria (Table 1). The focus of this review was on interventions targeting death preparedness in adult patients with advanced cancer. A study was also included in the review if it investigated end-of-life preparedness, such as end-of-life decision-making, death planning, etc., which are closely related to death preparedness. Cancer was considered "advanced" if it was stage III or IV, involved severe, incurable organ disease, or was associated with a poor prognosis. Interventions of any nature were reviewed. The specific inclusion criteria were as follows:

(1) Original peer-reviewed and formally published research;
(2) Assessment of adult patients with advanced (incurable) cancer;
(3) Measurement of 'death preparedness' or potentially relevant end-of-life preparedness topics;
(4) Use of interventions aimed at improving death preparedness; and
(5) Controlled studies, including both randomized controlled trials (RCTs) and non-randomized studies of interventions (NRSIs).

The exclusion criteria for this study were as follows:

(1) Study participants with severe mental disorders or comorbidities;
(2) Literature with missing information and duplicate publications;
(3) Reports, reviews, and letters that did not address death preparedness interventions.

Search strategy

We conducted a literature search between January 4 and February 5, 2025, in PubMed, EMBASE, Cochrane Library, CINAHL, ProQuest, and Web of Science databases. After preliminary searches, it was found that there were almost no related studies before the year 2000. Therefore, the search range for electronic databases is limited to articles published between January 1, 2000, and February 5, 2025. We also searched for gray literature, including reports, evaluations, and guidelines from government and international organizations, as well as conference proceedings. Keywords and Medical Subject Headings (MeSH) included 'death preparedness,' 'cancer,' and 'intervention.' Notable synonyms for 'death preparedness,' such as 'end-of-life preparedness' or 'death plan,' were also used. Boolean operators 'OR' and 'AND' were combined as necessary to broaden or narrow the search scope. Additionally, expanded search terms and free-text searches were employed. We then reviewed the reference lists of the identified studies to find additional articles and screened them for eligibility in this review. For detailed search strategies for each database, please refer to Supplementary File 1.

Table 1
PICOTS framework used to define the inclusion and exclusion criteria.

PICOTS element	Definition
Population	All studies involving adult patients (> 18 years old) diagnosed with advanced cancer, including those with stages III and IV, or terminal/incurable cancer.
Intervention	Any intervention to prepare for death or related end-of-life preparedness.
Comparison	Usual care, no intervention or other control population.
Outcomes	All outcome measures of death preparedness, functional status outcomes, or psychological aspects.
Temporality	We did not place any time restrictions.
Setting	Research conducted in any setting, including the community, hospitals, clinics, nursing homes, hospices and homes.

PICOTS, patient, problem or population, intervention, comparison, control or comparator, outcome, temporality or timing, setting.

Selection process

Each study was assessed according to predefined eligibility criteria to determine whether it would be included in the systematic review. Two authors (X.Z. and M.Z.Z.) independently performed title and abstract screening, followed by full-text screening. The level of agreement between the two authors was calculated using the Kappa index,[25] with a threshold of 80% agreement considered acceptable. A third author (T.Y.Z.) was invited for discussion and consultation when disagreements arose. After removing duplicates, eligible articles from each database and search engine were imported into EndNote version 21 for management. The process of identifying and removing duplicates occurred in three stages: (1) after the initial database search, (2) after the title and abstract screening, and (3) after the full-text selection.

Quality appraisal

The risk of bias for randomized trials was independently evaluated by two reviewers (X.Z. and M.Z.Z.) using the Cochrane risk-of-bias tool for randomized trials within the Covidence platform.[26] For non-RCTs, the risk of bias was assessed separately by the same reviewers using the Cochrane risk-of-bias tool for non-randomized studies (ROBINS-I) in a dedicated spreadsheet.[27,28]

Data extraction

The extraction table developed by the research team summarized the characteristics of the included studies, including the Author (year), Country, Design of study, Subjects, Intervention, Outcome tools, Findings, and Risk of bias. Two authors (X.Z. and M.Z.Z.) independently extracted these data, disagreements were resolved through consultation with a third author (T.Y.Z.). To ensure the accuracy and reliability of data processing, this study adopted a three-stage duplicate data handling method: (1) article selection: two researchers independently screened the literature and resolved any disagreements through discussion; (2) quality assessment: the Cochrane Risk of Bias Tool was used to assess the quality of the studies; (3) data extraction: two researchers independently extracted data and assessed consistency using the Kappa index ($\kappa > 0.80$). To ensure consistency in the screening process, the Kappa index between the researchers was calculated and reached 0.85, indicating a high level of consistency (greater than 80%).

Data synthesis

Due to methodological heterogeneity in the intervention structure, methods, frequency, and outcome measures among the included studies, the overall effect size could not be calculated. Therefore, a narrative synthesis of the included studies was performed based on the key elements of the interventions and their effects.

Results

Study selection

In our initial search, we identified 3278 relevant studies. After removing 1288 duplicates, 1990 studies remained for preliminary screening. After screening titles and abstracts, we excluded 1861 studies that did not meet the inclusion criteria. We further reviewed 129 full-text studies. After a detailed examination, we found that 120 studies did not meet the criteria for this review and were excluded. Ultimately, nine studies [21,29–36] met the inclusion criteria and were included in this review. The detailed process of study selection, along with the reasons for exclusion, is shown in Fig. 1, which clearly presents each step and its corresponding exclusion rationale.

Summary of studies

Table 2 summarizes the author (year), country, design of the studies, sample characteristics, interventions, outcome tools, and findings. Although the search was focused on studies published after the year 2000, the earliest intervention research on death preparedness in patients with advanced cancer was published in 2008. Among the included studies, four were from the United States,[29,30,32,33] one from Japan,[31] one from Australia,[32] one from Spain,[34] one from Thailand,[35] and one more from China.[36] Six of the studies[21,29–31,33,34] were RCTs, with four of them[29,30,33,34] employing a three-arm design. The remaining three studies[32,35,36] used a pre-post design.

The interventions include Outlook, Short-Term Life Review, Meaning-Centered Psychotherapy, Death Education, Advance Care Planning Intervention, and the Peaceful End-of-Life Care Program. Relaxation meditation and routine care are often used as control groups in studies.[29,30,32,33] The duration of these interventions varies, typically consisting of 3–4 sessions. These interventions aim to improve death preparedness and important health outcomes for patients with advanced cancer at the end of life, including pain and symptom management, physical functioning, emotional functioning (anxiety and depression), mental health, psychological distress, and QoL at the end of life. The outcomes assessed include hope, burden, life completion and preparedness, anxiety, depression, psychological distress, and fear.

Types of interventions

Four studies[29,30,32,33] described the Outlook intervention, which were conducted in the United States and Australia. Three of these studies were three-arm RCTs. The Outlook intervention is a highly structured psychoeducational intervention with a detailed manual, including three face-to-face interviews, each spaced one week apart, with each interview lasting 45 minutes. Participants are required to

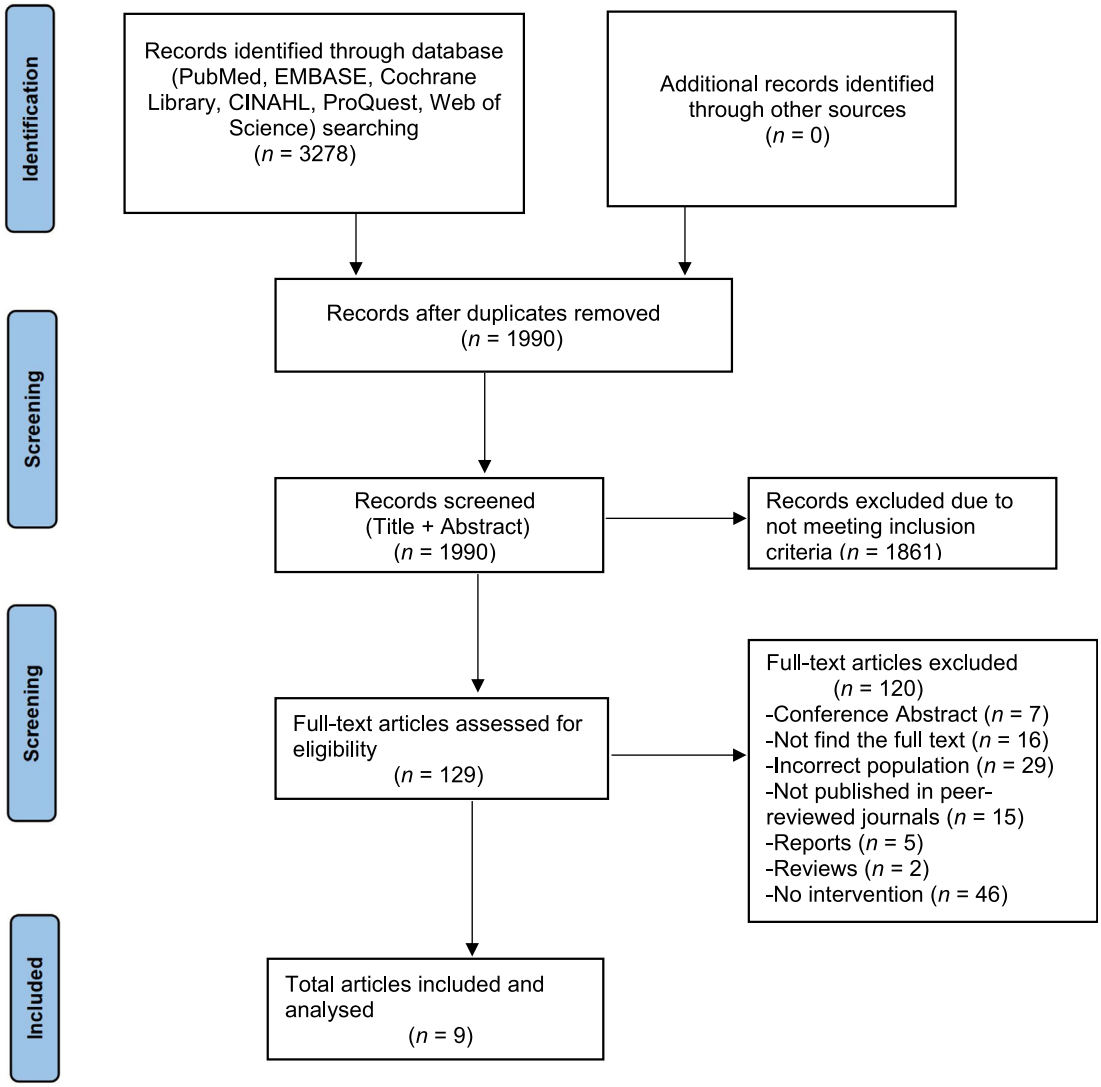

Fig. 1. PRISMA flow diagram of the studies screening process. PRISMA, Systematic Review and Meta-Analysis Preferred Reporting Items.

Table 2
Summary of selected articles.

Author (year)	Country	Design of study	Sample characteristics	Intervention	Outcome tools	Findings
Steinhauser et al. (2008)[29]	America	Randomized control trial	82 hospice eligible patients (48 cancer patients, 5 heart disease, 10 lung disease, and 19 others). Ages ranged from 28 to 96.	Outlook intervention: Life review, Forgiveness, Heritage & legacy.	Memorial symptom assessment scale, QUAL-E, Rosow-Breslau ADL scale, Profile of Mood states anxiety sub-scale, the CESD short version, the daily spiritual experience scale.	Participants in the active discussion intervention showed improvements in functional status, anxiety, depression, and preparation for end of life (a QUAL-E domain).
Steinhauser et al. (2009)[30]	America	Randomized control trial (qualitative intervention)	18 patients (60% cancer, 20% lung disease, 7% heart disease, and 7% other life-limiting illnesses). Ages ranged from 28 to 80.	Outlook intervention: Life story, forgiveness, heritage and legacy.	Assess pain and symptoms, anxiety and depression, functional status, and quality of life at the end of life.	Discussions of life completion may improve important health outcomes for patients at the end of life.
Ando et al. (2010)[31]	Japan	Randomized controlled trial	68 terminally ill cancer patients. Male 32, female 36.	Short-term life-review.	The functional assessment of chronic illness therapy-spiritual (FACIT-sp) scale, the hospital anxiety and depression scale (HADS), a numeric scale for psychological suffering, and items from the good death inventory (hope, burden, life completion, and preparation).	The FACIT-sp, hope, life completion, and preparation scores in the intervention group showed significantly greater improvement compared with those of the control group (FACIT-sp, $P < 0.001$; hope, $P < 0.001$; life completion, $P < 0.001$; and preparation, $P < 0.001$). HADS, burden, and suffering scores in the intervention group also had suggested greater alleviation of suffering compared with the control group (HADS, $P < 0.001$; burden, $P < 0.007$; suffering, $P < 0.001$).
Keall et al. (2013)[32]	Australian	A mixed-methods study, included quantitative preintervention and postintervention psychometrics	10 palliative care patients with advanced cancer. Male 5, female 5, ages ranged from 50 to 89.	Outlook intervention: Life story, forgiveness, and legacy.	The Memorial symptom assessment scale, functional assessment of cancer therapy-spirituality well-being, Profile of Mood states, quality of life at end of life scale, and center for epidemiological depression scale.	Patients reported the intervention and assessments to be acceptable and feasible and to be overall positively received although with nonsignificant improvements in measures of "meaning and peace" and "preparation for end of life."
Steinhauser et al. (2017)[33]	America	Randomized controlled trial	221 patients, 46% with metastatic cancer, 96% were males.	Outlook intervention: Life story, forgiveness, and legacy.	QUAL-E, the modified Brief Profile of Mood states, the 10-item center for epidemiological studies-depression scale, the FACT-general FACT-a 27-item survey.	Outlook participants had higher preparation (a validated measure of QOL at the end of life) (mean difference 1.1; 95% CI 0.2, 2.0; $P = 0.02$) and mean completion (1.6; 95% CI 0.05, 3.1; $P = 0.04$) at the first but not second post assessment.
Song et al. (2024)[21]	America	Randomized clinical trial	426 patients. Male 208, female 218.	SPIRIT intervention: Assess illness representations, identify goals and concerns, create conditions for conceptual change, introduce replacement information, summarize, and set goals.	The 13-item decisional conflict scale, the hospital anxiety and depression scale.	The intervention group, was superior in dyad congruence on end-of-life care goals, patient decisional conflict, and a composite of dyad congruence and surrogate decision-making confidence.
Gil et al. (2018)[34]	Spanish	Randomized clinical trial	30 cancer patients. Male 16, female 14.	The meaning-centered psychotherapy Model (MCP): The MCP-palliative care version, the MCP-compassionate palliative care (MCP-CPC).	A brief questionnaire to elicit their perception of the intervention and its utility.	The most helpful elements or constructs reported by patients were meaning, self-compassion, compassion, legacy, and courage and commitment.

(*continued on next page*)

Table 2 (*continued*)

Author (year)	Country	Design of study	Sample characteristics	Intervention	Outcome tools	Findings
Trakoolngamden et al. (2025)[35]	Thailand	Quasi-experimental study	122 cancer patients.	The 4-week program: Health education, self-care for symptom management, advance care planning, psychosocial support, and family involvement plus standard care.	The good death inventory, the Thai PPS adult Suandok, the edmonton symptom assessment scale, the Thai quality Relationship scale, the knowledge test for peaceful end-of-life care.	The results showed a significant improvement in perceived good death, quality relationships, and end-of-life care knowledge in the experimental group.
Li et al. (2023)[36]	China	A before-after study design, a mixed methods approach to collect quantitative or qualitative data.	32 cancer patients. Male 18, female 14.	The OOIDE programme: Understanding life, understanding disease, understanding death, and understanding hospice care.	Life attitude of Profile scans (LAPS), functional assessment of Chronic Illness Therapy–Spiritual well-being scale (FACIT-sp 12), Templer's death anxiety scale (T-DAS), the OOIDE programme satisfaction survey.	Patients' spiritual well-being scores increased significantly from 24.38 to 27.34 ($P < 0.001$), significant decrease in patients' death anxiety scores from 51.84 to 44.97 ($P < 0.0001$), a higher percentage of study participants reported thinking about their end-of-life location (75%) and discussing end-of-life matters with family members (65.6%) after the intervention. These differences were statistically significant ($P < 0.05$).

discuss issues related to life completion and preparation. In the first session, Life Story, the focus is on life review, cherished times, and accomplishments. One week later, in the second session, Forgiveness, the focus is on issues such as things they would have done differently, regrets, forgiveness asked and given, and whether they were at peace. In the final week, the third session, Legacy, focuses on lessons learned, heritage, and legacy.

One study[31] involved Short-Term Life-Review, using two interviews. The life review with the patient lasted 30–60 minutes. A fixed semi-structured interview guide was used, and based on key words from the patient's responses, a simple photo album was created with the patient. This process aimed to help the patient feel that their life was more meaningful and valuable. Additionally, supportive interviews were conducted regarding the patient's physical and emotional state.

One study[21] involved Advance Care Planning Intervention using a structured SPIRIT intervention guideline, including two meetings that could be conducted by videoconference (but not by telephone).

One intervention[34] combined meaning-centered psychotherapy integrated with elements of compassion. It included three meetings, and the focus of the three counseling sessions was to help patients cope with advanced cancer, encourage them to share any concerns related to the disease and/or treatment, attempt to validate emotions, and ask patients to describe their experiences and emotions related to cancer, as well as identify any challenges they faced.

One study[35] involved a Peaceful End-of-Life Care Program. Based on the theory of peaceful death, a 4-week plan was developed, including health education, symptom management self-care, pre-care planning, psychosocial support, and family involvement.

The remaining study[36] was an integrated online-offline integrated death education. The intervention content was guided by scientific theory and focused on four themes: understanding life, understanding disease, understanding death, and understanding hospice care.

Types of outcomes

In these studies, there are significant differences in the methods of outcome measurement. Among the nine included studies, the most commonly used outcome indicators mainly focus on patient health outcomes, including pain and symptom relief, improvement in physical function, changes in emotional function (such as anxiety and depression), mental health status, and QoL at the end of life.

Few studies directly use effective measures of death preparation. Most studies assess death preparedness by using the "Preparing for death" dimension of the "Good Death Inventory" or indirectly measure it through related questions in the QoL at End of life Scale. Many authors commented that attempting to accurately measure death preparation in patients with advanced cancer in their study populations was frustrating.

Functional status related outcomes

Six studies[21,29,31,32,35,36] assessed the functional status outcomes of patients. Among these, two studies[32,36] reported a significant improvement in the patients' functional assessment, particularly in spiritual well-being. Additionally, four studies[21,29,31,35] found that patients showed significant progress in pain management and symptom relief compared to the control group. These results suggest that the intervention has a positive impact on improving patients' overall functional status and alleviating related symptoms, especially in enhancing spiritual well-being and reducing pain.

Psychologically related outcomes

Seven studies[21,29–31,33,34,36] reported on the psychological outcomes of patients. Four of these studies[21,29,33,36] indicated that, compared to the

control group, the intervention group experienced significant improvements in death-related anxiety and depressive symptoms. Two studies[30,31] demonstrated that the intervention led to a reduction in emotional and spiritual distress, as well as stress. One study[34] found that patients showed an increase in self-compassion and courage. These findings suggest that the intervention had a positive impact on alleviating psychological distress, improving emotional well-being, and fostering resilience in patients facing end-of-life concerns.

Risk of bias assessment

Fig. 2 summarizes the risk of bias assessment results for the studies included in this review. For the 6 RCTs[21,29–31,33,34] included in this review: (a) the risk of sequence generation was low in all studies; (b) the allocation concealment was unclear in 5 studies and high in 1 study; (c) blinding of participants and personnel was high in all studies; (d) blinding of outcome assessment was also high in all studies; (e)

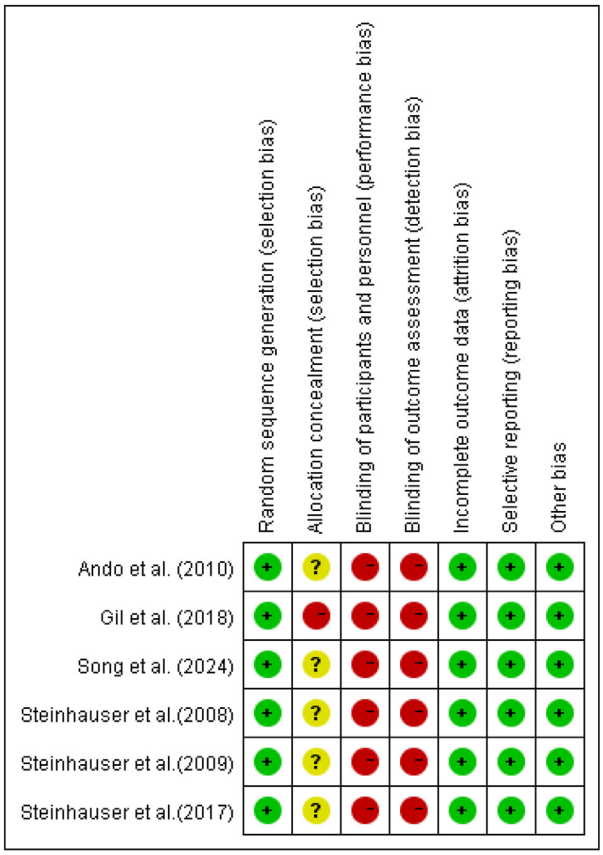

Fig. 2. Risk of bias assessments for (A) randomized controlled trials and (B) non-randomized controlled trials.

incomplete outcome data was low in all 6 studies; (f) selective reporting was low in all 6 studies; (g) other sources of bias were low in all 6 studies. For the three non-RCTs,[32,35,36] the risk of bias due to confounding was high in all studies, with one study having high bias due to selection of participants, one study having unclear bias due to participant selection, and the remaining biases being low in other aspects.

Discussion

In this study, we conducted a systematic review that summarized the interventions aimed at death preparedness in patients with advanced cancer. A total of nine studies were included in this review, involving 876 patients with advanced cancer. Among the nine studies included, the studies reported that the interventions had a positive impact on death preparedness to some extent. Most of the interventions focused on death education, psychological support, and meaning-centered psychotherapy. There were significant differences across the studies in terms of the content of the interventions, the methods of implementation, duration, and frequency, as well as varying assessment tools used to measure the outcomes of the interventions.

Our study found that there are only nine intervention studies focused on death preparedness in patients with advanced cancer. The majority of these studies were published after 2017, indicating a growing interest among researchers in this topic. However, given the irreversible nature of death in patients with advanced cancer, death preparedness is critically important. Despite this, the existing body of intervention research on death preparedness remains limited in number. It has been suggested that one possible reason for this scarcity is the lack of a clear and comprehensive definition of death preparedness,[9,12] which has hindered previous research. Other factors that may contribute to the low volume of studies include the inherent challenges in researching patients with advanced cancer, the lack of tailored measurement tools for assessing death preparedness,[37] and the cultural taboo surrounding the concept of preparing for death.[12,38] Many people hold the belief that preparing for death in advance is unlucky or morbid, which can further discourage both patients and researchers from engaging with this sensitive topic.[39,40]

Our research found that the intervention measures for death preparedness in patients with advanced cancer often have theoretical frameworks. Steinhauser et al.[29,30] developed the Outlook Conceptual Model, which addresses the challenges faced by patients with advanced serious illnesses related to physical, psychosocial, spiritual, and emotional issues. To reduce suffering and improve QoL, each of these aspects needs specific attention. The key developmental tasks include: Life Story, Forgiveness, Heritage, and Legacy. Trakoolngamden et al.,[35] based on the theory of a peaceful end-of-life, developed an intervention that includes health education, symptom management self-care, advanced care planning, psychosocial support, and family involvement.

Based on the results of the included studies, we found that interventions can significantly improve patients' end-of-life preparation. Although there is a lack of standardized measurement methods, various scales consistently showed positive outcomes in the dimension of death preparation. This indicates that interventions are effective in enhancing patients' readiness for death. Furthermore, in the domain of functional status-related outcomes, the interventions in six studies[21,29,31,32,35,36] demonstrated a positive impact on improving patients' overall functional status and alleviating related symptoms, particularly in enhancing mental well-being and relieving pain. In terms of psychological outcomes, the interventions in seven studies[21,29–31,33,34,36] were shown to have a positive effect on reducing psychological distress, improving emotional health, and fostering resilience in patients facing end-of-life care. This highlights the comprehensive benefits of interventions in addressing both the physical and psychological aspects of end-of-life care, suggesting that such measures can play a key role in improving the QoL for patients as they approach the end of life.

Existing interventions seem to be most popular and commonly used for death preparedness, utilizing psychological, psychoeducation, and psychosocial approaches. These methods include psychological support, emotional support, death education, and spiritual comfort. In the categories of psychoeducation and psychology, face-to-face meetings or counseling sessions are mainly used to help patients reflect on their lives, make arrangements for end-of-life matters, and say goodbye to others. Specifically, these interventions help patients review and organize past experiences, reinforce the sense of meaning and value in life, alleviate emotional distress, and encourage them to face death with more composure.[21,29,30,35] Through positive preparation for life and death, patients often achieve inner peace, reducing anxiety, depression, and fear of death, thus preparing emotionally and psychologically to face the end of life.[41,42] Moreover, these interventions can effectively improve the QoL for patients in the advanced stages, allowing them to feel more dignity and peace during the final phase of life.[31,43]

Additionally, we found that there is some variation in the number of interventions for death preparedness, typically ranging from 3 to 8 sessions, with 3 or 4 sessions being the most common. Considering the physical and emotional condition of patients with advanced cancer, a 3 or 4-session intervention plan is generally more suitable,[44] as it avoids overburdening the patients physically or psychologically, while ensuring that they receive adequate support and assistance within the limited time available.[35] Furthermore, we observed that the number of intervention sessions for death preparedness ranges from 3 to 6, with 3 or 4 sessions being the most commonly used. Given the energy levels and completion capacity of advanced cancer patients, 3 or 4 sessions are considered appropriate.[45] These interventions vary, and it cannot be said that certain types of interventions are inherently better or more effective in improving death preparedness among advanced cancer patients. Therefore, selecting an appropriate intervention method for each patient is crucial, taking into account the patient's specific needs, physical condition, cultural background, and personal preferences, in order to choose the plan that best aligns with their life and emotional needs. This review suggests that education and psychological interventions, including death education, appear to be effective in improving death preparedness among advanced cancer patients. Future studies are recommended to conduct more well-designed RCTs or non-RCTs studies with death preparedness as the primary outcome.

Clinical implications

This review emphasizes the importance of improving end-of-life preparation for patients with advanced cancer, particularly in terms of enhancing death preparedness. Although current interventions have shown some success in improving death preparedness, they still lack personalization and comprehensive assessment. In clinical practice, more personalized intervention strategies should be adopted, considering the cultural, emotional, and personal needs of patients to enhance the relevance and effectiveness of the interventions. At the same time, more comprehensive assessment tools are needed to accurately measure all aspects of death preparedness. Integrating established theoretical frameworks, such as those from palliative care, can strengthen the long-term effectiveness of interventions. Therefore, future interventions should focus more on personalized design, theoretical foundations, and continuous evaluation to better support end-of-life preparation for patients with advanced cancer.

Limitations

This study has several limitations. Firstly, since most of the included studies are psychological intervention studies, it is impossible to fully randomize participants and staff. Secondly, some studies considered death preparedness as a secondary outcome, and there was no unified measurement scale. Future research should consider death preparation as a primary outcome and establish standardized and comprehensive measurement tools to assess all dimensions of death preparation, ensuring the consistency and accuracy of evaluating intervention outcomes.

Conclusions

In this review, we integrated interventions aimed at improving end-of-life preparation for patients with advanced cancer and evaluated the effectiveness of these interventions, with a particular focus on improving death preparedness. The results showed that, compared to the control group, the intervention group had significant improvements in overall death preparedness. However, current interventions still have limitations in terms of specificity and effectiveness. Existing interventions are generally designed but lack personalized approaches to meet the diverse needs of different patients, and there is no comprehensive and in-depth measurement and assessment of all aspects of death preparedness. To better support the development of death preparedness in patients with advanced cancer, future interventions need to be more precisely designed, particularly in selecting outcome measures and intervention targets. At the same time, to ensure that these interventions produce lasting effects in practical applications, it is necessary to integrate more mature theoretical foundations.

CRediT authorship contribution statement

Xi Zhang: Writing – original draft, Writing – review and editing, Conceptualization, Methodology, Formal analysis, Data curation. **Meizhen Zhao:** Methodology, Data analysis. **Tieying Zeng:** Supervision, Conceptualization, Data analysis. **Xiaoli Wei:** Data analysis. The corresponding author attests that all listed authors meet authorship criteria and that no others meeting the criteria have been omitted. All authors have read and approved the manuscript.

Ethics statement

Not required.

Data availability

The datasets used in the study are included in this published article.

Declaration of generative AI and AI-assisted technologies in the writing process

No AI tools/services were used during the preparation of this work.

Funding

This study was supported by the National Key Research and Development Program of China (Grant No. 2023YFC3605905). The funders had no role in considering the study design or in the collection, analysis, interpretation of data, writing of the report, or decision to submit the article for publication.

Declaration of competing interest

The authors declare no conflict of interest.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.apjon.2025.100697.

References

1. Grossman CH, Brooker J, Michael N, et al. Death anxiety interventions in patients with advanced cancer: a systematic review. *Palliat Med*. 2018;32(1):172–184. https://doi.org/10.1177/0269216317722123.
2. Krikorian A, Maldonado C, Pastrana T. Patient's perspectives on the notion of a Good death: a systematic review of the literature. *J Pain Symptom Manag*. 2020;59(1):152–164. https://doi.org/10.1016/j.jpainsymman.2019.07.033.
3. Hofer J, Busch H, Au A, et al. Reminiscing to teach others and prepare for death is associated with meaning in life through generative behavior in elderlies from four cultures. *Aging Ment Health*. 2020;24(5):811–819. https://doi.org/10.1080/13607863.2018.1548568.
4. Chua GP, Pang GSY, Yee ACP, et al. Supporting the patients with advanced cancer and their family caregivers: what are their palliative care needs? *BMC Cancer*. 2020;20(1):768. https://doi.org/10.1186/s12885-020-07239-9.
5. Cui P, Shi J, Li S, et al. Family resilience and its influencing factors among advanced cancer patients and their family caregivers: a multilevel modeling analysis. *BMC Cancer*. 2023;23(1):623. https://doi.org/10.1186/s12885-023-11101-z.
6. Kolsteren EEM, Deuning-Smit E, Chu AK, et al. Psychosocial aspects of living long term with advanced cancer and ongoing systemic treatment: a scoping review. *Cancers*. 2022;14(16). https://doi.org/10.3390/cancers14163889.
7. Kim H, Park EM, Henry C, et al. Control conditions that are neither usual care nor No treatment in randomized trials of psychoeducational palliative care interventions: a systematic review. *Am J Hosp Palliat Med*. 2019;36(4):339–347. https://doi.org/10.1177/1049909118805936.
8. Gardiner C, Ingleton C, Gott M, et al. Exploring the transition from curative care to palliative care: a systematic review of the literature. *Bmj Support Palliat*. 2015;5(4):335–342. https://doi.org/10.1136/bmjspcare-2010-000001rep.
9. McLeod-Sordjan R. Death preparedness: a concept analysis. *J Adv Nurs*. 2014;70(5):1008–1019. https://doi.org/10.1111/jan.12252.
10. McLeod-Sordjan R. Death preparedness: development and initial validation of the advance planning preparedness scale. *Omega J Death Dying*. 2023. https://doi.org/10.1177/00302228231212998.
11. Wen FH, Chou WC, Hsieh CH, et al. Conjoint cognitive and emotional death-preparedness states and their changes within cancer patients' last 6 months. *Psychooncology*. 2021;30(5):691–698. https://doi.org/10.1002/pon.5614.
12. Zhang X, Zeng TY, Zhao MZ, et al. A Model of death preparedness in patients with advanced cancer: a grounded theory study. *J Adv Nurs*. 2024. https://doi.org/10.1111/jan.16669.
13. Huda N, Shaw MK, Chang HJ. Psychological distress among patients with advanced cancer A conceptual analysis. *Cancer Nurs*. 2022;45(2):E487–E503. https://doi.org/10.1097/Ncc.0000000000000940.
14. Iskandar AC, Rochmawati E, Wiechula R. Experiences and perspectives of suffering in cancer: a qualitative systematic review. *Eur J Oncol Nurs*. 2021;54. https://doi.org/10.1016/j.ejon.2021.102041.
15. Tang ST, Chou WC, Hsieh CH, et al. Terminally ill cancer patients' emotional preparedness for death is distinct from their accurate prognostic awareness. *J Pain Symptom Manag*. 2020;60(4):774. https://doi.org/10.1016/j.jpainsymman.2020.04.021.
16. Chan THY, Chan FMY, Tin AF, et al. Death preparation and anxiety: a survey in Hong Kong. *Omega J Death Dying*. 2006;54(1):67–78.
17. Jung Y, Yeom HE, Lee NR. The effects of counseling about death and dying on perceptions, preparedness, and anxiety regarding death among family caregivers caring for hospice patients: a pilot study. *J Hosp Palliat Care*. 2021;24(1):46–55. https://doi.org/10.14475/jhpc.2021.24.1.46.
18. Wen FH, Chou WC, Hou MM, et al. Associations of death-preparedness states with bereavement outcomes for family caregivers of terminally ill cancer patients. *Psychooncology*. 2022;31(3):450–459. https://doi.org/10.1002/pon.5827.
19. Schmidt V, Kaiser J, Treml J, et al. The relationship between pre-loss grief, preparedness and psychological health outcomes in relatives of people with cancer. *Omega J Death Dying*. 2022. https://doi.org/10.1177/00302228221142675.
20. Wen FH, Hsieh CH, Chou WC, et al. Factors associated with cancer patients' distinct death-preparedness states. *Psychooncology*. 2023;32(7):1048–1056. https://doi.org/10.1002/pon.6146.
21. Song MK, Manatunga A, Plantinga L, et al. Effectiveness of an advance care planning intervention in adults receiving dialysis and their families A cluster randomized clinical trial. *JAMA Netw Open*. 2024;7(1). https://doi.org/10.1001/jamanetworkopen.2023.51511.
22. Ryan RE, Connolly M, Bradford NK, et al. Interventions for interpersonal communication about end of life care between health practitioners and affected people. *Cochrane Db Syst Rev*. 2022;7. https://doi.org/10.1002/14651858.CD013116.pub2.
23. Page MJ, Moher D, Bossuyt PM, et al. PRISMA 2020 explanation and elaboration: updated guidance and exemplars for reporting systematic reviews. *BMJ Br Med J (Clin Res Ed)*. 2021;372. https://doi.org/10.1136/bmj.n160.
24. Gallagher L, Melnyk BM. The underappreciated and misunderstood PICOT question: a critical step in the EBP process. *Worldv Evid-Based Nu*. 2019;16(6):422–423.
25. McHugh ML. Interrater reliability: the kappa statistic. *Biochem Med*. 2012;22(3):276–282. https://doi.org/10.11613/bm.2012.031.
26. Crocker TF, Lam N, Jordao M, et al. Risk-of-bias assessment using Cochrane's revised tool for randomized trials (RoB 2) was useful but challenging and resource-intensive: observations from a systematic review. *J Clin Epidemiol*. 2023;161:39–45. https://doi.org/10.1016/j.jclinepi.2023.06.015.
27. Kim SY, Park JE, Lee YJ, et al. Testing a tool for assessing the risk of bias for nonrandomized studies showed moderate reliability and promising validity. *J Clin Epidemiol*. 2013;66(4):408–414. https://doi.org/10.1016/j.jclinepi.2012.09.016.
28. Sterne JAC, Hernán MA, Reeves BC, et al. ROBINS-I: a tool for assessing risk of bias in non-randomised studies of interventions. *BMJ Br Med J (Clin Res Ed)*. 2016;355. https://doi.org/10.1136/bmj.i4919.
29. Steinhauser KE, Alexander SC, Byock IR, et al. Do preparation and life completion discussions improve functioning and quality of life in seriously ill patients? Pilot randomized control trial. *J Palliat Med*. 2008;11(9):1234–1240. https://doi.org/10.1089/jpm.2008.0078.
30. Steinhauser KE, Alexander SC, Byock IR, et al. Seriously ill patients' discussions of preparation and life completion: an intervention to assist with transition at the end of

life. *Palliat Support Care*. 2009;7(4):393–404. https://doi.org/10.1017/S147895150999040X.
31. Ando M, Morita T, Akechi T, et al. Efficacy of short-term life-review interviews on the spiritual well-being of terminally ill cancer patients. *J Pain Symptom Manag*. 2010;39(6):993–1002. https://doi.org/10.1016/j.jpainsymman.2009.11.320.
32. Keall RM, Butow PN, Steinhauser KE, et al. Nurse-facilitated preparation and life completion interventions are acceptable and feasible in the Australian palliative care setting. *Cancer Nurs*. 2013;36(3):E39–E46. https://doi.org/10.1097/NCC.0b013e3182664c7a.
33. Steinhauser KE, Alexander S, Olsen MK, et al. Addressing patient emotional and existential needs during serious illness: results of the Outlook randomized controlled trial. *J Pain Symptom Manag*. 2017;54(6):898–908. https://doi.org/10.1016/j.jpainsymman.2017.06.003.
34. Gil F, Fraguell C, Benito L, et al. Meaning-centered psychotherapy integrated with elements of compassion: a pilot study to assess feasibility and utility. *Palliat Support Care*. 2018;16(6):643–647. https://doi.org/10.1017/S1478951518000548.
35. Trakoolngamden B, Monkong S, Chaiviboontham S, et al. Effect of a peaceful end-of-life care Program on perceived Good death in people with advanced cancer and their family caregivers. *J Hospice Palliat Nurs*. 2025. https://doi.org/10.1097/NJH.0000000000001100.
36. Li XM, Chen LZ, Liu DM. Effects of online-offline integrated death education on patients with advanced cancer: a before-and-after study. *Eur J Oncol Nurs*. 2023;67. https://doi.org/10.1016/j.ejon.2023.102433.
37. Steinhauser K, Clipp E, Bosworth H, et al. Measuring quality of life at the end of life: validation of the QUAL-E. *Gerontol*. 2003;43:200, 200.
38. Lakasing E. Out of Hours Death's worsening taboo: is hampering the provision of high quality palliative care. *Br J Gen Pract*. 2014;64(622):243. https://doi.org/10.3399/bjgp14X679769, 243.
39. Streeck N. Death without distress? The taboo of suffering in palliative care. *Med Health Care Philos*. 2020;23(3):343–351. https://doi.org/10.1007/s11019-019-09921-7.
40. Deretic I, Smith ND. Socrates on why the belief that death is a bad thing is so ubiquitous and intractable. *J Ethics*. 2021;25(1):107–122. https://doi.org/10.1007/s10892-020-09354-y.
41. Tang ST, Chou WC, Chang WC, et al. Courses of change in Good emotional preparedness for death and accurate prognostic awareness and their associations with psychological distress and quality of life in terminally ill cancer patients' last year of life. *J Pain Symptom Manag*. 2019;58(4):623–631.e1. https://doi.org/10.1016/j.jpainsymman.2019.06.022.
42. Chen CH, Kuo SC, Tang ST. Current status of accurate prognostic awareness in advanced/terminally ill cancer patients: systematic review and meta-regression analysis. *Palliat Med*. 2017;31(5):406–418. https://doi.org/10.1177/0269216316663976.
43. Bognár SA, Teutsch B, Bunduc S, et al. Psychological intervention improves quality of life in patients with early-stage cancer: a systematic review and meta-analysis of randomized clinical trials. *Sci Rep-Uk*. 2024;14(1). https://doi.org/10.1038/s41598-024-63431-y.
44. Rodin G, An E, Shnall J, et al. Psychological interventions for patients with advanced disease: implications for oncology and palliative care. *J Clin Oncol*. 2020;38(9):885. https://doi.org/10.1200/Jco.19.00058.
45. Park S, Kim H, Jang MK, et al. Community-based death preparation and education: a scoping review. *Death Stud*. 2023;47(2):221–230. https://doi.org/10.1080/07481187.2022.2045524.