

Review

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Review

Nursing Roles in Early Integration of Palliative and Supportive Care for Adults with Advanced Cancer: A Scoping Review

Omar Alqaisi ^{1,*}, Suhair Al-Ghabeesh ¹, Hanin Masalha ², Aoife Jones Thachuthara ³, Kurian Joseph ⁴, Patricia Tai ⁵, Edward Yu ⁶ and Rashmi Koul ⁷

- ¹ Nursing Department, Al-Zaytoonah University, Airport Street, Amman, Jordan
- ² Hanin Masalha, RN, MSN, Clinical Adult, Jordan, Faculty of Nursing, Hamad Medical Corporation, 00962790234423
- ³ Department of Medical Oncology, Cork University Hospital, Cork T12 DC4A, Ireland
- ⁴ Department of Oncology, Department of Radiation Oncology, Cross Cancer Institute, 11011 - 88 Avenue, Edmonton, AB, T6G 2G5, Canada
- ⁵ Department of Oncology, University of Saskatchewan, Saskatoon, Canada
- ⁶ Department of Oncology, Western University, London, Ontario, N6K 3K7, Canada
- ⁷ Department of Oncology, University of Manitoba, 675 McDermot Ave, Winnipeg, MB, R3E 0V9, Canada
- * Correspondence: omaralqaisi119@gmail.com

Simple Summary

Cancer is a leading cause of death worldwide, and patients with advanced cancer often experience severe physical and emotional symptoms that lead to frequent emergency visits and hospitalizations. Palliative and supportive care, when introduced early rather than only at the end of life, can significantly improve patients' quality of life and reduce symptom burden. Nurses play a central role in delivering this early care through symptom assessment, care planning, telephone follow-up, and caregiver support; however, their contributions have not been comprehensively mapped. This scoping review examined thirteen studies and identified six key domains of nursing involvement in early palliative and supportive care for adults with advanced cancer. Findings revealed that nurse-led interventions improve patient and caregiver outcomes, yet gaps in communication training, role clarity, and organizational support persist, which can hinder the effectiveness of these interventions and the overall quality of care provided. These results can inform future policies and educational programs aimed at strengthening nurses' roles in delivering timely, patient-centered palliative care.

Abstract

As the global cancer burden rises, adults with advanced cancer face significant physical and psychosocial symptoms requiring early integration of palliative and supportive care. Nurses in oncology, emergency, and community settings are central to symptom assessment, care coordination, communication, and advance care planning, yet their roles in early integration remain underexplored. This scoping review mapped nursing contributions to early palliative and supportive care for adults with advanced cancer and described related patient, caregiver, and system outcomes. It was based on a search of PubMed, CINAHL, Scopus, and ScienceDirect for English-language studies (January 2016–November 2025) involving nursing-relevant interventions. Thirteen studies were included: trials, observational studies, qualitative research, reviews, and a meta-analysis. Six domains emerged. Early integration consistently improved quality of life and reduced symptom burden. Nurse-led interventions increased end-of-life discussions and advance directive completion. Telehealth and telephone follow-up proved feasible for symptom management. Studies noted moderate palliative competence but gaps in communication and structural support. Caregiver-focused interventions enhanced caregiver quality of life and self-efficacy. Conclusions: Nurses are pivotal in early palliative care. Expanding structured nurse-led models, strengthening

communication training, and addressing organizational barriers are essential to deliver timely, person-centered care.

Keywords: early palliative care; oncology nursing; advance directive; supportive care; nurse-led interventions; scoping review

1. Introduction

Cancer is a leading global public health challenge. An estimated 20 million new cases and 9.7 million deaths were recorded worldwide in 2022, with projections exceeding 35 million new cases annually by 2025 [1]. Adults with advanced cancer frequently experience acute complications and symptom exacerbations that lead to emergency department visits and hospitalizations. Many of these encounters are potentially preventable through earlier symptom management and proactive palliative care integration [2–6]. In the United States, cancer-related emergency department (ED) visits account for approximately 4.2% of all adult visits, with roughly 4 million visits annually [4]. A cross-sectional study of 35.5 million ED visits among cancer patients revealed that 51.6% were potentially preventable, increasing from 1.8 million in 2012 to 3.2 million in 2019 [5](Alishahi Tabriz et al., 2023). Cancer-related ED visits result in inpatient admissions at 59.7%, significantly higher than the 16.3% rate for non-cancer visits [4]. Babacan et al. further reported that 48.7% of 1,593 cancer patients admitted to emergency services were diagnosed with oncological emergencies (OEs), with a 22.2% mortality rate [7]. Early recognition of OEs is critical, as delays directly worsen patient outcomes. Al-Sharawneh et al. demonstrated that subtle oncologic presentations result in an average 47.5-minute delay in being seen, a 33-minute delayed in treatment initiation, a fourfold increase in intensive care unit admissions, and a three-fold rise in mortality risk [8]. Nurses, as frontline providers, are uniquely positioned to detect subtle changes such as new onset back pain or urinary difficulties that may herald emergencies like malignant spinal cord compression [9–11]. Temel et al. early palliative care trial demonstrated that early palliative care improved quality of life, reduced aggressive end of life care (33% vs. 54%), and was associated with longer median survival (8.9 vs. 11.6 months in the intervention vs. control group)[12].

Patients with advanced cancer are also at risk of oncologic emergencies such as metabolic (e.g., hypercalcemia, tumor lysis syndrome), hematologic (e.g., disseminated intravascular coagulation, febrile neutropenia), structural (e.g., superior vena cava syndrome, malignant spinal cord compression), and treatment-related complications, which require timely recognition and interdisciplinary management [13].

A systematic review examining 49 studies found infection as the most common OE (22/49 studies), followed by pain (20/49), dyspnea (19/49), gastrointestinal symptoms (17/49)[14]. Nursing care encompasses continuous monitoring that include electrolyte monitoring; pain management; infection control; and patient/family education [15–17]. Concurrently, American Society of Clinical Oncology (ASCO) and European Society of Medical Oncology (ESMO) strongly recommend early and continuous palliative care integration throughout the cancer trajectory [18,19], with nurse led enhanced supportive care demonstrating effectiveness in improving role functioning in cancer patients [20].

Despite the high symptom burden and acute complications faced by adults with advanced cancer, the literature continues to show important gaps in how nurses operationalize early palliative and supportive care across settings. Yilmaz et al. highlighted that many studies in acute and oncologic contexts do not clearly specify cancer type, stage, or treatment characteristics, limiting the transferability of findings to advanced disease [14]. Lewis et al. identified only a small number of studies that explicitly examined nursing care for complex cancer-related presentations, while Oliveira et al. reported that some nurses feel insufficiently prepared for early identification and escalation of cancer-related deterioration [16,21]. Wattana et al. similarly found that a substantial proportion of emergency physicians reported knowledge gaps related to cancer therapeutics and serious cancer-

related complications [22], and Scarpi et al. noted that many patients with poor-prognosis metastatic cancers do not receive specialized palliative care within the first year after diagnosis [19]. These gaps persist despite strategic priorities from professional bodies, such as the Oncology Nursing Society 2024-2027 research agenda, which calls for strengthening oncology nurses’ roles in symptom management, communication, and early palliative care integration [23].

Therefore, this scoping review aims to systematically map and synthesize the existing literature on nursing roles in the early integration of palliative and supportive care for adults with advanced cancer and to describe associated patients, caregivers, and system-level outcomes.

The review was guided by the following research question: “What is the nature and scope of nursing roles in early palliative and supportive care integration for adults with advanced cancer, and what patient, caregiver, and system-level outcomes are associated with nurse-led or nursing-relevant interventions?”

2. Materials and Methods

2.1. Study Design

This study was conducted as a scoping review to map the breadth and nature of evidence on nursing roles in the early integration of palliative and supportive care for adults with advanced cancer. The review followed the five-stage methodological framework proposed by Hilary Arksey and Lisa O’Malley [24], which includes: (1) identifying the research question, (2) identifying relevant studies, (3) study selection, (4) charting the data, and (5) collating, summarizing, and reporting the results. Reporting adhered to the Preferred Reporting Items For Systematic Reviews and Meta-Analyses (PRISMA-ScR) guideline.

2.2. Conceptual Focus and Eligibility Criteria

We used a Population, Concept, Context (PCC) approach to define eligibility [25].

Table 1. Population–Concept–Context (PCC) framework for eligibility criteria.

Conceptual name	Definition
Population	Adults (≥18 years) diagnosed with cancer, with particular focus on studies involving advanced, metastatic, or incurable disease.
Concept	Early integration of palliative and/or supportive care, with an explicit nursing component. This included nurse-led or nursing-relevant interventions, roles, competencies, or models that addressed early symptom assessment and management, advance care planning, psychosocial or spiritual support, care coordination, or caregiver support within a palliative or supportive care framework.
Context	Any healthcare setting where early palliative or supportive care was delivered, including emergency departments, oncology inpatient units and outpatient clinics, palliative care units, surgical oncology services, community-based and home-care services, and telehealth or telephone follow-up programs.

Studies were included if they: (1) examined nursing roles, nurse-led interventions, or nursing-relevant components of early palliative and/or supportive care in oncology (2) involved adult patients with cancer and/or their caregivers (3) reported at least one patient-, caregiver-, or system-level outcome (e.g., symptom burden, quality of life, advance care planning, satisfaction, communication, or service utilization) (4) were published in peer-reviewed journals in English between January 2016

and November 2025; and used any empirical or evidence-synthesizing design, including randomized or quasi-experimental studies, observational cohort or cross-sectional studies, qualitative studies, mixed-methods studies, narrative reviews, or descriptive models of care. Evidence syntheses (systematic reviews and meta-analyses) were included to ensure comprehensive mapping of the existing knowledge base.

We excluded studies that focused exclusively on pediatric populations; did not address nursing roles or did not include a nursing-relevant component; examined palliative care only at the very end of life without an early integration component; were conference abstracts, protocols without results, editorials, commentaries, or non-peer-reviewed reports; or were published in languages other than English.

A comprehensive search was conducted across four electronic databases: PubMed, CINAHL, Scopus, and ScienceDirect, covering the period from January 2016 to November 2025. These databases were selected because they provide comprehensive coverage of biomedical, nursing, and multidisciplinary health literature. The search strategy was developed iteratively by the research team and combined controlled vocabulary and free text terms related to cancer, palliative and supportive care, and nursing. A typical search string included combinations of terms such as: ("cancer" OR "oncology") AND ("palliative care" OR "supportive care" OR "early palliative care") AND ("nurse-led" OR "nursing role" OR "nursing care" OR "advance care planning"). Search strategies were tailored to each database, and the complete strings and development process are provided in Supplementary Tables S1 and S2.

To ensure comprehensive coverage, we also conducted backward and forward citation tracking of all included studies and relevant systematic reviews using Google Scholar and Web of Science. Reference lists of included articles were hand-searched to identify additional eligible publications. In line with PRISMA-ScR guidance, protocol registration is not mandatory for scoping reviews; however, the review methods were defined a priori.

2.3. Study Selection

All records identified from the database searches were imported into a reference management program (EndNote software), and duplicates were removed. Two independent reviewers (O.A. and P.T.) screened titles and abstracts, followed by full-text review of potentially eligible articles. Discrepancies were resolved through discussion with the third author (S.A). The selection process is summarized in the PRISMA-ScR flow diagram (**Figure 1**).

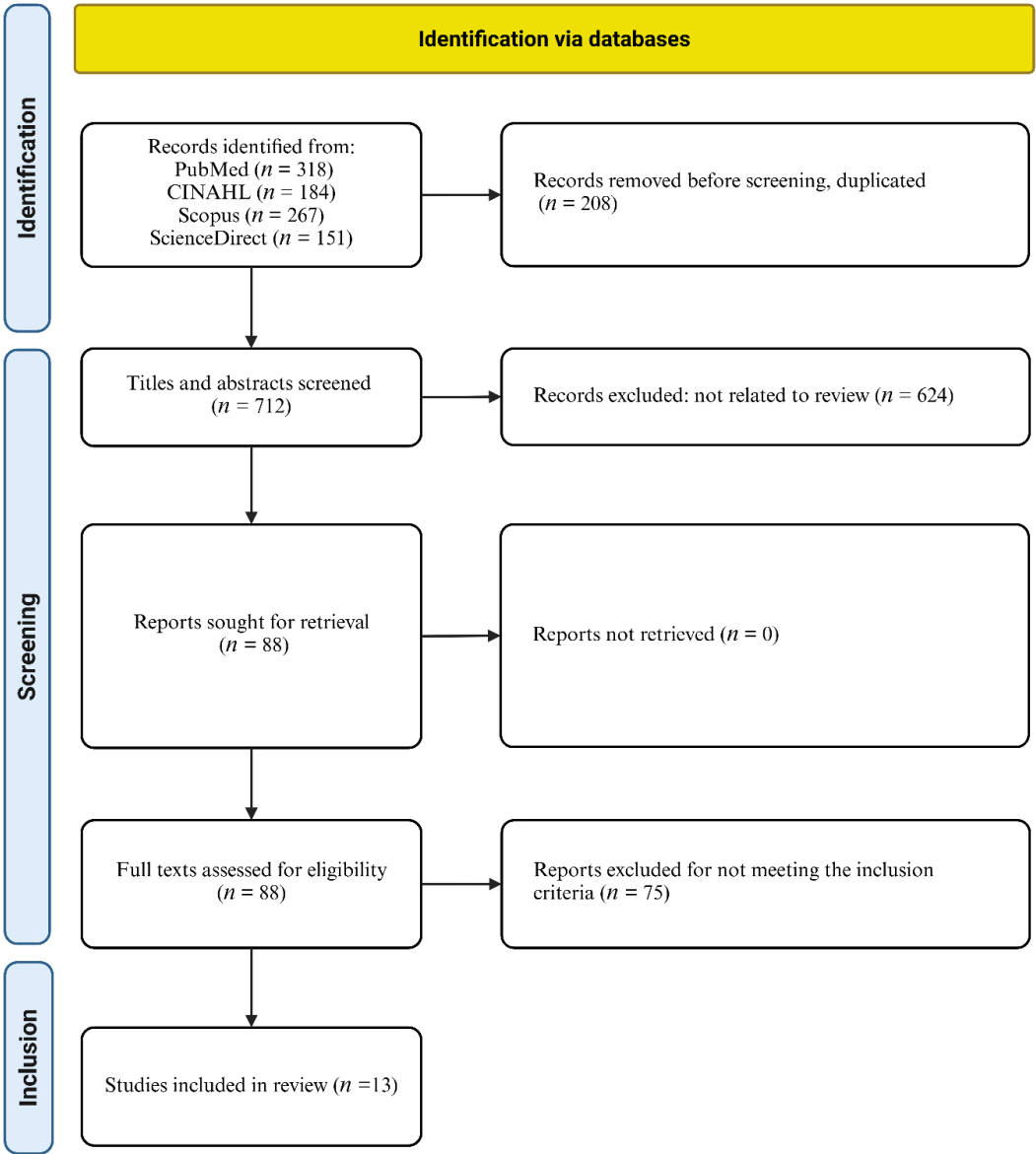


Figure 1. Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) flow diagram of the study selection process. The database search yielded 920 records (PubMed (n = 318); CINAHL (n = 184); Scopus (n = 267); ScienceDirect (n = 151). After removal of 208 duplicates, 712 titles and abstracts were screened, resulting in 88 full-text articles assessed for eligibility. Thirteen studies met the inclusion criteria and were included in the final synthesis.

2.4. Data Charting

A standardized data-charting form was developed, piloted on a subset of studies, and subsequently refined by the review team. For each included study, we extracted the following: author and year, country, study design, setting, sample characteristics, cancer type and stage (when reported), description of the nursing role or intervention (including early palliative and supportive care components), outcomes measured (patient, caregiver, or system level), and key findings. One reviewer performed the initial data extraction, and a second reviewer verified all entries for accuracy and completeness.

The 13 included studies encompassed randomized controlled trials, quasi-experimental studies, retrospective cohort and observational studies, a multicenter cross-sectional survey, a qualitative interpretive descriptive study, a meta-analysis, systematic and narrative reviews, and a descriptive model of care. Settings spanned emergency departments, oncology and palliative care units, surgical

oncology clinics, community and home-based programs, and telehealth platforms across the United States, Canada, China, Italy, Egypt, Romania, and the Netherlands.

2.5. *Synthesis of Results*

Consistent with scoping review methodology, we did not perform a formal risk-of-bias assessment, as the aim was to map the extent and nature of the evidence rather than to generate pooled effect estimates. Instead, we conducted an inductive thematic synthesis across the charted data. Studies were grouped according to the primary focus of the nursing role or intervention (e.g., early palliative care integration, advanced care planning, telephone-based symptom management, nursing competencies, models of care, and caregiver outcomes). Through iterative team discussion, we identified six analytical domains and summarized how different study types contributed to each domain. A summary table (Table 2) describes the characteristics of the included studies, and a thematic synthesis table (Table 3) outlines the domains, outcome measures, and principal findings. Consistent with the PRISMA-ScR guidelines for scoping reviews, a formal assessment of methodological quality (risk of bias) of the included studies was not performed. The purpose of this review was to map the breadth of available evidence rather than to assess the quality of individual studies for meta-analysis. Data were synthesized descriptively to categorize interventions and summarize their impact on patient outcomes.

Table 2. Summary of 13 studies included in this review.

Author	Country	Study design	Sample size	Cancer type	Main findings
Bansal (2023)[26]	USA	Retrospective	326 patients	Advanced abdominal and soft tissue malignancies	AD designation increased from 72.0% to 85.4% (P=0.004). AD designation associated with palliative care consultation (OR 41.48, P<0.001) and workflow integration (OR 2.05, P=0.048). Documentation rates did not significantly increase (48.9%vs 56.3%, P=0.19).
Nie (2025)[27]	China	Multicenter cross-sectional study	1,198 nurses	Oncology department	Total PCPS score: 67.17±12.57. Positive correlations between practices ability and core competence (r=0.77, P<0.01) and pain assessment ability (r=0.56, P<0.01). Female gender, higher education, interest in palliative care, pain assessment, and core competence were positive predictors (Adjusted R ² =0.668, P<0.05).
Chow (2023)[28]	Canada	Meta-analysis	8,554 caregiver (49 trials)	Advanced cancer	Significant improvements in overall QoL (SMD=0.24,95% CI 0.10-0.39), mental well-being (SMD=0.14), anxiety (SMD=0.27), and depression (SMD =0.34, P<0.001). Narrative synthesis showed improvements in self-efficacy and grief.
Cohen (2023)[29]	USA	Secondary analysis of cluster RCT	672 patients	Advanced cancer	EOLC: 45.1% intervention vs 14.8% control (adjusted OR 5.28,95% CI 3.10-8.97, P<0.001). AD completion: 43.2% intervention vs 18.1% control (adjusted OR 3.68,95% CI 1.89-7.16, P<0.001).
Kilgour (2025)[30]	Canada	Qualitative interpretive descriptive study	19 oncology nurses	Various oncology settings	Identified three themes: (1) uncertainties related to the nursing role in ACP, (2) educational and training environment gaps, and (3) structural barriers, including lack of time, space, privacy, and team dynamics affecting interdisciplinary collaboration.
Valenti (2023)[31]	Italy	Observational retrospective study	171 patients	Advanced cancer (early palliative care)	323 total phone calls. Most common requests: pain management (38.4%), clinical updates (23.8%), medication management (18.9%), and scheduling (18.3%). 87.6% effectiveness in telephone management. 210/323 calls handled by a nurse alone

Grudzen (2016)[32]	USA	Single blind RCT	136 patients	Advanced cancer presenting to emergency department	QoL improved significantly in the intervention group (mean increase 5.91 vs 1.08, P=0.03). Median survival: 289 days intervention vs 132 days control (P=0.20, not significant). No significant differences in depression or ICU admission.
Hui (2018)[33]	USA/Canada	Narrative review	N/A (review articles)	Advanced cancer	Proposed conceptual frameworks for integrating palliative care: a team-based approach addresses multidimensional needs, timely care is preventive, and targeted care identifies patients most likely to benefit. Emphasized the need for personalized palliative care delivery.
Creangă-Murariu (2025)[34]	Romania	Systematic review	14 RCTs	Advanced, incurable or metastatic cancer	32/41 trials demonstrated significant clinical benefit. EPC consistently improved QOL and reduced symptom burden. Some studies reported slowed disease progression. Substantial heterogeneity in timing, frequency, and integration approaches across studies.
Shaulov (2022)[35]	Canada	Narrative review	N/A (review articles)	Hematological malignancies	Patients with hematological malignancies have a comparable symptom burden to solid tumors but face barriers to early palliative care. Proposed three-level care model: primary (community), secondary (hospital specialists), tertiary (specialized PC consultants). Emphasized the need for early integration despite prognostic uncertainty.
Koekkoek (2023)[36]	Netherlands, Italy, Switzerland, Canada, USA, India, UK, Australia (international panel)	Systematic review	140 articles included (search yielded 5,262 articles)	Adults with malignant brain tumors (gliomas and brain metastases)	A comprehensive framework of palliative and supportive care for high-grade glioma patients and caregivers was proposed with five disease trajectory phases. No pharmacological agent significantly improved fatigue or neurocognition in RCTs. Early palliative care interventions and advanced care planning should be part of each disease phase.
Lelond & Kim (2025)[37]	Canada (Manitoba)	Descriptive model care (with implementation data)	269 referrals received; 235 consults completed in 18 months	Advanced pancreatic cancer, cholangiocarcinoma, and hepatocellular carcinoma	Of 235 consults, 157 were for symptom management and 61 for goals of care discussion. 124 patients were seen before biopsy confirmation. At initial consult: 100 had goals aligned with chemotherapy, 90 with palliative

					care alone, and 45 were unsure. 136 went on to see the medical oncologist; 76 received chemotherapy. Key barriers: lack of understanding of CNS role, confusion between EPC and end-of-life care, limited resources. Facilitators: stakeholder buy-in, alignment with national palliative care frameworks, leveraging existing referral systems
Abdel-Aziz, Zaghmir, & Ibrahim (2025)[38]	Egypt	Quasi-experimental design (pre- and post-test)	140 adult patients	Cancer and other life limiting illness	Significant reduction in symptom severity: physical symptoms (mean score 3.5→1.0), psychological symptoms (5.3→2.5), and emotional and spiritual needs (4.0→1.5), all P<0.001. EORTC QLQ-C30 showed improved QoL: physical functioning (60.0→80.0) and emotional functioning (55.0→75.0). Participants reported improved perceptions of social support and general well-being. Highlights the feasibility and positive impact of structured nurse-led community palliative care in a low- and middle-income country setting.

ACP: advance care planning; **AD:** advance directive; **ASD:** Antiseizure drug; **CCMB:** cancer care Manitoba; **CI:** confidence interval; **CNS:** clinical nurse specialist; **EANO:** European associated of neuro-oncology; **EHR:** electronic health records, **EOLC** :end of life conversation; **EORTCQLQ-C30:** European organization for research and treatment of cancer quality of life questionnaire; **EPC:** early palliative care; **EPCS:** end of life professional caregiver survey, **ESAS:** Edmonton symptom assessment scale; **FACT-G:** functional assessment of cancer therapy general measure; **ICU:** intensive care unit; **OR:** odds ratio; **PC:** palliative care; **PCPS:** palliative care self-reports practices scale; **PHQ-9:** patients health questionnaire-9; **POS:** palliative outcome scale; **QoL:** Quality of life; **RCT:** randomized control trial; **Self-PAC:** self-perceived pain assessment knowledge and confidence scale; **SMD:** Standardized mean difference.

3. Results

3.1. Study Selection and Characteristics

The database search yielded 920 records (PubMed, 318, CINAHL: 184, Scopus: 267, ScienceDirect: 151). After removing 208 duplicates, 712 titles and abstracts were screened, resulting in 88 full-text articles assessed for eligibility. A final total of 13 studies met the inclusion criteria (Figure 1).The included studies comprised randomized controlled trials (n=2), a quasi-experimental study (n=1), a multicenter cross-sectional study (n=1), a qualitative study (n=1), retrospective cohort studies (n=2), systematic reviews (n=2), narrative reviews (n=2), a meta-analysis (n=1), and a descriptive model of care (n=1). Studies were conducted across multiple countries (United States, Canada, China, Italy, Egypt, Romania, and the Netherlands) and healthcare settings (emergency departments, oncology wards, palliative care units, surgical oncology clinics, community-based settings, and telehealth platforms). Sample sizes of primary research ranged from 19 (qualitative interviews) to 1,198 (multicenter survey).

Thematic analysis of the 13 included studies identified six analytical domains: (1) early palliative care integration and patient outcomes, (2) nurse-led advance care planning interventions, (3) telephone-based symptom management, (4) nursing competencies and practice gaps, (5) conceptual frameworks and models of care, and (6) caregiver outcomes. Themes were identified through repetitive comparison of extracted data across studies, centering on the primary nursing role or intervention described and the outcomes reported.

A conceptual overview of these domains and nursing roles in early palliative and supportive care is presented in **Figure 2**. **Table 3** provides a detailed synthesis of these domains with corresponding outcome measures and contributing studies.

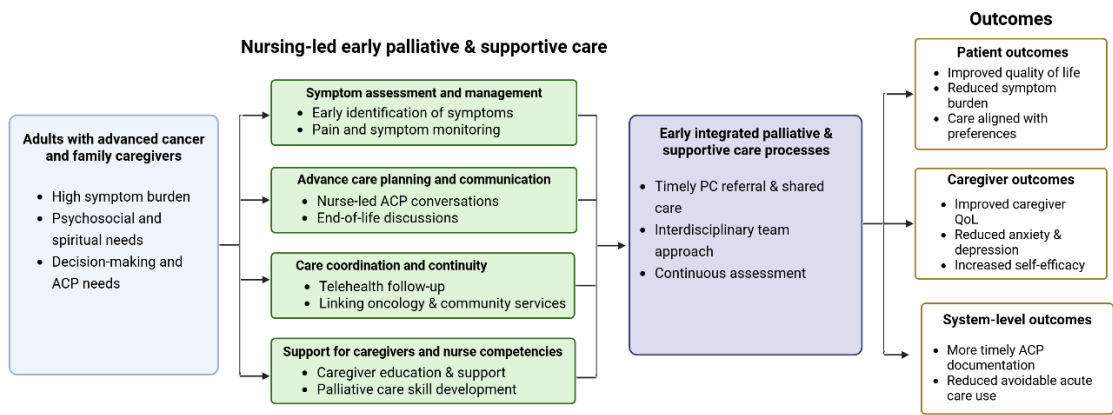


Figure 2. Conceptual model of nursing-led early palliative and supportive care for adults with advanced cancer. The figure illustrates how nurses respond to the needs of adults with advanced cancer and their family caregivers through four key role clusters (symptom assessment and management; advanced care planning and communication; care coordination and continuity, including telehealth; and support for caregivers and nursing competencies). These roles contribute to early integrated palliative and supportive care processes and are linked to patient, caregiver, and system-level outcomes identified in this scoping review. ACP: advanced care planning; PC: palliative care; QoL: quality of life.

Table 3. Synthesis of Key Findings Across Included Studies (n=13).

Analytical Domain	Author (Year)	Study Design	Key Outcome Measures	Principal Findings
EPC and Patient Outcomes	Creangă-Murariu et al. (2025)[34]	Systematic review (41 RCTs)	QoL, symptom burden, disease progression	32/41 (78%) trials showed significant clinical benefit; EPC improved QoL and reduced symptom burden
	Grudzen et al. (2016)[32]	Single-blind RCT (n=136)	FACT-G, survival, depression	QOL ↑5.91 vs. 1.08 (P = 0.03); median survival 289 vs. 132 days (P = 0.20)
	Abdel-Aziz et al. (2025)[38]	Quasi-experimental (n=140)	POS, ESAS, EORTC QLQ-C30	Physical symptoms 3.5→1.0; emotional/spiritual 4.0→1.5; physical functioning 60.0→80.0 (all P < 0.001)
Nurse-Led ACP Interventions	Cohen et al. (2023) [29]	Secondary analysis of cluster RCT (n=672)	EOLC, AD completion	EOLC: 45.1% vs. 14.8% (adj. OR = 5.28, P < 0.001); AD: 43.2% vs. 18.1% (adj. OR = 3.68, P < 0.001)
	Bansal et al. (2023) [26]	Retrospective cohort (n=326)	AD designation, AD documentation	AD designation 72.0%→85.4% (P = 0.004); PC consultation OR = 41.48 (P < 0.001)
Telephone Symptom Management	Valenti et al. (2023) [31]	Retrospective observational (n=171)	Call reasons, nurse management rate, effectiveness	87.6% effectiveness; pain (38.4%) most common; 65% calls managed by nurse alone
Nursing Competencies and Gaps	Nie et al. (2025) [27]	Multicenter cross-sectional (n=1,198)	PCPS, EPCS, Self-PAC	PCPS = 67.17 ± 12.57; communication lowest; core competence r = 0.77; Adj. R ² = 0.668
	Kilgour et al. (2025) [30]	Qualitative interpretive descriptive (n=19)	Thematic analysis	Three barriers: role uncertainty, training gaps, structural barriers (time, space, privacy)
Frameworks and Models	Hui & Bruera (2018)[33]	Narrative review	Conceptual framework	Team-based, timely, targeted palliative care; interdisciplinary approach; personalized delivery
	Koekkoek et al. (2023)[36]	Systematic review (140 articles)	Framework development	Five-phase palliative care framework for glioma; ACP across all disease phases
	Shaulov et al. (2022)[35]	Narrative review	Model of care	Three-level model (primary, secondary, tertiary) for hematological malignancies

	Lelond & Kim (2025)[37]	Descriptive model of care (n=235 consults)	Referral data, consult outcomes	269 referrals; 157 for symptom management; 124 seen pre-biopsy; CNS-led feasibility demonstrated
Caregiver Outcomes	Chow et al. (2023)[28]	Meta-analysis (49 trials, n=8,554)	QOL, anxiety, depression, self-efficacy	QOL SMD = 0.24; depression SMD = 0.34; anxiety SMD = 0.27 (P < 0.001); improved self- efficacy and grief

ACP: advance care planning; **AD:** advance directive; adj. **OR:** adjusted odds ratio; **CNS:** clinical nurse specialist; **EOLC:** end-of-life conversation; **EORTC QLQ-C30** : European Organization for Research and Treatment of Cancer Quality of Life Questionnaire; **EPC:** early palliative care; **EPCS:** End-of-Life Professional Caregiver Survey; **ESAS:** Edmonton Symptom Assessment Scale; **FACT-G** : Functional Assessment of Cancer Therapy–General; **PCPS:** Palliative Care Self-Report Practice Scale; **POS:** Palliative Outcome Scale; **QOL:** quality of life; **RCT:** randomized controlled trial; **Self-PAC,** Self-Perceived Pain Assessment Knowledge and Confidence Scale; **SMD:** standardized mean difference.

3.2. Early Palliative Care Integration and Patient Outcomes

Three studies examined the impact of early palliative care (EPC) integration on patient clinical outcomes. Creangă-Murariu et al. in a systematic review of 41 RCTs, found that 32 trials (78%) demonstrated significant clinical benefit, with EPC consistently improving quality of life (QOL) and reducing symptom burden; some trials also suggested slowed disease progression, although substantial heterogeneity in timing, frequency, and integration approaches was noted across studies [34]. Grudzen et al. in a single-blind RCT of 136 patients with advanced cancer presenting to the emergency department, reported that ED-initiated palliative care significantly improved QOL at 12 weeks (mean Functional Assessment of Cancer Therapy–General (FACT-G) increase: 5.91 ± 16.65 vs. 1.08 ± 16.00 ; $P = 0.03$), with longer median survival in the intervention group (289 days; 95% CI: 128–453) compared with usual care (132 days; 95% CI: 80–302), though this did not reach statistical significance ($P = 0.20$)[32]. Abdel-Aziz et al. using a quasi-experimental design with 140 patients in Egypt, demonstrated significant reductions in symptom severity: physical symptoms (mean: 3.5 ± 1.2 to 1.0 ± 0.5), psychological symptoms (5.3 ± 1.8 to 2.5 ± 1.0), and emotional/spiritual needs (4.0 ± 1.3 to 1.5 ± 0.8), all $P < 0.001$ [38]. Physical functioning improved from 60.0 to 80.0 and emotional functioning from 55.0 to 75.0 on the EORTC QLQ-C30 ($P < 0.001$).

3.3. Nurse-Led Advance Care Planning Interventions

Two studies evaluated the effectiveness of nurse-led interventions on advance care planning (ACP) uptake. Cohen et al. in a secondary analysis of a cluster RCT of 672 patients, found that nurse-led primary palliative care significantly increased end-of-life conversations (EOLC: 45.1% vs. 14.8%; adjusted OR = 5.28, 95% CI: 3.10–8.97, $P < 0.001$) and advance directive (AD) completion (43.2% vs. 18.1%; adjusted OR = 3.68, 95% CI: 1.89–7.16, $P < 0.001$)[29]. Bansal et al. in a retrospective analysis of 326 surgical oncology patients, reported that AD designation increased from 72.0% to 85.4% following workflow integration ($P = 0.004$), with palliative care consultation being the strongest predictor (OR = 41.48, 95% CI: 9.59–179.43, $P < 0.001$)[26]. Racial and ethnic disparities were also observed, with patients self-identifying as a race other than non-Hispanic White being less likely to designate ADs (OR = 0.36, $P = 0.008$).

3.4. Telephone-Based Symptom Management

Valenti et al. in a retrospective observational study of 171 patients and 323 phone calls, demonstrated the feasibility of nurse-led telephone follow-up within an early palliative care program [31]. The most frequent reasons for calls were pain management (38.4%), clinical updates (23.8%), medication management (18.9%), and scheduling (18.3%). Of 323 calls, 210 (65%) were managed by the nursing case manager alone, with an overall effectiveness rate of 87.6% based symptom resolution or stabilization within 7 days.

3.5. Nursing Competencies and Practice Gaps

Two studies assessed nursing competencies relevant to palliative care delivery. Nie et al. (2025), in a multicenter cross-sectional study of 1,198 oncology nurses across 26 hospitals in China, reported a total PCPS score of 67.17 ± 12.57 , with physical symptom care scoring highest (32.50 ± 6.10) and communication scoring lowest (11.58 ± 2.48)[27]. Palliative care practice ability was strongly correlated with overall nursing competence ($r = 0.77$, $P < 0.01$) and pain assessment ability ($r = 0.56$, $P < 0.01$); multiple regression identified being female, higher education, interest in palliative care, core competence, and pain assessment as significant predictors (Adjusted $R^2 = 0.668$, $P < 0.05$). Kilgour et al. in a qualitative study of 19 oncology nurses, identified three themes: (1) uncertainties related to the nursing role in ACP, (2) educational and training gaps, and (3) structural barriers including lack of time, space, privacy, and interdisciplinary team dynamics [30].

3.6. Conceptual Frameworks and Models of Care

Four studies proposed conceptual frameworks or clinical models to guide early palliative care integration (Table 2). Hui and Bruera articulated a conceptual framework emphasizing team-based, timely, and targeted palliative care: an interdisciplinary approach addresses multidimensional care needs, timely care serves as preventive care, and targeted care identifies patients most likely to benefit from specialist palliative care [33]. Koekkoek et al. synthesizing 140 articles, proposed a comprehensive five-phase palliative and supportive care framework for high-grade glioma patients and their caregivers, recommending that EPC interventions and ACP be proactively addressed in each disease phase [36]. Shaulov et al. proposed a three-level care model (primary/community, secondary/hospital specialists, tertiary/specialized palliative care consultants) for hematological malignancies, noting comparable symptom burdens to solid tumors but unique barriers to early palliative care access [35]. Lelond and Kim described a clinical nurse specialist (CNS)-led EPC model in Manitoba, Canada, receiving 269 referrals with 235 consults completed in 18 months; 157 (66.8%) were for symptom management and 124 (52.8%) were seen before biopsy confirmation, demonstrating the feasibility of nurse-led EPC during the diagnostic phase [37].

3.7. Caregiver Outcomes

Chow et al. in a meta-analysis of 49 trials involving 8,554 caregivers of patients with advanced cancer, reported significant improvements in overall QoL (SMD = 0.24, 95% CI: 0.10–0.39), mental well-being (SMD = 0.14), anxiety (SMD = 0.27), and depression (SMD = 0.34, $P < 0.001$) [28]. Narrative synthesis of additional studies also demonstrated improvements in caregiver self-efficacy and bereavement outcomes.

4. Discussion

This scoping review synthesized evidence from 13 studies examining nursing roles in the early integration of palliative and supportive care for adults with advanced cancer across diverse settings and designs. Overall, the findings indicate that when nurses are actively involved in early palliative and supportive care through baseline assessment, advance care planning, telephone follow-up, community-based models, and specialist roles patient and caregiver outcomes improve, and care processes become more aligned with patient needs. A key theme was the consistent association between early palliative care integration and improved patient outcomes. The systematic review by Creangă-Murariu et al. reported that 32 of 41 randomized trials (78%) demonstrated significant clinical benefit of early palliative care, including improved quality of life and reduced symptom burden in advanced cancer [34]. Individual intervention studies, such as Grudzen et al.'s [32] emergency department-initiated palliative care trial and Abdel-Aziz et al.'s [38] nurse-led community program, similarly, showed clinically meaningful reductions in symptom severity and better functional outcomes for patients with advanced malignancies. Together, these data reinforce international recommendations that palliative care should be introduced early in the metastatic disease trajectory rather than reserved for the end of life, and they highlight that nurses are often the professionals operationalizing these early interventions in practice.

Nurse-led advanced care planning (ACP) emerged as a particularly impactful domain. In the CONNECT trial [29] analysis, nurse-led primary palliative care within community cancer centers substantially increased patient-reported end-of-life conversations and advance directive completion compared with standard oncology care. Similarly, Bansal et al. [26] found that integrating palliative care and ACP prompts into the surgical oncology workflow increased advance directive designation among patients with advanced abdominal and soft-tissue malignancies, with palliative care consultation showing a very strong association with documentation. However, Bansal et al. also reported racial and ethnic disparities in advance directive designation, underscoring the need for nurse-led ACP interventions that are explicitly designed to address equity and cultural safety [26].

Nurse-led telephone and telehealth symptom management offers another important avenue for expanding early palliative and supportive care. Valenti et al. [31] demonstrated that a nurse-led telephone follow-up service within an early palliative care program was highly utilized, with most

calls related to pain, clinical updates, and medication management, and nearly two-thirds of contacts effectively managed by nurses alone. These findings suggest that nurses can provide timely, low-threshold support between in-person visits, potentially reducing unnecessary acute care utilization and improving continuity of care for patients and families. Telehealth-based nursing interventions may be especially valuable for patients who face geographic or functional barriers to accessing specialized palliative services.

The findings converge on several key themes: the clinical benefit of early palliative care integration, the effectiveness of nurse-led interventions in advanced directive planning and symptom management, persistent competency and structural gaps in nursing practice, and the emerging importance of caregiver-inclusive approaches. These themes are discussed below in relation to the broader literature.

At the same time, the review reveals important gaps in nursing competencies and practice environments. In a large multicenter survey from China, Nie et al. reported moderate overall palliative care practice scores among oncology nurses, with the lowest performance in communication, despite strong associations between core competence, pain assessment ability, and overall practice [27]. Complementing these quantitative findings, Kilgour et al. found that oncology nurses in Canada experienced uncertainty about their role in ACP, perceived educational and training gaps, and encountered structural barriers such as limited time, privacy, and inconsistent team support for nurse-led ACP [30]. These studies collectively suggest that strengthening early palliative and supportive care requires not only knowledge-based education in symptom management and ACP but also investment in advanced communication training, clear role delineation, and organizational changes that enable nurses to engage in complex conversations and longitudinal relationships with patients.

Conceptual frameworks and models of care included in this review further clarify how nursing roles can be embedded across the trajectory of advanced cancer. Hui et al [33] state-of-the-science review proposes a team-based, timely, and targeted approach to palliative care that emphasizes interdisciplinary collaboration and proactive identification of patients most likely to benefit from specialist input. Shaulov et al. describe a three-level model (primary, secondary, and tertiary palliative care) for hematological malignancies, in which oncology and hematology clinicians support secondary palliative care and Specialist teams manage more complex needs, a structure that implicitly relies on nurses at all levels [35]. Koekkoek et al. [36] presented a five-phase palliative and supportive care framework for high-grade glioma that integrates early palliative care and ACP throughout the disease course and highlights the importance of continuous support for both patients and caregivers. Lelond and Kim's [37] descriptive model of a clinical nurse specialist-led early palliative care service for high-risk hepato-pancreato-biliary cancers further demonstrates that nurses can feasibly assess symptoms, goals of care, and referral needs, often even before histological confirmation, thereby embedding early palliative principles at the diagnostic stage.

Caregiver-focused and dyadic interventions represent an additional, often under-recognized dimension of early palliative and supportive care. In a large meta-analysis, Chow et al. showed that supportive interventions targeting caregivers and patient-caregiver dyads improved caregiver quality of life, anxiety, depression, and self-efficacy in the context of advanced cancer [28]. These findings are highly relevant to nursing practice, as nurses are frequently the first to recognize caregiver distress and can play a central role in referring caregivers to supportive programs or delivering structured psychoeducational and supportive interventions themselves.

Taken together, these findings have several *implications* for practice, education, and policy. First, oncology, emergency, and community services should prioritize early, nurse-led palliative and supportive care interventions that combine systematic symptom assessment, ACP, caregiver support, and care coordination rather than limiting palliative care referrals to late-stage disease. Second, nurse education at undergraduate and postgraduate levels, as well as continuing professional development, should incorporate structured training in palliative care communication, culturally responsive ACP, and longitudinal symptom management, building on the competence domains

identified in survey and qualitative studies. Third, organizational leaders should redesign workflows and staffing models to protect time for nurse-led ACP and complex symptom discussions, support clinical nurse specialist or nurse navigator roles, and integrate telehealth as a standard modality for early supportive and palliative care delivery.

This review has *limitations* inherent to scoping methodology. As recommended for scoping reviews following the Arksey and O'Malley framework, we did not perform a formal risk-of-bias assessment or meta-analysis, and the included studies were heterogeneous in design, populations, settings, and outcomes, limiting the ability to directly compare effects across interventions. Most studies were conducted in high-income countries, potentially limiting the generalizability of findings to low- and middle-income settings, although the inclusion of nurse-led community palliative programs from such contexts is encouraging. Furthermore, some domains such as emergency department-initiated palliative care, hematological malignancies, and culturally tailored ACP are represented by relatively few studies and warrant further investigation.

Despite these limitations, this scoping review provides a comprehensive overview of how nurses currently contribute to the early integration of palliative and supportive care for adults with advanced cancer. Future research should include rigorous evaluations of nurse-led models in diverse health systems, including randomized and implementation studies, and should focus on strategies to overcome communication, role, and structural barriers identified in existing work.

5. Conclusions

Nurses occupy a pivotal position in operationalizing early palliative and supportive care for adults with advanced cancer. Evidence from diverse settings indicates that nurse-led and nursing-relevant interventions can improve patient and caregiver outcomes, enhance ACP uptake, and support continuity of symptom management across the cancer trajectory. Expanding structured, nurse-led early palliative and supportive care models, coupled with targeted education and organizational reform, is essential to optimize patient-centered outcomes and to ensure that patients with advanced cancer receive timely, person-centered palliative and supportive care.

Supplementary Materials: The following supporting information can be downloaded at the website of this paper posted on Preprints.org.

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Abbreviations

The following abbreviations are used in this manuscript:

ACP	advanced care planning
AD	advanced directive
adj. OR	adjusted odds ratio
ASCO	American Society of Clinical Oncology
ASD	antiseizure drug

CCMB	Cancer Care Manitoba
CI	confidence interval
CNS	clinical nurse specialist
EANO	European associated of neuro-oncology
EHR	electronic health records
EOLC	end of life conversation
EORTCQLQ-C30	European organization for research and treatment of cancer quality of life questionnaire
EPC	early palliative care
EPCS	end of life professional caregiver survey
ESAS	Edmonton symptom assessment scale
ESMO	European Society of Medical Oncology
FACT-G	functional assessment of cancer therapy general measure
ICU	intensive care unit
OR	odds ratio
PC	palliative care
PCPS	palliative care self-reports practices scale
PHQ-9	patient health questionnaire-9
POS	palliative outcome scale
QoL	quality of life
RCT	randomized controlled trial
Self-PAC	Self-Perceived Pain Assessment Knowledge and Confidence Scale
SMD	Standardized mean difference

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