Volume 9, No. 2
Agustus, 2026

e-ISSN : 2685-1997
p-ISSN : 2685-9068

REAL in Nursing Journal (RNJ)
Research of Education and Art Link in Nursing Journal
https://ojs.fdk.ac.id/index.php/Nursing/index

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Received: July 31, 2026
Revised: August 24, 2026
Accepted: August 25, 2026

Keywords:
cancer pain; patient-centred care; holistic nursing; self-management; oncology nursing; quality of life; patient satisfaction.

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Abstract

Background: Despite advances in oncology and evidence-based pain management guidelines, cancer pain remains one of the most prevalent and inadequately controlled symptoms among people living with cancer. Current pain management continues to rely predominantly on pharmacological approaches and symptom intensity assessment, whereas the multidimensional nature of cancer pain requires broader strategies that align with the principles of patient-centred care.

Objective: This Perspective discusses the limitations of current cancer pain management and proposes holistic nursing models as a conceptual framework to strengthen patient-centred pain management in oncology.

Main Discussion: Cancer pain is influenced by interacting physical, psychological, social, and spiritual factors that extend beyond nociceptive mechanisms. Although contemporary guidelines provide effective recommendations for pharmacological treatment, they often do not fully address patients' self-management capacity, psychosocial needs, spiritual well-being, or individual care priorities. Holistic nursing provides an integrated approach by combining comprehensive assessment, collaborative goal setting, multidimensional nursing interventions, continuous self-management support, and ongoing evaluation. This framework positions nurses as key facilitators of patient engagement, interdisciplinary collaboration, and individualized symptom management. The proposed conceptual model emphasizes the coordinated integration of physical, psychological, social, spiritual, and self-management domains to improve the quality and continuity of cancer pain care.

Conclusion: Holistic nursing models represent a practical direction for implementing patient-centred cancer pain management within routine oncology practice. Future research should develop, validate, and evaluate structured holistic nursing models to determine their effectiveness in improving patient-reported outcomes, including pain control, self-efficacy, quality of life, and patient satisfaction.

Introduction

Cancer continues to be a leading cause of morbidity and mortality worldwide despite substantial advances in prevention, diagnosis, and treatment. According to the Global Cancer Observatory, an estimated 20 million new cancer cases and approximately 9.7 million cancer-related deaths occurred in 2022, with the global burden expected to increase over the coming decades because of population aging and demographic growth (Singh et al., 2023;

Sung et al., 2021). As survival improves through advances in surgery, systemic therapy, radiotherapy, and targeted treatments, greater attention has shifted toward symptom management and health-related quality of life. Pain remains one of the most prevalent and distressing symptoms experienced by people living with cancer.

Cancer pain is multidimensional. It arises from tumor invasion, treatment-related tissue injury, diagnostic procedures, and comorbid conditions, while psychological distress, social disruption, and existential concerns frequently modify pain perception and coping capacity (Fallon et al., 2018; Raja et al., 2020). Approximately 55% of patients undergoing active anticancer treatment and more than 65% of those with advanced or metastatic disease experience pain, with a substantial proportion reporting moderate-to-severe pain intensity despite the availability of effective analgesic therapies (Van Den Beuken-Van Everdingen et al., 2016). Persistent pain is associated with impaired physical function, sleep disturbance, fatigue, anxiety, depression, reduced treatment adherence, and diminished quality of life (Paice, 2018). Pain also affects family members and caregivers, extending its consequences beyond the individual patient.

The World Health Organization (WHO) analgesic ladder has provided a practical framework for pharmacological cancer pain management for nearly four decades and remains a cornerstone of clinical practice (World Health Organization, 2020). Evidence-based guidelines have further refined opioid prescribing, adjuvant analgesics, and multimodal pain management strategies (Swarm et al., 2025). Yet pharmacological treatment alone does not fully address the complexity of cancer pain. Many patients continue to experience uncontrolled symptoms because of delayed pain reporting, inadequate assessment, concerns about opioid-related adverse effects, limited health literacy, cultural beliefs, and inconsistent communication between patients and healthcare professionals (Kwon, 2014; Oldenmenger et al., 2018; van Dongen et al., 2020). These findings indicate that persistent gaps in pain outcomes cannot be explained solely by limitations in analgesic efficacy.

Healthcare delivery has progressively adopted the principles of patient-centred care, which emphasize respect for individual preferences, shared decision-making, and active patient participation in health management (World Health Organization, 2021). Within oncology, this approach extends beyond disease control by recognizing patients as partners in care rather than passive recipients of treatment. However, the integration of patient-centred principles into routine cancer pain management remains uneven. Pain assessment often prioritizes intensity scores, whereas emotional distress, social circumstances, spiritual concerns, self-efficacy, and patients' capacity for symptom self-management receive less systematic attention. As a result, care plans may adequately target nociceptive mechanisms while failing to address the broader determinants of the pain experience (Pugh et al., 2026).

Nursing plays a central role in patient-centered cancer pain management through comprehensive symptom assessment, patient education, self-management support, multidisciplinary care coordination, and ongoing monitoring across the cancer trajectory. These responsibilities position nurses to address the biological, psychological, social, and spiritual dimensions of cancer pain. However, nursing interventions are often delivered as isolated educational or symptom-focused activities rather than within an integrated framework that promotes sustained patient engagement and self-management.

This Perspective argues that contemporary cancer pain management requires a holistic nursing framework that integrates comprehensive assessment, patient empowerment, psychosocial and spiritual support, and structured self-management into routine oncology care. To our knowledge, no previous Perspective has synthesized these elements into a holistic nursing framework for patient-centered cancer pain management. The proposed framework offers a conceptual direction to support more coordinated, patient-centered oncology nursing practice and improve patient-reported outcomes, including quality of life and patient satisfaction.

Discussion

Why Current Cancer Pain Management Is No Longer Enough?

Advances in oncology have substantially improved survival for many malignancies, yet pain remains one of the most frequently reported and inadequately managed symptoms. International guidelines provide clear recommendations for pain assessment, opioid titration, adjuvant analgesics, and multimodal interventions, but real-world outcomes continue to show a persistent burden of uncontrolled cancer pain (Fallon et al., 2018; Swarm et al., 2025). This discrepancy suggests that the remaining barriers extend beyond pharmacological management alone.

Cancer pain is not solely a physiological event. The concept of *total pain*, first introduced by Dame Cicely Saunders, recognizes that physical suffering is inseparable from psychological, social, and spiritual dimensions. Anxiety may amplify pain perception. Depression can reduce coping capacity. Financial hardship, changes in family roles, social isolation, and uncertainty about prognosis further influence how patients experience and report pain. These interacting factors contribute to substantial heterogeneity in symptom burden, even among patients with comparable disease stage or similar nociceptive mechanisms (Raja et al., 2020).

Current pain management strategies frequently prioritize numerical pain intensity scores and analgesic adjustment. Although standardized pain scales are indispensable for clinical decision-making, they capture only one aspect of the patient's experience. Pain severity does not necessarily reflect functional limitations, emotional distress, self-efficacy, treatment expectations, or the ability to perform daily activities. Consequently, a reduction in pain intensity may not correspond to meaningful improvements in quality of life or satisfaction with care (Paice, 2018).

Another limitation concerns the passive role often assigned to patients during pain management. Clinical encounters commonly focus on medication adherence and symptom reporting, whereas structured support for self-management receives less attention. Effective cancer pain control requires patients to recognize symptom changes, communicate concerns promptly, adhere to pharmacological regimens, implement appropriate non-pharmacological strategies, and participate actively in shared decision-making. Without these competencies, optimal pain management becomes difficult to sustain outside healthcare settings (Oldenmenger et al., 2018).

Evidence increasingly supports patient self-management as an essential component of chronic symptom control. Educational interventions, cognitive-behavioural therapy, relaxation techniques, structured physical activity, and caregiver involvement have demonstrated benefits for pain-related outcomes when integrated into comprehensive supportive care programs rather than delivered as isolated interventions (Valenta et al., 2021; Wu et al., 2020). However, implementation remains inconsistent. Many interventions are short-term, focus on a single domain, or lack mechanisms that reinforce behavioural change over time. This fragmented approach limits their capacity to produce sustained improvements in patient-reported outcomes.

The shift toward patient-centered care further exposes these limitations. Patient-centered care emphasizes individual goals, patient preferences, shared decision-making, and recognition of the patient's lived experience as an integral component of clinical care (Holderried et al., 2023). Applying these principles to cancer pain management requires more than optimizing analgesic prescriptions. It requires clinicians to understand how pain affects identity, daily functioning, emotional well-being, interpersonal relationships, and personal values. Such understanding cannot be achieved through symptom assessment alone.

Nurses are uniquely positioned to bridge this gap because they maintain continuous therapeutic relationships with patients across the cancer trajectory. Through repeated assessment, education, counselling, care coordination, and supportive communication, nurses can identify multidimensional contributors to pain that may not emerge during physician consultations. Despite this potential, nursing interventions are frequently implemented as discrete educational activities rather than integrated within a structured model that systematically combines symptom assessment, psychosocial support, spiritual care, and self-management strategies (Ferrell et al., 2020).

These observations indicate that the next stage of cancer pain management should not be defined by new analgesic agents alone. Instead, greater attention should be directed toward care models that integrate comprehensive assessment, patient empowerment, and multidisciplinary collaboration within a holistic nursing framework. Such models are more closely aligned with the

principles of patient-centered care and may better address the complex and dynamic nature of cancer pain.

Why Holistic Nursing Models Matter?

The persistent gap between guideline-based pain management and patient-reported outcomes indicates a need to reconsider how cancer pain is conceptualized within routine care. Contemporary oncology has made substantial progress in pharmacological treatment and symptom assessment, yet many patients continue to report unmet physical, emotional, social, and spiritual needs despite receiving appropriate analgesic therapy (Ferrell et al., 2020; Swarm et al., 2025). This disconnect reflects the multidimensional nature of cancer pain and supports the need for nursing models that extend beyond symptom control.

Holistic nursing offers such a framework. Rather than treating pain as an isolated symptom, holistic nursing recognizes pain as a complex human experience shaped by biological, psychological, social, and spiritual determinants. This perspective is consistent with patient-centered care, which values patients' experiences, preferences, beliefs, and personal goals as integral components of clinical decision-making (WHO, 2015). The objective is not to replace pharmacological management but to integrate evidence-based nursing interventions that address factors influencing pain perception, treatment adherence, coping, and quality of life.

The physical dimension remains the foundation of effective cancer pain management. Comprehensive assessment should include pain intensity, location, temporal characteristics, breakthrough pain episodes, treatment-related adverse effects, functional limitations, sleep quality, fatigue, nutritional status, and physical activity. Routine monitoring enables early identification of symptom progression and facilitates timely adjustment of pharmacological and non-pharmacological interventions (Swarm et al., 2025). However, physical assessment alone cannot explain why patients with similar clinical characteristics frequently report markedly different pain experiences.

Psychological factors substantially influence pain outcomes. Anxiety, depression, pain catastrophizing, fear of disease progression, and reduced self-efficacy may amplify pain perception and interfere with adherence to treatment recommendations (Howell, 2018; Raja et al., 2020). Nurses are well positioned to identify these factors through ongoing therapeutic relationships and to implement supportive interventions such as pain education, coping-skills training, relaxation techniques, guided imagery, mindfulness-based approaches, and motivational communication. These interventions do not replace analgesic therapy but complement it by strengthening patients' capacity to manage symptoms more effectively.

The social context is equally important. Cancer frequently alters family roles, employment, financial stability, and interpersonal relationships. Social isolation and caregiver burden may contribute to psychological distress, reduced treatment adherence, and poorer symptom control. Holistic nursing

therefore extends beyond the individual patient by engaging family caregivers, facilitating communication within multidisciplinary teams, connecting patients with community resources, and promoting shared decision-making throughout the disease trajectory (Ferrell et al., 2020). These strategies strengthen the support systems required for sustained symptom management.

Spiritual well-being represents another component that is often overlooked in routine oncology practice. Patients living with advanced cancer commonly experience existential concerns related to meaning, hope, uncertainty, dignity, and mortality. These concerns may intensify emotional distress and influence the experience of pain independently of disease severity (Balboni et al., 2022). Addressing spiritual needs does not require nurses to provide religious counseling. Instead, nurses can create opportunities for patients to express values, explore sources of meaning, facilitate referral to spiritual care providers when appropriate, and communicate with empathy while respecting individual beliefs and cultural backgrounds.

Among these dimensions, self-management serves as the mechanism that links patient-centered care with everyday symptom control. Patients spend most of their time outside healthcare facilities, making independent decisions regarding medication use, activity modification, symptom monitoring, and help-seeking behaviors. Effective self-management therefore requires more than providing information. Patients need confidence, practical skills, ongoing coaching, and reinforcement to apply knowledge consistently within changing clinical circumstances. Nursing interventions should progressively strengthen patients' ability to recognize symptom deterioration, evaluate the effectiveness of pain-relief strategies, communicate concerns promptly, and participate actively in treatment decisions (Valenta et al., 2021; Wu et al., 2020).

These dimensions should not be implemented as separate interventions. Their value lies in coordinated integration within a structured nursing model that supports continuous assessment, individualized education, collaborative goal setting, symptom monitoring, and regular evaluation. Such integration reflects the principles of patient-centered care while acknowledging that improvements in pain outcomes depend on interactions among physical symptoms, emotional responses, social support, spiritual well-being, and patients' ability to manage their own health. Holistic nursing models therefore provide a coherent conceptual framework for addressing the complexity of cancer pain in contemporary oncology practice.

Toward a Holistic Nursing Model for Patient-Centred Cancer Pain Management

The proposed framework conceptualizes holistic nursing as a continuous, patient-centered process rather than a series of isolated interventions (Figure 1). It is based on the premise that effective cancer pain management depends on the interaction between comprehensive assessment, patient-centered goal setting, coordinated nursing

interventions, continuous monitoring, and patient engagement. Each component informs the next, creating an iterative care process that adapts to patients' changing clinical and supportive care needs (Ferrell et al., 2020; WHO, 2015)WHO. The framework begins with comprehensive assessment, extending beyond pain intensity to include functional status, psychological distress, social support, spiritual well-being, health literacy, self-management capacity, and patient-reported outcomes. This multidimensional assessment identifies factors contributing to pain and provides the foundation for individualized care planning (Howell, 2018; Swarm et al., 2025; Thuan Loi et al., 2022).

Assessment informs patient-centered goal setting, in which nurses and patients establish shared goals based on individual priorities, preferences, and functional outcomes rather than pain reduction alone. This collaborative process strengthens patient engagement and aligns care with outcomes that are meaningful to patients, reflecting the principles of patient-centered care and shared decision-making (Ekman & Swedberg, 2022; Gyllensten et al., 2025). These goals guide holistic nursing interventions that integrate physical, psychological, social, spiritual, and self-management support into a coordinated care plan. The five domains are interdependent: improvements in psychological well-being may enhance treatment adherence, social support may strengthen self-management, and spiritual well-being may improve coping with persistent symptoms. Delivering these interventions within a unified framework enables nurses to address the multidimensional nature of cancer pain more effectively than isolated symptom-focused approaches (Meng et al., 2023).

Continuous monitoring and coaching sustain this process through regular reassessment of symptoms, treatment responses, self-management behaviors, and supportive care needs. Ongoing evaluation allows nurses to modify care plans according to patients' changing conditions, reinforcing the dynamic nature of patient-centered cancer pain management. Continuous follow-up is also consistent with evidence supporting nurse-led symptom management and patient self-management interventions in oncology (Miaskowski et al., 2017; Zupanec et al., 2025). Three cross-cutting elements support the framework. Patient engagement promotes active participation and shared decision-making throughout care. Interdisciplinary collaboration integrates contributions from nurses, physicians, pharmacists, psychologists, rehabilitation professionals, social workers, and spiritual care providers to ensure coordinated management. A feedback loop links patient outcomes with reassessment, enabling continuous refinement of care based on clinical responses and patient priorities. These interactions are consistent with integrated, people-centered health service models that emphasize coordinated, adaptive, and collaborative care (Dellafiore et al., 2025).

Within this conceptual model, improved pain control, self-efficacy, quality of life, treatment adherence, and patient satisfaction are viewed as the cumulative outcomes of coordinated, patient-centered nursing care rather

than any single intervention. The framework represents a conceptual synthesis based on the principles of patient-centered care, the WHO Framework on Integrated People-Centred Health Services, and contemporary evidence on cancer pain management (Ferrell et al., 2020; Swarm et al., 2025; WHO, 2015). Future research should validate the proposed relationships among these components and evaluate the model through implementation and comparative effectiveness studies.

Figure 1 illustrates the proposed conceptual framework for integrating holistic nursing into patient-centered cancer pain management. The framework emphasizes continuous interactions among comprehensive assessment, individualized goal setting, holistic nursing interventions, ongoing coaching, and multidimensional patient outcomes.

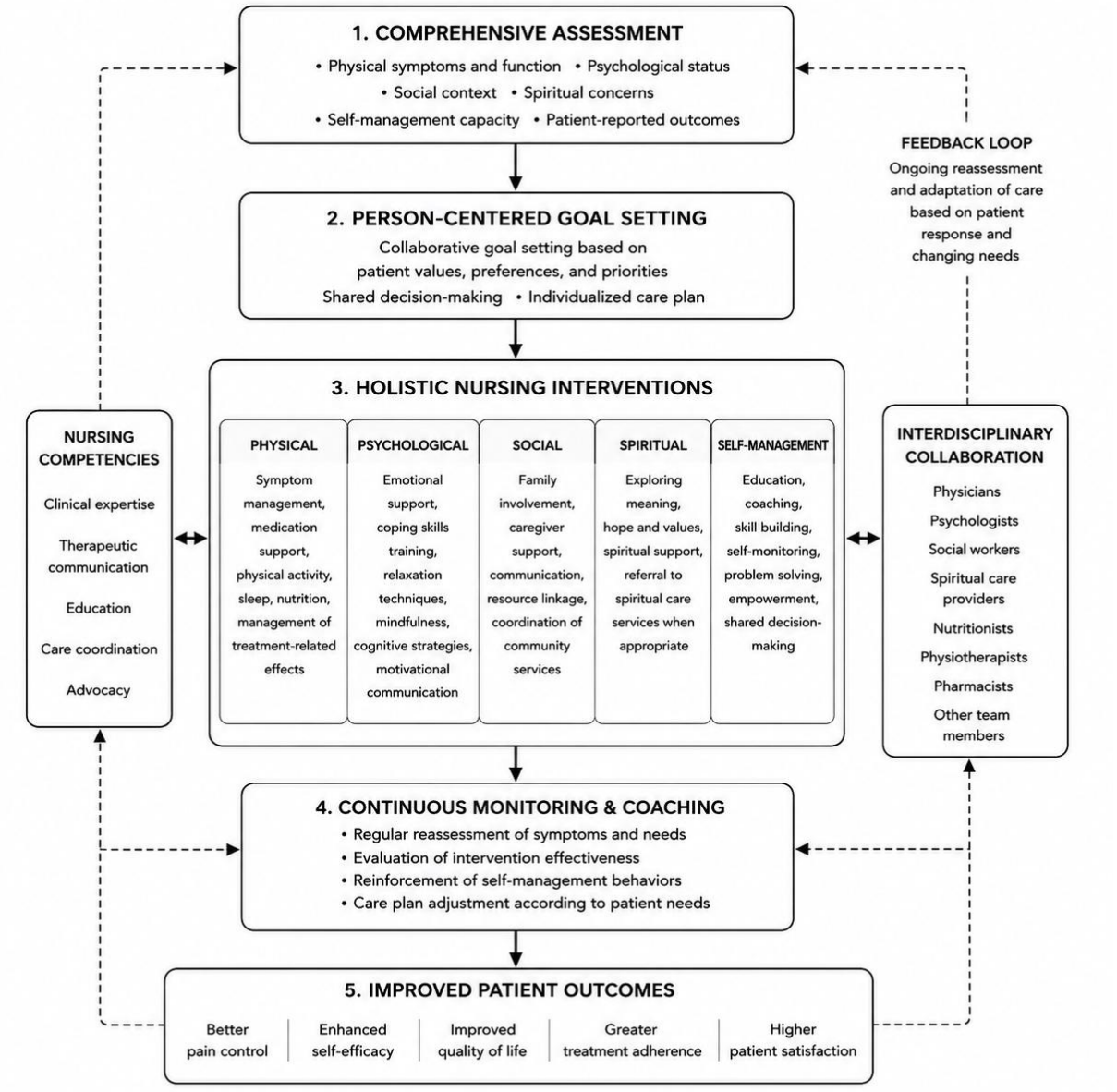

Figure 1. Proposed conceptual framework of a holistic nursing model for person-centered cancer pain management.

Figure 1 presents a proposed conceptual model for integrating holistic nursing into patient-centered cancer pain management. The framework synthesizes the principles of patient-centered care, the World Health Organization (WHO) framework for integrated people-centred health services, and current evidence on cancer pain management. It illustrates a continuous care process that begins with comprehensive assessment and collaborative goal setting, followed by integrated holistic nursing interventions, continuous monitoring, and evaluation to improve pain control, self-efficacy, quality of life, treatment adherence, and patient satisfaction. Feedback loops, patient engagement, and interdisciplinary collaboration support ongoing adaptation of care according to patients' needs and clinical responses.

Challenges and Future Directions

Implementing holistic nursing models in oncology practice requires changes at The implementation of holistic nursing models requires coordinated efforts across clinical practice, leadership, education, and research. For clinical nurses, routine cancer pain assessment should extend beyond pain intensity to include psychological distress, social support, spiritual concerns, self-management capacity, and patient-reported outcomes. Integrating these domains into everyday practice may facilitate more individualized and patient-centered care. For nurse managers, organizational support is essential to embed holistic pain management into clinical pathways. This includes establishing standardized assessment protocols, promoting interdisciplinary collaboration, and providing sufficient resources and continuing professional development for oncology nurses.

For nursing educators, undergraduate and continuing education curricula should strengthen competencies in communication, shared decision-making, symptom self-management, psychosocial care, and spiritual assessment. These competencies are fundamental to preparing nurses for patient-centered oncology practice. For researchers, future studies should refine and validate holistic nursing models using robust implementation and comparative research designs. Evaluation should extend beyond pain intensity to include patient-reported outcomes such as self-efficacy, quality of life, functional status, treatment adherence, and patient satisfaction. Evidence generated from such studies will support the integration of holistic nursing models into routine cancer pain management and inform future clinical practice guidelines.

Implications for Nursing Practice

The proposed holistic nursing framework provides a practical direction for implementing patient-centered cancer pain management in routine oncology care. Its application requires nurses to expand pain assessment beyond symptom intensity by incorporating psychological, social, spiritual, and self-management dimensions into individualized care planning. Integrating

these domains into routine practice may strengthen patient engagement, support shared decision-making, and improve patient-reported outcomes.

Successful implementation also depends on organizational commitment to standardized assessment, interdisciplinary collaboration, and continuing professional development that equips nurses with competencies in communication, psychosocial and spiritual care, and self-management support. At the same time, nursing education should prepare future practitioners to deliver holistic, patient-centered care across the cancer trajectory.

Future research should refine and validate holistic nursing models through implementation and comparative effectiveness studies while evaluating multidimensional outcomes, including self-efficacy, quality of life, treatment adherence, and patient satisfaction. Strengthening the evidence base will facilitate the integration of holistic nursing into clinical guidelines and contribute to more consistent, patient-centered cancer pain management.

Conclusion

Cancer pain remains a major clinical challenge despite advances in pharmacological treatment and evidence-based practice guidelines. Persistent unmet symptom needs demonstrate that effective pain management requires approaches that extend beyond analgesic optimization to address the physical, psychological, social, and spiritual dimensions of the patient's experience. Patient-centered care provides an important foundation for this shift, but its implementation requires structured nursing models that integrate comprehensive assessment, individualized care planning, patient engagement, and continuous self-management support. The proposed holistic nursing framework offers a conceptual direction for organizing these components into a coordinated approach that aligns with contemporary oncology care.

Future research should focus on refining, validating, and implementing holistic nursing models using rigorous methodological approaches and multidimensional patient-reported outcomes. Such efforts will strengthen the evidence base for integrating holistic nursing into routine cancer pain management. As oncology care continues to evolve toward patient-centered and value-based healthcare, holistic nursing should be recognized not simply as a complementary approach, but as a future direction for cancer pain management. By positioning nurses as leaders in comprehensive symptom management, patient empowerment, and interdisciplinary care, holistic nursing has the potential to redefine the standard of oncology nursing practice and improve outcomes that matter most to patients.

Acknowledgments

The authors thank the Editor and anonymous reviewers for their thoughtful evaluation and constructive comments. Their suggestions contributed to improving the clarity, organization, and scholarly quality of this manuscript.

Author Contributions

Conceptualization: IRK and MFP; Methodology: IRK and MFP; Literature

review: IRK and EH; Investigation: IRK; Data curation: IRK; Writing—original draft preparation: IRK; Writing—review and editing: MFP and HO; Supervision: MFP; Validation: MFP and HO. All authors have read and approved the final version of the manuscript.

Funding
This work received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Declaration of Competing Interest
The authors declare that they have no known competing financial interests or

Informed Consent
Not applicable.

Data Availability Statement
No new datasets were generated or analyzed during the preparation of this Perspective article.

Artificial Intelligence Statement
Artificial intelligence-assisted writing tools were used only to improve language clarity and manuscript organization. The authors reviewed, revised, and approved all content and accept full responsibility for the accuracy, interpretation, and integrity of the manuscript.

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