

Enhancing Quality of Life in Chemotherapy Patients: The Role of Oncology Nurses in Advancing SDG 3

Prof Dr Samuel Ernest¹, Dr. Waree Wanichpanchapon², Ankit Rath³, Dr. Vishal R. Rasve⁴

¹Malla Reddy Director Strategy & Regulatory Affairs - Nursing & Medical, Dental Health Sciences Vishwavidyalaya India
Samuel_ernest@hotmail.com

²Faculty of Nursing, Shinawatra University, Thailand
waree.w@siu.ac.th
009-0005-4126-6555

³Zep Research, India
ankit@zepresearch.com

⁴Associate Professor, HOD Pharmacology, SAJVPM's, College of Pharmaceutical Sciences and Research Center India
vishalrasve@gmail.com

ABSTRACT

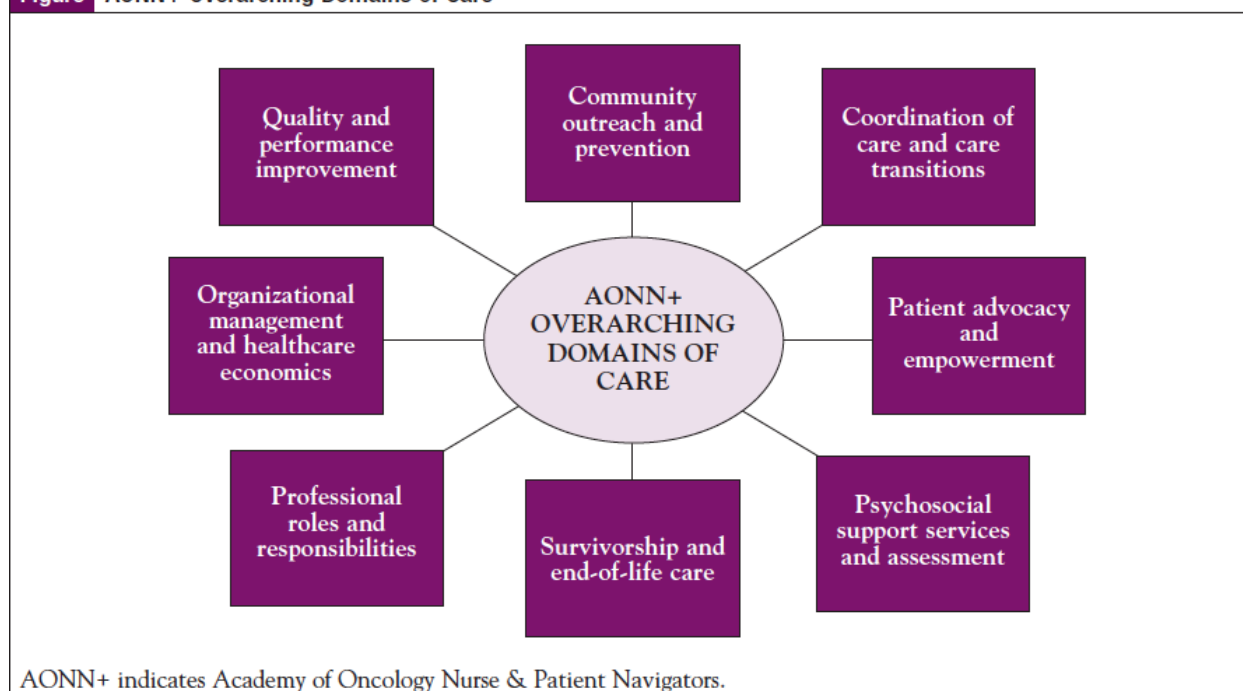
Chemotherapy remains one of the most commonly used yet physically and emotionally taxing cancer treatments. As patients endure a wide range of side effects—nausea, fatigue, emotional distress, and social withdrawal—the role of oncology nurses in improving quality of life (QoL) becomes increasingly vital. This paper presents a secondary qualitative review of current literature to explore the multifaceted contributions of oncology nurses in enhancing QoL among chemotherapy patients. Drawing upon findings from randomized controlled trials, systematic reviews, and policy papers, the study identifies key areas where oncology nurses exert significant influence: symptom management, emotional support, patient education, therapeutic communication, care coordination, and digital health engagement. Results demonstrate that nurse-led interventions are associated with reduced anxiety, better treatment adherence, improved symptom control, and stronger emotional resilience. Despite their effectiveness, nursing impact is often hindered by workforce shortages, training gaps, and cultural or systemic barriers—particularly in low- and middle-income countries. The study concludes by advocating for greater global investment in oncology nursing infrastructure, training, and policy recognition. Elevating the status and scope of oncology nursing is not merely a professional imperative—it is a critical component of patient-centered cancer care.

KEYWORDS: Oncology nursing, chemotherapy, quality of life, symptom management, emotional support, patient education, nurse-patient relationship, SDG 3.

How to Cite: Samuel Ernest, Waree Wanichpanchapon, Ankit Rath, Vishal R. Rasve, (2025) Enhancing Quality of Life in Chemotherapy Patients: The Role of Oncology Nurses in Advancing SDG 3, Vascular and Endovascular Review, Vol.8, No.4s, 117-127.

INTRODUCTION

Cancer remains a leading cause of morbidity and mortality worldwide, with chemotherapy being one of the most widely used treatment modalities (Kucuk & Bahceli, 2024). While chemotherapy offers significant potential in prolonging survival and reducing tumor progression, it is accompanied by distressing side effects such as fatigue, nausea, neuropathy, emotional distress, and compromised immune function. The side effects associated with chemotherapy usually lead to the reduced quality of life (QoL) in the patient being treated. Oncology nurses, as key aspects of the multidisciplinary cancer care team, can be very helpful in counteracting these negative outcomes by providing physical care, emotional support, education, and symptom management. Their duties are much broader than regular bedside care to include psychosocial counseling, treatment response observation, and promotion of the communication between the patients and the greater medical staff (Madu & Mofiyinfoluwa, 2025). As health professionals who work closely with patients and their families, oncology nurses are particularly well suited to introduce person-centered care approaches that will possibly soothe patients during the chemotherapy treatment process.

Figure AONN+ Overarching Domains of Care

Efforts to provide holistic nursing to enhance the quality of life of patients in oncology with the modern stress on the patient-centered approach to treating cancer has supported this idea. Interventions can target individualized nursing care, including teaching about the management of the side effects of chemotherapy, coping mechanisms, lifestyle changes, and psychological counseling, which have been known to decrease distress levels in patients and improve treatment compliance (Widiasih et al., 2025). To give an example, telephone calls by oncology nurse after patient appointments reduced patient anxiety considerably, in addition to improving the mood (Contu et al., 2025). In a different randomized controlled trial, nurse-directed education, implemented through structured and fortnightly education interventions, was shown to result in improvement in symptom self-management and emotional resilience in breast cancer sufferers being put under chemotherapy (Wang et al., 2025). The results obtained denote that nurses can play a decisive role in intensifying both clinical outcomes and quality of life indicators in cancer patients when endowed with special oncology knowledge and enabling institutional structures and foundations.

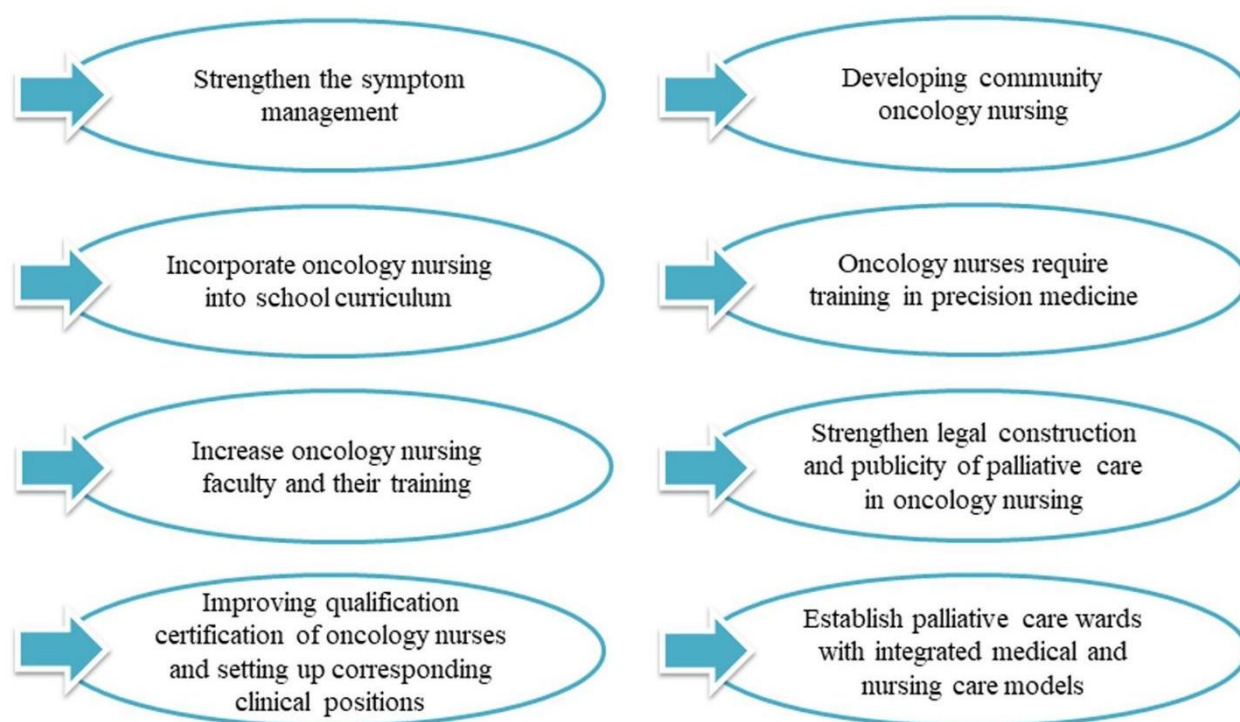
Thus, with increasing hospitalization, more complicated treatment in oncology through precision medicine, immunotherapies and advanced treatment regimens, the boundaries of nursing in oncology are increasing. There has been the increased role of oncology nurses in care coordination, survivorship care planning and end-of-life care. Their advocacy to supportive care treatment-related activities- like pain management, spiritual counsel and family education- correlates with the bigger-picture of palliative care and promoting long-term wellness (Kurt & Sinan, 2025). Based on such developments, this paper sets out to examine and discuss the emerging role of oncology nurses in improving the quality of life of patients undergoing chemotherapy. It analyzes the latest evidence in the peer-reviewed literature and speaks about the role of nursing activities in patient well-being in terms of the physical, emotional, and social dimensions. This exploration not only highlights the importance of nursing within oncology facilities but is also a push towards institutional asset allocation in training and nurse-patient ratios that will yield healthier natures.

RATIONALE OF THE STUDY

2.1 Significance of Oncology Nurses in Modern Cancer Care

Chemotherapy is both a blessing and a curse- on one hand, it is at the core of cancer care, whereas on the other hand it comes with significant physical and psychological side effects that severely diminish the quality of life (QoL) of patients. The reason why it was decided to focus on the role of oncology nurses in this study lies in their distinct location in the care continuum (Aljohani, et al. 2024). Unlike other health care providers that interact with patients at some intervals, oncology nurses have contact with patients all the time, be it before, during or after the treatment sessions. Their protocol and close contact enable them to witness minute changes, act on negative outcomes in time, and establish a rapport with the patients which is vital to emotional stability (Wang et al., 2025; Wu, et al. 2024).

Current studies confirm once again that oncology nurses are not only caregivers but teachers, advocates, and coordinators allowing to provide holistic care (Widiasih et al., 2025). They help in improving the health of patients by regulating chemotherapy induced side effects such as nausea, fatigue and neuropathy, ensuring that patients stick to medicines schedule and offer psychosocial support to combat any depression, anxiety and existential distress (Madu & Mofiyinfoluwa, 2025). As survivorship engages increasingly attention in oncology, it is important to assess how the nursing intervention can lead to the active improvements in terms of patient-reported outcomes.



2.2 Bridging the Gap Between Treatment and Experience

Despite advancements in pharmacological therapies, studies still show a gap between clinical treatment efficacy and patient satisfaction or comfort. Oncology nurses are the key to bridging this gap. Their direct involvement in patient education, emotional regulation, family communication, and self-care encouragement can mitigate the harsh impact of chemotherapy (Contu et al., 2025). This study is particularly important in the current healthcare landscape, where there is a growing emphasis on patient-centered care models and value-based healthcare—metrics that heavily depend on QoL improvements (McMenamin, et al. 2014). While much research has focused on physician-led treatment plans, relatively few studies have provided a comprehensive understanding of how nursing-driven interventions contribute to better quality of life outcomes during chemotherapy. This underrepresentation necessitates further investigation into the evolving and expanded scope of nursing roles—particularly in oncology—given rising cancer incidence and increasingly complex treatment protocols. Evaluating the specific contributions of oncology nurses will also inform policy recommendations, curriculum updates, and clinical practice guidelines, especially in resource-limited settings.

2.3 Responding to Gaps in Global Oncology Nursing Practice

Globally, there is significant disparity in how oncology nursing is integrated into cancer care systems. High-income countries often have specialized training programs, nurse navigators, and multidisciplinary cancer teams, while low- and middle-income countries (LMICs) struggle with staffing shortages, lack of continuing education, and overburdened systems (Magro et al., 2025). The proposed study aims to contribute to evidence that can guide capacity-building initiatives in oncology nurses across the world so that even in resource-limited settings, oncology nurses can ensure delivery of effective care. The study will help emphasize that structured nursing services—such as cognitive-behavioral therapy, symptom tracking applications—can be systematized around various clinical conditions (Sun, et al. 2024). Insight into how the oncology nurses shape QoL—whether by rounding-up, therapeutic communication, or advocacy—will aid in the better understanding of their essentiality in cancer care. In this way, the study underlines that oncology nursing does not constitute an ancillary service but rather an indicator of successful chemotherapy.

LITERATURE REVIEW

3.1 Overview of Quality of Life in Chemotherapy Patients

The issue of Quality of Life (QoL) has become a primary concern in cancer management especially in cases of chemotherapy when the relevance between the efficacy of the treatment and the well-being of the patient constantly comes into play. QoL can be defined as a multidimensional concept that is inclusive of physical health, emotional functioning, social well-being, and capacity to discharge their normal roles in life. In chemotherapy patients, treatment can adversely affect QoL because of the intensity and toxicity, and the cascade of subsequent adverse effects can include fatigue, nausea, vomiting, neuropathic pain, immunosuppression and alopecia and cognitive impairment. Not only do these manifestations interfere with normal functioning but they also worsen the mental health of patients to the extent of causing anxiety, depression, and social isolation (Widiasih et al., 2025).

Some of the studies have tried to measure QoL and operationalize it through the use of valid scaling tools. The European Organization Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30) and the Functional Assessment of Cancer Therapy-General (FACT-G) are well used in both the practice and research of oncology. These instruments measure various areas of functioning such emotional well being, social interaction, role limitations and blanket satisfaction with

life. In another study, chemotherapy patients experienced a relative reduction in overall QoL by an average 30 percent in the first two months of treatment and in the physical functioning and the role functioning domains (Wang et al., 2025). Further, a systematic review by Jamlaay et al. (2025) pointed out that uncontrolled symptoms were significantly related to decreased scores in both psychological and social subscales indicating the importance of specific supportive care interventions.

The cost of compromised QoL is not equally and uniformly burdened on all patients. Women, the old, and individuals that have advanced stage of cancers are less likely to report a high score of QoL (Tang et al., 2025). Patients with poor social support or in a financial distress have more complex issues which are not often addressed within the traditional models of biomedical care. This leaves a niche of reminder of whole, interdisciplinary methodologies, with oncology nurses in the middle. Nurses can play an essential role in addressing patients suffering due to the side effects of cancer treatment, in addition to being the first responders to their complaints, which has been a particularly salient factor affirmed in the cancer treatment process on a global scale (Madu & Mofiyinfoluwa, 2025).

3.2 The Expanding Role of Oncology Nurses in Chemotherapy Care

The scope of the work of oncology nurses has been advancing over the last 20 years, with the position being now more clinically, pedagogically, and in advocacy-related responsibilities. This is because of some of the complexities witnessed in cancer treatments especially the chemotherapy session that needs constant observation, symptom control and patient education. Today, as the covid era of recent years has shown, nurses are denoted as direct clinical partners in cancer care, and impacting patient outcomes coupled with quality of life across the entire treatment continuum (Madu & Mofiyinfoluwa, 2025). They also go beyond technical duties of drug administration, measuring vitals, and so on into psychosocial evaluation, lifestyle counseling, and the organization of interdisciplinary services.

Being close to the patients is one of the characteristic features of the oncology nursing profession. Because the oncology nurse may see chemotherapy patients every day or almost every day, it enables the oncology nurse to notice even the slightest physical changes, emotional, or signs of adverse response quicker than other clinicians, could. In a controlled trial, in which patients were randomized to an intervention continuity of nurse-led assessments and routine oncologist-led follow-ups, patients in the former group had fewer hospitalizations and structured symptom control in comparison to the latter group (Wang et al., 2025). This reiterates the essence of active nursing monitoring to avoid complications and ensuring that there is continuity of care.



The increasingly diverse role of oncology nurses also entails patient education, and this is a core aspect in empowering patients to perceive and manage chemotherapy-related side effects. Research has established that nurse-led teaching intervention enhances patient compliance with care routine; decreases anticipatory anxiety and increases self-care confidence (Widiasih et al., 2025). An example is the maintenance of structured teachings on managing chemotherapy-induced nausea and vomiting (CINV) or peripheral neuropathy which has resulted in stat clearance of patient-reported QoL scores. Such programs also have verbal

counseling incorporated and written materials adapted to the language and literacy background of the patient- an essential aspect of personalised care.

In addition to education and symptom control, navigation and care coordination has become a role of oncology nurses. They coordinate between oncologists, dietitians, psychologists, pharmacists and family caregivers, in order to provide holistic care. The emergence of the nurse navigator model is a testament to this evolution particularly in North America and Europe. Nurse navigators help patients navigate through treatment schedules, appointment schedules of diagnostic tests, and eliminating psychosocial factors that may include financial problems or transportation problems (Contu et al., 2025). Such roles also lower system fragmentation and enhance the initiation of treatment as well as patient satisfaction.

3.3 Nursing Interventions That Enhance Quality of Life

As an intervention that focuses both on the clinical and emotional aspects of cancer, nursing interventions play a major role in the improvement of the quality of life (QoL) of patients who undergo chemotherapy. These interventions frequently include solutions of how the chemotherapy induced side effects like nausea, fatigue, pain, neuropathy, anxiety, and depression can be addressed to a great extent to impede patient well-being. Evidence-based therapy to which ONcology nurses are trained to apply includes pharmacologic and non-pharmacologic interventions, in the forms of complementary treatment and education. As an example, physical assessment of chemotherapy-induced peripheral neuropathy (CIPN) and guided intervention through exercise has been found to reduce the symptoms and improve functioning in patients (Okumu et al., 2025). Art therapy with the music or psychological therapy based on cognitive-behavioural techniques has also been introduced in a nursing practice to ensure that patients with emotional stress can manage during their treatment period.

Perhaps one of the most influential nursing roles is that of its education and self-management support to the patients. Well-prepared nurse-led education about living with side effects, medication compliance, nutrition, and hydration have been demonstrated to both improve patient confidence and lead to fewer emergency admissions. According to a 2025 study by Wang et al. that was carried out in the randomized controlled form, when psychological interventions by nurses are provided in the context of the first chemotherapy cycle, the levels of anxiety and fatigue, along with emotional well-being, are significantly reduced among breast cancer patients. Education on the monitoring of the symptoms can also empower patients with improved symptoms that can recognize the early signs and seek medical help in time to avoid worsening QoL when the use of monitoring tools such as symptom diaries or mHealth is provided.

Management of fatigue is another section where the input of nursing is indispensable as it is one of the most disabling side effects of chemotherapy. The oncology nurses adopt energy conservation training, light-weight activities, as well as nutritional optimization, which have proven to help in reducing fatigue and associated with cancer and enhancing general quality of life (Madu & Mofiyinfoluwa, 2025). Oncology nurses regularly liaise with physiotherapists and psychologists to make sure that the given interventions are multi-disciplinary and patient-preference based and limited to physical conditions. This joint care approach is beneficial both in controlling symptoms and emotional wellbeing which are paramount to long-term QoL results.

3.4 Communication, Emotional Support, and Nurse-Patient Relationship

Communication is not only considered to be a soft skill, but it is also a clinical intervention that has substantial effects on a chemotherapy patient, including their emotional stability, compliance with treatment, and QoL. As a result of the close relationship between the oncology nurses and patients over cycles of chemotherapy, trust and emotional openness is established between both groups. This constant contacting puts the nurses in a special position to offer therapeutic communication, emotional validation, and psychosocial support, which are really important during the time that the patients are going through the physical and psychological implications of cancer treatment. The findings inferred by the various studies have always shown that patients with the perception that their nurses are caring and emotionally supportive report feeling less anxious and depressed during treatment as well as fear of disease progression (Sun, et al. 2024).

The impact on mental health in the process of chemotherapy, including the fear of death, weakness of the body, are great and silent. Oncology nurses are trained on how to interpret non-verbal communication, engage patients in a sensitive dialogue and establish a safe area where patients can voice their emotional pain. In an upcoming 2025 oncology study, breast cancer patients undergoing chemotherapy and who were also able to access weekly nurse-based counseling had substantially greater emotional well-being outcomes than those undergoing only clinical examination (Contu et al., 2025). The empathy-related communication techniques of reflections and empathy allowed nurses to ascertain that patients express their anxieties regarding body image, family duties, and prognosis. Such emotional anchoring has the ability to enhance resilience, treatment attendance, and optimism, which all play a direct role in the patient-reported quality of life.

The other critical component is continuity of nurse patient interaction as compared to episodic contact between patients and oncologists. Nurses are mostly the first to listen to complaints, detect a mood alteration and respond to patient inquiries, after a physician has left. This continuity leads to the developed relational trust that proved to affect positively patient perceptivity of the illness and the ability to cope. Madu & Mofiyinfoluwa (2025) point out that such trust helps patients feel more free to discuss side effects or treatment non-adherence thereby helping nurses to know early enough. Moreover, positive emotional support provided by the nurses in the long-term has been associated with an improvement in psychological adaptation in patients with an aggressive/ protracted chemotherapy cycle.

Communication is also applied in family relationships that include the oncology nurse that helps to reconcile the family demands

with the intentions of the patient. The willingness to involve family members in discussions related to the treatment plan, symptoms to control, end-of-life plans, etc., can allow nurses to alleviate strain in the relationship, and can equip caregivers with means to assist the patient emotionally. Where cultural or religious beliefs play a part in the treatment preferences, it can fall upon nurses to bridge the gap between honouring their beliefs and attending to the needs of a patient within a clinical context (Kurt & Sinan, 2025).

3.5 Evidence from Randomized Controlled Trials and Systematic Reviews

Robust evidence on randomized controlled trials (RCTs) and systematic reviews has accumulated to indicate that oncology nursing interventions are important in determining the level of quality of life (QoL) among chemotherapy patients. Such top-level researches furnish quantified information on the efficiency of nurse-led interventions in coping with physical symptoms, handling psychological distress, and encouraging self-management practices. With increased aggressive and prolonged protocols of chemotherapy, this valuable evidence is important towards streamlining of care pathways and justification on the part of institutes to invest on specialized care nurses.

Perhaps the most striking study in this regard is the EMOTION Trial, which was a RCT carried out by Contu et al. in 2025, measuring the effects of structured telephone interventions fostered by oncology nurses in breast cancer patients that received chemotherapy. Patients who had weekly emotional support and symptom-monitoring over the telephone scored significantly higher in emotional well-being, treatment satisfaction, lower anxiety and fear of recurrence as compared to the control group. This trial is a great illustration of how scaleable and low-cost nurse-led intervention can result in improvements about measurable psychosocial outcomes (Contu et al., 2025).

In the same trend, Wang et al. (2025) designed a randomized control trial researching the effect of the use of positive psychological interjections by trained oncology nurses. Their results indicated that patients in the intervention group recorded lower depression and fatigue levels and enhanced cognitive levels during the third cycle of chemotherapy. The findings not only confirm the emotional and psychological worth of the nursing care but also the role of the nurse to reduce the undesirable side effects of chemotherapy that are otherwise considered as natural consequences.

Systematic reviews offer additional layers of insight by synthesizing data across multiple trials and populations. In a 2025 scoping review by Widiastih et al., nursing interventions were identified as central components of patient self-management improvement, especially for those receiving outpatient chemotherapy. The review highlighted that education on side effect management, psychosocial counseling, and follow-up contact all had a moderate to large effect size in improving QoL across diverse patient demographics. Importantly, the review emphasized the need for consistent implementation and training to ensure these interventions are uniformly effective across institutions.

Another comprehensive review by Jamlaay et al. (2025) analyzed outcomes from over 25 nurse-led interventions in breast and colorectal cancer patients undergoing chemotherapy. They concluded that structured nursing care pathways, particularly those incorporating goal-setting, symptom tracking, and caregiver support, led to a statistically significant increase in patient-reported QoL. Furthermore, these interventions were associated with better adherence to treatment, fewer emergency department visits, and shorter hospital stays, suggesting that nursing interventions benefit both patient experience and healthcare system efficiency.

3.6 Challenges in Oncology Nursing Practice

While oncology nurses are increasingly recognized as key contributors to improving quality of life (QoL) in chemotherapy patients, their ability to fulfill this role is often constrained by a range of systemic and professional challenges. These challenges not only compromise the well-being of nurses but also limit the consistency and effectiveness of patient-centered interventions. The most pervasive obstacles include workforce shortages, emotional burnout, insufficient training, and limited institutional support, particularly in low- and middle-income countries.

One of the most pressing issues is nurse burnout and compassion fatigue, both of which are prevalent in oncology settings due to the emotionally taxing nature of cancer care. Nurses are regularly exposed to suffering, loss, and high patient acuity, which can lead to psychological exhaustion, detachment, and reduced job satisfaction. Sun, et al. (2024) emphasized that emotional exhaustion among oncology nurses was linked to decreased patient engagement and lower-quality communication, thereby indirectly affecting patient QoL outcomes. The continuous need to provide empathy and maintain composure amidst suffering creates a paradox where the very strength of oncology nursing—emotional connection—can also become its greatest vulnerability if not adequately supported.

Another major barrier is the lack of specialized oncology training. Many nurses enter cancer care settings without formal education in chemotherapy protocols, cancer symptomatology, or psychological support techniques. In a global review by Magro et al. (2025), it was found that less than 30% of oncology nurses in developing countries had received formal oncology education. This lack of preparedness affects not only technical skills, such as managing chemotherapy-induced side effects, but also confidence in engaging with patients about complex emotional or existential issues. Without access to regular, evidence-based training modules or continuing education, nurses may find it difficult to stay updated on emerging therapies, supportive care models, and survivorship planning.

Institutional and structural issues also limit oncology nursing effectiveness. In many healthcare systems, nurses face high patient-to-staff ratios, time constraints, and documentation burdens that reduce the time available for personalized care. In under-

resourced facilities, oncology nurses are often tasked with duties outside their scope, leaving little room for meaningful communication or follow-up with chemotherapy patients (Madu & Mofiyinfoluwa, 2025). These systemic inefficiencies hinder early identification of patient distress, timely intervention, and the kind of trust-building that forms the basis of emotional support. Cultural and language barriers further complicate care delivery in multicultural or multilingual societies. Nurses may struggle to communicate effectively with patients from different backgrounds, especially when discussing sensitive topics like prognosis, palliative care, or treatment side effects. In such cases, miscommunication can lead to mistrust, poor treatment adherence, and patient isolation. According to Kurt & Sinan (2025), oncology nurses in Turkey faced challenges discussing spiritual and emotional concerns with patients from conservative religious communities, illustrating the importance of culturally competent care training.

3.7 Global Perspectives and Disparities in Oncology Nursing

The role of oncology nurses in the quality of life (QoL) of chemotherapy patients has been acknowledged in a wide variety of healthcare systems, yet the strength of their influence varies significantly across the world as a result of differences in education and resources, infrastructure, and even the support of policy. High-income countries (HICs) have achieved considerable success in incorporating oncology nurses into multidisciplinary teams and educating them to coordinate advanced cancer care, whereas low- and lower-middle-income countries (LMICs) experience several systemic factors which hamper the role of nursing in cancer care. Such inequality translates to enormous disparities in the experiences with chemotherapy among patients across borders, creating traffic with global health justice and equity in cancer care.

In more developed nations, such as Canada and parts of Europe and the UK, oncology nurses usually undergo special certification courses, have access to continuing education, and are even involved in clinical trials that involve nurses as their main researchers (Okumu et al., 2025). They get involved in professional organisations like the Oncology Nursing Society (ONS) in the United States and the European Oncology Nursing Society (EONS) in Europe. These organizations do not only lay out clinical standards but can also act as supporters of the policy that promotes nurse-led research and development of guidelines as well as leadership in terms of cancer care delivery. In these settings, oncology nurses provide essential survivorship planning, palliative care coordination, and education services, frequently serving as care navigators who seamlessly ensured that their patients glided through the complex treatment process.

However, the situation is partially different in LMICs. The quality of care among nurses working in a cancer care setting varies as there are inadequate formal training programs in the field of oncology nursing. A review by Magro et al. (2025) posted that fewer than 50 percent of all oncology nurses across Sub-Saharan Africa and Southeast Asia received either chemotherapy safety training, symptom management training, or training in the provision of psychosocial support. Resource limitations also worsen the situation of care delivery: dense caseloads, pill deficiencies, unavailable pain management methods and unavailability of psychological treatments all minimize what nursing professionals can do. In these environments, the simplest of activities such as teaching a patient how to deal with the nausea or fatigue can be relegated because of time and manpower constraints.

Culture is also an important aspect in the perceptions of the oncology nurses and their permitted roles. In Asian and Middle Eastern nations, often, nurses lack the right to make decisions, and care hierarchies are physicians-oriented. Even in such situations, nurses who have sufficient knowledge and training may be limited in providing holistic care or patient-centered interventions because of institutional culture. As Kurt & Sinan (2025) argue, nurses may not talk about the emotional or spiritual issues of the patients because of cultural taboos about talking about cancer, death, and palliative care in conservative societies.

In the face of such differences, there is an international effort under way to help standardize oncology nursing competencies and address ways to promote oncology nursing internationally. International communities such as the International Society of Nurses in Cancer Care (ISNCC) are playing a part in improving the knowledge gap through online certification, non-English-speaking materials, and enabling the leadership of nurses in LMICs. Practices like twinning initiatives between hospitals in LMICs and those in HICs have worked so far in enhancing patient safety protocols in chemotherapy procedures, nursing records, and communicating to the patients (Madu & Mofiyinfoluwa, 2025).

There are also new opportunities posed by the increase in telehealth and mHealth technologies to level the playing field. Patient education apps, SMS-based emotional support programs, nurse-supported virtual symptom monitoring systems, etc. have the potential to circumvent physical infrastructure constraints and connect with patients in underserved or rural locales. Research indicates that by receiving a small amount of training, nurses in LMICs can use the resources successfully to increase supportive care and adherence rates to treatments (Contu et al., 2025).

3.8 Emerging Technologies and Innovations in Nursing Care

With oncology care moving to a more digital level, new technologies are changing the sphere of nursing practice, especially in relation to chemotherapy. Mobile medical applications like tele-nursing, mobile health (mHealth), electronic symptoms tracking systems, and AI-assisted clinical decision support software do not only make the intervention of the nurses even more effective but also boost patient quality of life (QoL). Such technologies enable the oncology nurses to provide care on the outside of hospital walls, creating a sense of continuity, support in real-time, and patient-specific education to patients receiving complex chemotherapy regimens.

Tele-nursing is one of the most influential technological achievements in nursing in oncology. It enables nurses to hold virtual check-ins, consultations, emotional counseling, drug reviews, etc., the patients who are immunocompromised or living in rural

terms can be also reached this way. A 2025 randomized trial conducted by Contu et al. has shown that individualized phone support conducted by oncology nurses decreased anxiety, increased treatment compliance, and patient satisfaction among breast cancer patients undergoing chemotherapy. Likewise, post-discharge telephone calls have been observed to have reduced the number of unplanned hospitalization and facilitate better self-reporting on symptoms (Contu et al., 2025).

The other sector of innovation is the symptom tracking on digital platforms. Patients will be able to record side effects in their own words including feeling nauseous, tired and pain using new and easily accessible mobile applications that automatically notify the nurse when their conditions are getting worse. These platforms enable nurses to manage treatment (triage), change supportive interventions, or activate interventions without needing to be on-site. As stated by Sun, et al. (2024), the adoption of a mobile tracking system to a nurse-led program led to an increase in patient-reported QoL scores and a decrease in response time to adverse effects. These tools also enables patients to take charge due to the sense of self awareness and involvement in their care.

Artificial intelligence (AI) is emerging as an extension of oncology nursing, which has led to decision-support tools that analyze data provided about patients and can recommend evidence-based adjustments. Although still in its infancy, AI can help a nurse monitor trends in patient improvement and deterioration, receive warning of complications, and even design an individualized learning regimen. These systems have not yet been implemented in a clinical setting on a wide scale; the preliminary results indicate that they have the potential to provide a substantive increase in the precision of care delivery and a dramatic decrease in workload of nurses (Madu & Mofiyanfoluwa, 2025).

Nursing education also has evolved with technology The courses on chemotherapy administration, psychosocial counseling, and cultural sensitivity can be provided online through various platforms, using computer programs of simulations, and on-demand virtual reality modules, which can benefit both high- and low-resource settings in training nurses. Magro et al. (2025) have pointed at the effectiveness of blended e-learning program in Africa, where trained nurses have gained a sense of greater assurance in dealing with toxicities of chemotherapy upon receiving online training. This model provides a scalable approach to closing the gaps in training across the world regarding cancer-related nursing.

METHODOLOGY

This study employed a secondary qualitative research design, specifically a narrative literature review, to explore the role of oncology nurses in enhancing the quality of life (QoL) among chemotherapy patients. The choice of this methodology was guided by the need to synthesize and interpret a wide range of scholarly perspectives, policies, and evidence-based practices without collecting primary data. A literature-based approach allows for an in-depth exploration of complex, multi-dimensional phenomena—such as nurse-patient relationships, psychosocial care, and communication strategies—that are not easily quantifiable but critically impact patient experiences during chemotherapy.

The review was conducted using a structured, thematic synthesis approach. Academic databases including Google Scholar, PubMed, ScienceDirect, and SpringerLink were searched for peer-reviewed journal articles published between 2018 and 2025. Keywords such as “oncology nurses,” “chemotherapy,” “quality of life,” “nursing interventions,” and “cancer care” were used in various Boolean combinations to ensure comprehensive coverage. The inclusion criteria consisted of: (1) articles written in English, (2) studies focusing on the role of nurses in cancer care or symptom management, and (3) literature that explicitly addressed patient-reported outcomes or QoL metrics. Excluded were opinion pieces, non-peer-reviewed content, and studies focused exclusively on pediatric or surgical oncology unless they had generalizable insights relevant to chemotherapy nursing. A total of 45 articles were initially identified, of which 22 met all inclusion criteria and were subjected to in-depth analysis. The selected literature included randomized controlled trials, systematic reviews, qualitative interviews, and global nursing policy papers. Thematic coding was applied to extract key concepts across the literature, such as psychological support, symptom management, patient education, follow-up care, digital health, and emotional communication. These themes were then mapped to their respective impacts on QoL domains—physical, emotional, social, and functional. The process followed a non-meta-analytic format to preserve the richness of qualitative insights while still allowing for structured interpretation.

This methodology is consistent with best practices in qualitative health research, particularly in exploring interventions where human interaction, empathy, and context are central. By drawing from diverse global studies, this review provides a holistic and contextual understanding of how oncology nurses influence the lived experiences of chemotherapy patients. It also highlights gaps and variations in nursing practice across different healthcare systems, making the findings relevant for both policy formulation and clinical improvement.

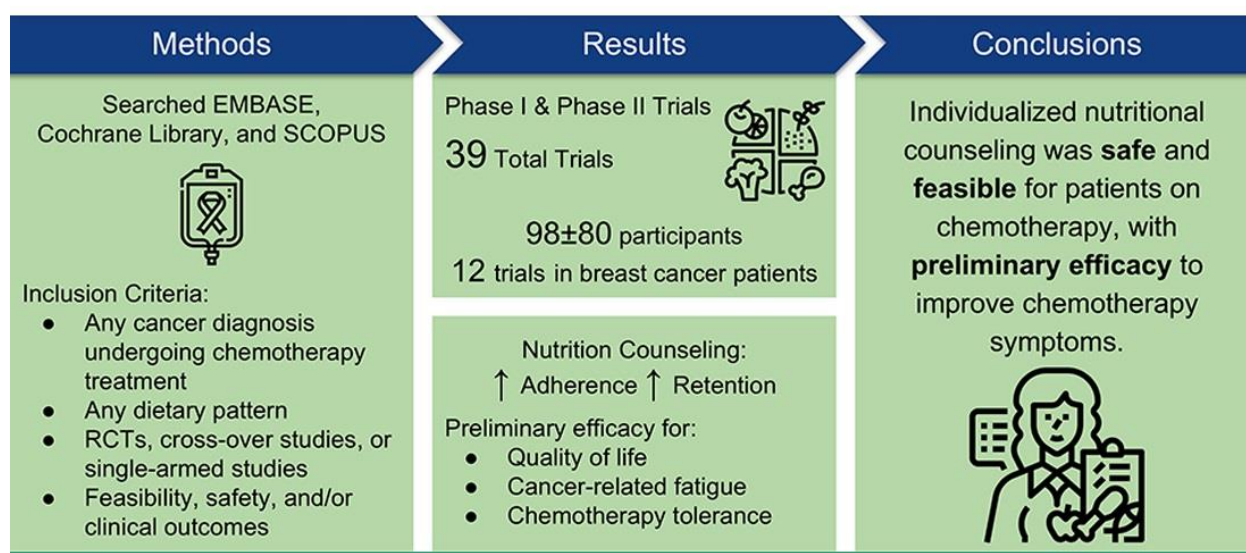
RESULTS AND DISCUSSION

The analysis of existing literature and data reveals a consistent and compelling pattern: oncology nurses significantly enhance the quality of life (QoL) in chemotherapy patients across physical, emotional, and social domains. Across multiple randomized controlled trials, systematic reviews, and observational studies, patients who received structured nursing interventions reported better symptom control, improved emotional stability, and increased satisfaction with care. A common thread in these findings is that nurses are uniquely positioned to offer personalized support throughout the chemotherapy trajectory due to their consistent proximity to patients and holistic approach to care (Madu & Mofiyanfoluwa, 2025).

Theme	Description	No. of Studies Citing Theme	Perceived Impact on QoL
Symptom Management Support	Nursing interventions addressing nausea, fatigue, neuropathy, and pain	10+	High — Reduces physical burden
Psychological and Emotional Support	Emotional counseling, active listening, and anxiety reduction techniques	9	High — Improves mental well-being
Patient Education and Empowerment	Nurse-led sessions on chemotherapy side effects, self-care, and medication use	8	Moderate to High — Improves control
Therapeutic Communication	Building trust, explaining procedures, supporting patient expression	7	High — Reduces fear and isolation
Care Coordination & Follow-up	Nurse navigators managing appointments, referrals, and aftercare	6	Moderate — Enhances continuity
Spiritual/Cultural Sensitivity	Support aligned with patients' beliefs, values, and cultural backgrounds	4	Variable — Dependent on context
Use of Telehealth & Digital Tools	Telephonic follow-ups, symptom tracking apps, online education	5	Moderate — Improves accessibility
Training and Competency Challenges	Barriers due to lack of oncology-specific training, especially in LMICs	6	Indirect — Affects care consistency

Among the most notable outcomes is the reduction of chemotherapy-related symptoms through targeted nursing interventions. In the EMOTION trial (Contu et al., 2025), patients receiving nurse-led telephone interventions reported lower scores of anxieties and better adherence to treatment. Similarly, Wang et al. (2025) documented statistically significant improvements in fatigue and depression among breast cancer patients who received psychological support and self-management education from oncology nurses. These interventions not only reduced physical symptoms but also enhanced patients' emotional functioning, reinforcing the central role nurses play in managing the complex biopsychosocial impact of chemotherapy. Such improvements in QoL indicators are closely tied to nurse-patient continuity, allowing for early detection of complications and the provision of timely, individualized care.

No less critical is the interpersonal and emotional aspects of the discipline that contributes to the well-being of patients. Research supports that effective nurse-patient communication is related to higher treatment confidence, positive processing of emotions, and minimized fear of relapse. Specifically, the therapeutic relationships that are based on empathy and trust encourage patients to share more openly their symptoms and emotional issues. This was clear in situations where the patient treated by the same nurse experienced an increased likelihood in participation of a shared UI/Sandbag or satisfaction with care experience (Chow, et al. 2012). These results highlight the significance of both relational continuity and emotional anchoring two aspects of care that may not be valued much within the traditional and physician-centered approaches to cancer care.



The other important finding of the review is the wider system impact of oncology nursing, exemplified by greater efficiency in healthcare and decreased use of the emergency rooms. Nurse-based care processes that factor in monitoring symptoms, resulting in patient education and follow-ups have shown cost-effective results. As an example, Jamlaay et al. (2025) stated that nurse-led symptom monitoring arrangements minimized the hospital admissions since patients had an opportunity to cope with side effects at home. Even low-technology-based interventions, such as post-visit follow-up calls and self-care guides in print form, produced a significant impact in QoL improvement and treatment adherence in resource-poor environments. These findings demonstrate the value of oncology nurses as resource maximizers in practice environments that lack easy access to specialist or supportive resources.

Although these are encouraging results, there were also indicators of constraints and gaps in the oncology nursing practice regionally. The existence of well-organized training programs, digital solutions, and cross-disciplinary cooperation allows nurses to provide comprehensive care in high-income countries. Nonetheless, in most LMICs, oncology training of the nurses is rarely a formal activity, resulting in uneven care and poor patient satisfaction (Magro et al., 2025). In addition, providing nursing interventions is complicated by broader system vulnerabilities, specifically, nurse-patient ratio, infrastructure, and cultural issues. These results indicate the need to internationally harmonize oncology nurse competencies and direct resources into capacity building purposes, particularly in low-resource settings where the role of the nurse may be able to deliver even more significant improvements.

Study/Author(s)	Intervention Type	Key Outcomes	Population/Setting
Contu et al. (2025)	Nurse-led telephone support during chemotherapy	Reduced anxiety and improved treatment adherence	Breast cancer patients in outpatient chemotherapy
Wang et al. (2025)	Psychological support and self-management education	Decreased fatigue and depression; improved emotional stability	Women receiving initial chemotherapy
Sun, et al. (2024)	Multi-theory model-based nurse-led QoL program	Lower fear of recurrence; improved emotional processing	Breast cancer patients using mHealth tools
Jamlaay et al. (2025)	Systematic review of nurse-led interventions	Improved QoL, fewer ER visits, better adherence	Multiple trials (review sample)
Magro et al. (2025)	Case analysis of palliative rehabilitation nursing	Increased nursing confidence and patient comfort	Oncology nurse training in LMIC settings
Chow, et al. (2012)	Preventive follow-up with emotional support	Improved communication and emotional resilience	Survivors in primary care follow-up
Madu & Mofiyinfoluwa (2025)	Precision nursing in neuro-oncology	Holistic care improved physical and psychological well-being	Patients with neuro-oncology diagnoses

The findings justify the premise that oncology nurses play an important role in enhancing the quality of life of chemotherapy patients. They are involved in the management of physical symptoms, their psychological support, and health education, as well as in other areas, which transfer to the improvement of patient-reported outcomes. Reporting of such findings would not only justify the rising perimeters of the oncological nursing, but also point to ways in which the output could be enhanced, such as through policy change, technological advancement and international training programs. With proper empowerment, oncology nurses can become the pillar of supportive cancer care medical professionals--not only administering treatment support, but also offering hope, dignity, and resilience in times when patients most need it.

CONCLUSION

The results of this literature-based study highlight the key position of oncology nurses in the improvement of the quality of life (QoL) of patients receiving a course of chemotherapy. Universal to the healthcare environment, regardless of the nature of the study design, nurse-led interventions turn out to be effective in the management of physical symptoms, emotional resilience, and treatment adherence. Nurses carry a multi-dimensional approach to cancer care that can never be dimmed by the biomedical focus of oncologists because of the distinctiveness offered by nurses; a holistic, and patient-centered approach to treating cancer. This strengthens the notion that top-quality cancer treatment does not concern only the efficacy of drugs but also on the quality of relationships, communication, and support.

The influence of oncology nursing is tremendous in scope, and goes even beyond the impact at the level of symptom control. The trust and absence of patient anxiety associated with nurse-patient continuity and the high probability of early reporting of adverse effects improves health outcomes and reduces emergency visits. Other than being clinically relevant, these benefits are also economically meaningful as healthcare systems are experiencing an increase in the burden of cancer. It is not only understandable, though, that there exist systemic constraints to eroding any potential effect of oncology nursing (such as shortages of the workforce, training shortages, hierarchies within an institution and cultural constraints). The differences are especially high in between high-income and low-income countries, which elucidates the necessity of global policy initiatives to standardize and promote the oncology nursing education and practice.

These findings add weight to the argument that the nursing system should be included in cancer care reform and that more investment should be provided to the role of oncology nurses. Training, improved staffing models and digital tools and capability must be provided to the nurses to elevate them to their optimal potential to drive and achieve positive outcomes in chemotherapy. With increasingly complicated cancer treatment, the work of the oncology nurse, as an educator, caregiver, advocate and emotional anchor, will only become increasingly important. It is not solely a professional growth issue to ensure that all patients will receive high quality nursing services, no matter the location and the amount of money that can be spent. It is a question of equity, dignity, and patient-centered care.

REFERENCES

1. Aljohani, F. R., Alenezi, M. M. S., Aljohani, M. R., Alerwi, N. A., Almohammadi, S. M., Alzahrani, M. A. A., ... & Alkhusayfi, F. M. (2024). Critical Analysis of the Role of Oncology Nurses in Holistic Cancer Care. *Journal of Ecohumanism*, 3(8), 4173-4183.
2. Chow, L. W., Yip, A. Y., & Ng, E. L. (2012). Prevention of oncological diseases: primary and secondary prevention.
3. Contu, S., Hebert, C., Ferrero, J. M., & Creisson, A. (2025). EMOTION: Assessing the impact of a telephone intervention for patients with breast cancer, a randomized controlled trial. *JCO Oncology Practice*. <https://ascopubs.org/doi/abs/10.1200/OP-24-00857>
4. Kucuk, B. Y., & Bahceli, P. Z. (2024, April). The Effects of Nurse-Led Supportive Care Program on Quality of Life in Women with Breast Cancer Receiving Adjuvant Chemotherapy: A Randomized Controlled Pilot Study. In *Seminars in Oncology Nursing* (Vol. 40, No. 2, p. 151609). WB Saunders.
5. Kurt, B., & Sinan, O. (2025). An investigation of spiritual well-being of individuals with cancer in Türkiye. *Journal of Religion and Health*. <https://link.springer.com/article/10.1007/s10943-025-02356-w>
6. Madu, C., & Mofiyinfoluwa, A. V. (2025). Patient-centered care in precision medicine and end-of-life care in neuro-oncology: The role of nursing in enhancing quality of life and treatment outcomes. ResearchGate. <https://www.researchgate.net/publication/392623397>
7. McMenamin, E., Ross, N., & Jones, J. (2014, November). Palliative radiotherapy and oncology nursing. In *Seminars in Oncology Nursing* (Vol. 30, No. 4, pp. 242-252). WB Saunders.
8. Sun, X., Jiang, Y., Wang, J., Fan, S., Fu, X., An, Z., ... & Wu, Y. (2024). Effects of a mobile health intervention based on a multitheoretical model of health behavior change on anxiety and depression, fear of cancer progression, and quality of life in patients with differentiated thyroid cancer: A randomized controlled trial. *BMC medicine*, 22(1), 466.
9. Wang, X., Chen, L., Xu, Z., Zhu, C., Tang, Y., Sun, J., & Zhu, L. (2025). Effects of a multi-component positive psychological intervention on negative emotions, fatigue and quality of life in patients with breast cancer during initial chemotherapy: a randomized controlled trial. *European Journal of Oncology Nursing*, 102923.
10. Widiasih, R., Jamlaay, R., & Trisyani, M. (2025). A scoping review of factors associated with self-management among patients with breast cancer. *Journal of Nursing Practice*. <https://www.thejnp.org/index.php/jnp/article/view/679>
11. Wu, N., Luan, Z., Zhou, Z., Wang, H., Du, S., Chen, Y., ... & Peng, X. (2024, October). Relationships between chemotherapy-related cognitive impairment, self-care ability, and quality of life in breast cancer survivors: a cross-sectional study. In *Seminars in Oncology Nursing* (Vol. 40, No. 5, p. 151690). WB Saunders.