DETERMINANTS OF QUALITY OF LIFE IN ONCOLOGY PATIENT UNDERGOING CHEMOTHERAPY AT THE UNIVERSITY OF BENIN TEACHING HOSPITAL (UBTH), BENIN CITY.

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NOVEMBER, 2025

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IN PARTIAL FULFILLMENT OF THE AWARD OF THE DEGREE OF BACHELOR OF NURSING SCIENCE, SCHOOL OF BASIC MEDICAL SCIENCES, UNIVERSITY OF BENIN, BENIN CITY.

NOVEMBER, 2025

DECLARATION

This is to declare that this research project titled **DETERMINANTS OF QUALITY OF LIFE IN ONCOLOGY PATIENT UNDERGOING CHEMOTHERAPY AT THE UNIVERSITY OF BENIN TEACHING HOSPITAL (UBTH)** was carried out by **OBI JULIET** is solely the result of my work except where acknowledged as being derived from other person(s) or resources.

MATRICULATION NUMBER: ______________________________

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CERTIFICATION/APPROVAL

This is to certify that this research project by **OBI JULIET** with matriculation number **BMS2011136** Faculty of Nursing Sciences, University of Benin. Under the supervision of **DR. (MRS) C. A. ENUKU**.

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DEDICATION

This work is dedicated to GOD ALMIGHTY who is providing me with the strength to complete my academic journey.

ACKNOWLEDGEMENTS

I would like to begin by giving all the glory to the Almighty God, the sovereign owner of my life. I am eternally grateful for His guidance, protection, and unfailing provision throughout my life and academic journey.

I am incredibly grateful to Dr (Mrs) C. A. Enuku , a distinguished scholar of impeccable standing. Her invaluable contributions, meticulous corrections, and expert guidance were instrumental in shaping this research study. I would also like to extend my appreciation to the Pro-Tem Dean Prof. F. U. Okafor, and to all my lecturers Prof. (Mrs.) C. E. Omorogbe, Prof (Mrs) J. A. Afemikhe, Prof. (Mrs) C.E Omoregbe, Dr (Mrs) C. Enuku, Sr. J. N. Chukwurah, Mrs C. C. Edo-Osagie, Dr. T. A. Ehwarieme, Mrs. E. N. Oyana, Mrs. R. Lawal, Mrs Ikhuobase, Mrs. F. Esebanme and Mr. Aragua as well as all other lecturers and non- academic staff for their immense contribution, dedication and support.

This project is dedicated to my wonderful mother Mrs. Angela Nkechi Obi, whose endless love and encourangement have been my greatest strength.

Am also grateful to Mr. Christopher Edo, whose selfless support has been invaluable, your faith in me inspires me everyday.And to my twin sister Mrs. Jane Uyiwmen, with whom I have shared countless dreams and aspiration. I pursue this nursing journey with both of us in mind and it is with love and gratitude that I celebrate our bond and achievement, may this work reflect our shared commitment to making a difference in the world of healthcare.

ABSTRACT

This study investigated the determinants of quality of life in oncology patients undergoing chemotherapy at the University of Benin Teaching Hospital (UBTH), Benin City. A descriptive cross-sectional design was employed with a convenience sample of 244 patients receiving chemotherapy treatment. Data was collected using a researcher's questionnaire assessing quality of life dimensions and available support systems. Statistical analysis was conducted using IBM SPSS version 28.0, employing both descriptive statistics (frequencies, percentages, means) and inferential statistics (chi-square) with significance set at $p < 0.05$*. Findings revealed concerning quality of life levels among participants, with 45% reporting poor quality of life, 37% reporting fair quality of life, and only 18% reporting good quality of life. The study identified several determinants influencing quality of life outcomes, including sociodemographic factors, disease characteristics, treatment-related side effects, psychological well-being, and available support systems. Assessment of support systems highlighted gaps in comprehensive care delivery. These findings underscore the urgent need for targeted interventions to improve quality of life among chemotherapy patients at UBTH through enhanced symptom management protocols, expanded psychosocial support services, and integrated care models. This study contributes valuable insights to inform clinical practice, healthcare policy, and system-level improvements aimed at enhancing the overall well-being of oncology patients in this setting. Further research employing longitudinal designs and mixed-methods approaches is recommended to more comprehensively understand quality of life trajectories and develop contextually appropriate interventions.*

Keywords: *Oncology Patient, Quality of Life (QOL), Determinants, Chemotherapy.*

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Cancer is recognized as a major global health challenge and is characterized by the uncontrolled growth and spread of abnormal cells within the body. This transformation often results from genetic alterations, environmental exposures, and infectious agents that disrupt normal cellular processes and lead to tumor development (National Cancer Institute, 2021; World Health Organization, 2022). The likelihood of developing cancer increases with advancing age because of cumulative exposure to carcinogenic factors and reduced cellular repair capacity. Key risk factors include tobacco use, alcohol consumption, poor dietary habits, physical inactivity, and environmental pollutants. In many developing regions, chronic infections—such as hepatitis B and C, human papillomavirus, and Epstein-Barr virus—substantially contribute to cancer burden, while HIV infection heightens susceptibility to specific cancers (World Health Organization, 2022).

Globally, cancer incidence continues to rise. In 2020, an estimated 19.3 million new cases and 10 million deaths were recorded, marking cancer as a leading cause of mortality worldwide (Sung et al., 2021). Low- and middle-income countries bear a

disproportionate burden, accounting for the majority of cancer-related deaths (American Cancer Society, 2023). The increasing incidence of cancer in these regions has been linked to demographic transitions and growing exposure to modifiable risk factors (Huang et al., 2023). In sub-Saharan Africa, cancer poses an escalating public health concern. For instance, Ethiopia reported approximately 53,560 new cases and 39,480 deaths in 2019, demonstrating the significant strain cancer places on limited healthcare resources (Awedew et al., 2022). These trends highlight the urgent need for improved cancer surveillance systems, which remain underdeveloped across many African countries despite their importance in guiding cancer control strategies.

The impact of cancer extends beyond physical symptoms, profoundly affecting psychological, social, and spiritual well-being. Therefore, quality of life (QoL) has become a central focus in cancer care, reflecting patients' perceptions of their functioning, relationships, and overall life satisfaction (McDowell et al., 2020). Modern oncology emphasizes QoL enhancement as a core treatment goal, particularly as survival improves due to advancements in cancer therapies (Andre et al., 2021). Chemotherapy remains a key treatment modality across many cancer types; however, its benefits are often accompanied by distressing side effects that significantly influence patients' daily functioning and emotional stability. As a result, understanding factors that shape QoL during chemotherapy is essential, especially in settings where resources and supportive services may be limited (Wilkinson & Gathani, 2022).

In the broader context of cancer control, evaluating QoL is crucial for addressing patients' physical, psychological, and social challenges. Effective cancer management requires a comprehensive approach that integrates prevention, early detection, treatment, pain management, and psychosocial support. Unfortunately, many low- and middle-income countries still experience gaps in these areas, including limited access to screening programs, delayed diagnoses, inadequate treatment options, and insufficient mental health support (Dalal & Bruera, 2019).

Nigeria reflects many of these systemic challenges. At the University of Benin Teaching Hospital (UBTH), growing awareness of cancer's multifaceted impact underscores the need for improved patient-centered care. Evidence suggests that factors such as constrained healthcare resources, medication costs, and socio-economic difficulties substantially influence patient outcomes (Chubike et al., 2019). Moreover, cultural norms and beliefs shape individuals' responses to illness and treatment, further affecting QoL. These contextual realities demonstrate the complexity of caring for oncology patients in Nigeria and highlight the importance of understanding how local factors influence patients' experiences.

Existing studies have identified numerous determinants of QoL among individuals undergoing chemotherapy, including symptom burden, emotional distress, social support, and treatment-related toxicities (Lewandowska et al., 2020; Ramasubbu et al., 2021). Despite this, limited research has examined these factors within the Nigerian context, and

even fewer studies have focused specifically on UBTH. Given the unique cultural, economic, and health system characteristics of Nigeria, determinants of QoL may differ from those observed in other settings. Therefore, exploring QoL among oncology patients at UBTH is essential for developing interventions that address their specific needs and improve their well-being during chemotherapy.

1.2 Statement of the Problem

Chemotherapy remains an essential component of cancer management; however, its associated side effects continue to significantly compromise the quality of life (QoL) of patients undergoing treatment. At the University of Benin Teaching Hospital (UBTH), many oncology patients experience a wide range of physical, psychological, and social challenges during chemotherapy. These difficulties often manifest as treatment-related symptoms, emotional distress, and disruptions in daily functioning, which collectively diminish overall well-being (Ekwueme et al., 2021; Olopade et al., 2019). The severity and persistence of these challenges highlight the need for a deeper understanding of the factors influencing QoL in this specific clinical setting.

Despite the increasing burden of cancer in Nigeria, there remains a scarcity of empirical data exploring the unique determinants of QoL among oncology patients at UBTH. Most available evidence originates from studies conducted in other regions, where healthcare resources, cultural expectations, and socio-economic realities differ substantially. The

absence of localized research poses limitations for clinicians attempting to provide patient-centered and context-appropriate care. Factors such as poverty, limited access to healthcare services, and economic instability further worsen patients' experiences and may contribute to disparities in QoL outcomes (Adenipekun et al., 2019; Ogunbiyi et al., 2020).

In addition to the physical toll of cancer and its treatment, many patients encounter considerable emotional and psychological strain. Depression, anxiety, and reduced life satisfaction are frequently reported among individuals undergoing chemotherapy. However, mental health services in Nigeria remain insufficient, characterized by inadequate staffing and limited integration into oncology care. As a result, many patients do not receive the psychological support necessary to cope effectively with the stress of diagnosis and treatment (Oladimeji et al., 2022).

Social support is another critical determinant of QoL, yet many patients experience inconsistent or insufficient assistance from family and community networks. Caregiving responsibilities often fall on family members who may lack the skills, resources, or emotional capacity to provide adequate support, thereby increasing the burden on both patients and caregivers. Such limitations in social support systems can lead to heightened stress, reduced coping capacity, and further declines in QoL (Balogun et al., 2021; Oluwafemi et al., 2020).

Given these challenges, there is a pressing need for targeted research to identify the specific determinants of QoL among oncology patients undergoing chemotherapy at UBTH. Understanding these factors is essential for developing tailored interventions aimed at improving patients' overall well-being during treatment.

1.3 Broad Objectives

This study seeks to assess the determinant of QoL among oncology patients undergoing chemotherapy at the University of Benin Teaching Hospital (UBTH).

1.3.1 Objectives of the Study

1. To assess the current quality of life of oncology patients undergoing chemotherapy at the University of Benin Teaching Hospital.
2. To assess the support systems provided to oncology patients at the University of Benin Teaching Hospital.
3. To determine the determinants of quality of life among oncology patients undergoing chemotherapy at the University of Benin Teaching Hospital.

1.4 Research Questions

1. What is the current quality of life of oncology patients undergoing chemotherapy at the University of Benin Teaching Hospital?

2. How effective are the support systems provided to oncology patients at the University of Benin Teaching Hospital?
3. What are the determinants of quality of life among oncology patients undergoing chemotherapy at the University of Benin Teaching Hospital?

1.5 Significance of the Study

The significance of this study lies in its potential to provide valuable insights and benefits to various stakeholders, including patients, healthcare providers, policymakers, and the broader healthcare community.

a. **Oncology Patients:** By identifying the determinants of quality of life and evaluating the effectiveness of support systems, this study aims to improve the overall well-being of these patients. Understanding the prevalence of different types of cancer and the specific challenges faced by patients can lead to more personalized and effective care strategies, ultimately enhancing patients' physical, emotional, and social well-being.

b. **Healthcare Providers and Hospital Administration:** Healthcare providers and the administration at the University of Benin Teaching Hospital will benefit from the findings of this study by gaining a deeper understanding of the needs and challenges faced by oncology patients. The insights from this research can inform

the development and implementation of targeted interventions and support systems that are tailored to improve the quality of life for these patients.

c. **Policy Makers and Government:** The results of this study can provide evidence-based information that is crucial for policymakers and government officials. By highlighting the socio-economic and cultural factors that influence the quality of life of oncology patients, this research can inform the development of policies and programs aimed at improving cancer care and support systems. The study can also advocate for increased funding and resources for mental health services, social support systems, and cancer care infrastructure.

d. **Academic and Research Community:** The academic and research community stands to gain from the contributions of this study to the existing body of knowledge on cancer care and quality of life. The findings can serve as a basis for further research and exploration into the determinants of quality of life among oncology patients in different contexts and settings.

1.6 Scope of the study

This study focuses on oncology patients undergoing chemotherapy at the University of Benin Teaching Hospital (UBTH). The research will be conducted from August to November, 2024, capturing data from patients receiving chemotherapy during this time.

1.7 Hypothesis

Ho: There is no significant association between type of cancer and quality of chemotherapy patients.

1.8 Operational Definition of Terms

1. Oncology Patients: Patients formally diagnosed with any type of cancer and currently undergoing chemotherapy at the University of Benin Teaching Hospital (UBTH) during the study period.
2. Chemotherapy: The administration of chemotherapy drugs to oncology patients as prescribed by their oncologists at UBTH, documented in their medical records.
3. Quality of Life (QoL): Measured using validated instruments that assess the physical, emotional, and social well-being of oncology patients, such as the EORTC QLQ-C30 (European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire).
4. Physical Well-being: Assessed through patient self-reports and medical evaluations of symptoms like pain, fatigue, nausea, and overall physical functioning.
5. Emotional Well-being: Evaluated using psychological assessment tools and patient self-reports regarding their emotional state, anxiety levels, and depressive symptoms.

6. Social Well-being: Measured through patient surveys assessing social interactions, support from family and friends, and participation in social activities.
7. 7. Support Systems: - Assessed by evaluating the availability and effectiveness of support services provided by the hospital, such as counseling and nutritional support, as well as external support from family, friends, and community-based organizations.
8. Determinants: These refer to factors or variables that have a significant impact on the quality of life of oncology patients undergoing chemotherapy. These include socio-economic factors, cultural factors, physical symptoms, psychological state, and social support.

CHAPTER TWO

LITERATURE REVIEW

This chapter reviewed related literatures of the study. It was organised into conceptual review, theoretical framework and empirical review.

2.1 Conceptual Review

2.1.1 Chemotherapy

Chemotherapy is a cornerstone of systemic cancer treatment, involving the administration of cytotoxic drugs to inhibit or destroy rapidly dividing cancer cells. It can be used with curative intent, to prolong survival, or as palliative therapy to alleviate symptoms when cure is not achievable, making it an essential part of modern medical oncology (Balasubramanian et al., 2021; Chu & Rubin, 2023). Chemotherapeutic agents are considered systemic therapies because they circulate through the bloodstream, allowing them to target cancer cells throughout the body. They are frequently combined with local therapies, such as surgery, radiotherapy, or hyperthermia, to improve treatment outcomes (Balasubramanian et al., 2021; Chu & Rubin, 2023; Mariottini & Saccardi, 2024).

Traditional chemotherapeutic drugs primarily act by disrupting mitosis or inducing DNA damage, leading to tumor cell death. However, these agents also affect normal rapidly dividing cells, such as those in the bone marrow, gastrointestinal tract, and hair follicles, resulting in common side effects such as myelosuppression, mucositis, and alopecia

(Balasubramanian et al., 2021; Chu & Rubin, 2023; Dalal & Bruera, 2019). The variability in tumor cell susceptibility and the collateral damage to healthy tissues underscore the challenges in chemotherapy administration and highlight the importance of supportive care measures (Ekwueme et al., 2021; Olopade et al., 2019).

Recent advancements in oncology have led to more targeted approaches, distinguishing traditional cytotoxic chemotherapy from hormonal therapy and other molecular-targeted therapies. Hormonal therapies interfere with endocrine-driven signaling pathways, such as estrogen in breast cancer or androgens in prostate cancer, while targeted therapies block specific growth-promoting molecular signals, including receptor tyrosine kinases (Balasubramanian et al., 2021; Chu & Rubin, 2023). Despite differences in mechanisms, all these treatments are classified as systemic therapies because they affect cancer cells throughout the body (Balasubramanian et al., 2021; Gulbis & Wallis, 2024).

Chemotherapy's systemic nature means it can also influence immune function, making some agents useful for managing autoimmune diseases, such as rheumatoid arthritis, systemic lupus erythematosus, and multiple sclerosis (Balasubramanian et al., 2021; Gulbis & Wallis, 2024). Moreover, the side effects of chemotherapy can significantly impact patients' quality of life, leading to physical discomfort, psychological distress, and social challenges (Ekwueme et al., 2021; Olopade et al., 2019; Lewandowska et al., 2020). Understanding these effects and integrating supportive interventions are therefore

critical for optimizing treatment outcomes and maintaining overall patient well-being (Ramasubbu et al., 2021; Turhal & Koç, 2023).

2.1.2 Treatment Strategies in Chemotherapy

Chemotherapy can be administered using various strategies depending on the treatment objective, which may include cure, life prolongation, or symptom palliation (Balasubramanian et al., 2021; Chu & Rubin, 2023). These strategies are designed to optimize efficacy, minimize toxicity, and improve patient outcomes.

Induction chemotherapy refers to the initial administration of chemotherapeutic drugs with the aim of achieving remission and is typically used for curative intent (Balasubramanian et al., 2021). Combined modality chemotherapy integrates chemotherapeutic agents with other local treatments, such as surgery, radiation therapy, or hyperthermia, to enhance overall therapeutic effectiveness (Chu & Rubin, 2023; Mariottini & Saccardi, 2024).

Consolidation chemotherapy is given following remission to prolong disease-free intervals and improve overall survival, often using the same drugs that achieved remission (Balasubramanian et al., 2021). Intensification chemotherapy, while similar to consolidation therapy, employs different drugs than those used during induction to further reduce residual tumor cells (Balasubramanian et al., 2021; Chu & Rubin, 2023).

Combination chemotherapy involves administering multiple drugs simultaneously, each with distinct mechanisms of action and side-effect profiles. This approach reduces the likelihood of resistance developing to a single agent and allows the use of lower doses, thereby minimizing toxicity (Chu & Rubin, 2023; Balasubramanian et al., 2021).

Neoadjuvant chemotherapy is administered prior to local treatment, such as surgery, to shrink primary tumors and address micrometastatic disease, improving the potential for successful surgical outcomes (Chu & Rubin, 2023; Andre et al., 2021). Conversely, adjuvant chemotherapy is given after local treatments, targeting residual microscopic cancer cells to prevent recurrence and improve survival rates (Balasubramanian et al., 2021; Chu & Rubin, 2023).

Maintenance chemotherapy involves repeated low-dose treatment intended to prolong remission, whereas salvage or palliative chemotherapy is administered without curative intent, aiming to reduce tumor burden and enhance quality of life. In palliative regimens, a better toxicity profile is often prioritized to preserve patient well-being (Dalal & Bruera, 2019; Balasubramanian et al., 2021).

The administration of any chemotherapy regimen requires careful assessment of a patient's performance status to determine treatment eligibility and appropriate dosing. Due to the principle of fractional kill—where only a portion of tumor cells are destroyed with each cycle—chemotherapy is delivered in repeated cycles, with timing and duration constrained by cumulative toxicity (Chu & Rubin, 2023; Lewandowska et al., 2020). This cyclical approach allows for maximal tumor reduction while monitoring and managing adverse effects that could compromise patient safety or quality of life (Ekwueme et al., 2021; Olopade et al., 2019).

2.1.3 Effectiveness, Dosage, and Delivery of Chemotherapy

Effectiveness

The effectiveness of chemotherapy varies according to cancer type, stage, and biological characteristics of the tumor. For certain cancers, such as some leukemias, chemotherapy can be curative, whereas for others, like specific brain tumors, its impact may be limited, and in some cases, such as most non-melanoma skin cancers, chemotherapy is generally unnecessary (Balasubramanian et al., 2021; Chu & Rubin, 2023). The responsiveness of cancer cells to chemotherapeutic agents is influenced by tumor genetics, microenvironment, and prior treatment exposure, all of which contribute to variable treatment outcomes (Lewandowska et al., 2020; Ramasubbu et al., 2021).

Dosage

Chemotherapy dosing presents a delicate balance between efficacy and toxicity. Underdosing may render the treatment ineffective, while excessive dosing can result in intolerable side effects (Balasubramanian et al., 2021; Chu & Rubin, 2023). Standard chemotherapy doses are traditionally calculated using body surface area (BSA), derived from weight and height, a method originally established in the early 20th century based on limited human data and laboratory animal studies (Chu & Rubin, 2023). While widely used, this approach does not account for individual variations in drug metabolism, organ function, age, sex, comorbidities, genetic factors, or drug interactions, all of which can

significantly alter systemic drug exposure (Lewandowska et al., 2020; Olopade et al., 2019).

Clinical evidence demonstrates that individualized dosing, tailored to achieve optimal systemic drug exposure, improves treatment outcomes and reduces toxicities. For example, studies have shown that patients receiving 5-fluorouracil (5-FU) doses adjusted to target plasma drug exposure achieved higher response rates and improved overall survival compared to those dosed using BSA alone (Chu & Rubin, 2023; Andre et al., 2021). These findings underscore the importance of personalized chemotherapy regimens to enhance therapeutic efficacy while minimizing adverse effects.

Delivery

Chemotherapy can be administered intravenously or orally, depending on the drug formulation and treatment plan. Oral chemotherapeutic agents, including melphalan, busulfan, and capecitabine, provide convenience but introduce challenges in adherence and monitoring, as patients are responsible for self-administration (Chu & Rubin, 2023; Lewandowska et al., 2020).

Intravenous delivery methods utilize vascular access devices such as winged infusion sets, peripheral venous catheters, midline catheters, peripherally inserted central catheters (PICC), central venous catheters, and implantable ports. Selection of the device depends on the type and duration of chemotherapy, the drug's properties, and patient factors. For

prolonged or continuous infusion, surgically implanted systems like Hickman lines, Port-a-Caths, and PICC lines reduce the risk of infection and extravasation, and avoid repeated cannulation (Chu & Rubin, 2023; Gulbis & Wallis, 2024).

Specialized delivery techniques, such as isolated limb perfusion for melanoma or regional infusion to the liver or lungs, allow high-dose chemotherapy to target localized tumors while minimizing systemic toxicity. While effective for controlling solitary or limited metastases, these regional therapies are not systemic and do not address micrometastases distributed throughout the body (Balasubramanian et al., 2021; Chu & Rubin, 2023).

Overall, the effectiveness and safety of chemotherapy depend on careful consideration of cancer type, dosing strategy, delivery method, and patient-specific factors. Optimizing these elements is critical for improving treatment outcomes and maintaining patients' quality of life during therapy (Ekwueme et al., 2021; Olopade et al., 2019; Lewandowska et al., 2020).

2.1.4 Adverse Effects and Mechanism of Chemotherapy

Adverse Effects

Chemotherapy is a cornerstone of cancer treatment, but its systemic nature exposes patients to a wide spectrum of adverse effects, depending on the type of drugs, dosage, and duration of therapy (Chu & Rubin, 2023; Lewandowska et al., 2020). These effects can be acute, occurring within hours or days of administration, or chronic, emerging weeks, months, or even years later (Balasubramanian et al., 2021). Understanding these adverse effects is critical for optimizing treatment protocols and maintaining the quality of life (QoL) of oncology patients (Ekwueme et al., 2021).

Immunosuppression and Myelosuppression

One of the most significant adverse effects of chemotherapy is myelosuppression, which manifests as a decreased production of white blood cells, red blood cells, and platelets (Chu & Rubin, 2023; Lewandowska et al., 2020). Myelosuppression increases susceptibility to infections, anemia, and bleeding disorders. In severe cases, patients may require blood transfusions or granulocyte-colony stimulating factors (G-CSF) such as filgrastim to boost white blood cell production (Mariottini & Saccardi, 2024). For extremely high-grade myelosuppression, bone marrow transplantation, either autologous or allogeneic, may be necessary to restore hematopoietic function.

Gastrointestinal Toxicities

Chemotherapy affects rapidly dividing cells in the gastrointestinal tract, leading to nausea, vomiting, diarrhea, anorexia, and abdominal cramps (Lewandowska et al., 2020; Dalal & Bruera, 2019). These complications can cause dehydration, malnutrition, and weight changes, which may compromise the effectiveness of treatment and patient recovery. Use of antiemetic medications, dietary counseling, and, in some cases, probiotics, can mitigate these effects and improve patient tolerance (Chu & Rubin, 2023). Gastrointestinal toxicity can also exacerbate psychosocial stress, as patients struggle to maintain normal dietary habits and daily activities (Oluwafemi et al., 2020).

Anemia and Fatigue

Anemia is frequently observed in patients receiving chemotherapy, caused by myelosuppressive drugs, tumor-related bleeding, or nutritional deficiencies (Lewandowska et al., 2020; Ekwueme et al., 2021). Fatigue often accompanies anemia and may persist long after treatment ends, significantly impacting QoL. Management strategies include erythropoietin administration, iron supplementation, blood transfusions, and aerobic exercise interventions to improve energy levels and physical functioning (Ramasubbu et al., 2021).

Secondary Neoplasms and Infertility

Secondary malignancies can develop years after chemotherapy, particularly following treatment with alkylating agents or topoisomerase inhibitors (Lewandowska et al., 2020;

Mariottini & Saccardi, 2024). Childhood cancer survivors are at a notably higher risk of secondary cancers, emphasizing the importance of long-term monitoring. Chemotherapy may also be gonadotoxic, leading to temporary or permanent infertility, especially with high-risk drugs such as cyclophosphamide, procarbazine, and busulfan (Chu & Rubin, 2023; Lewandowska et al., 2020). Fertility preservation strategies, including sperm or oocyte cryopreservation, are increasingly recommended before treatment.

Peripheral Neuropathy and Cognitive Dysfunction

Chemotherapy-induced peripheral neuropathy (CIPN) affects approximately 30–40% of patients and presents as pain, tingling, numbness, and sensitivity to temperature in extremities (Lewandowska et al., 2020; Chu & Rubin, 2023). Drugs commonly implicated include taxanes, platinum compounds, vinca alkaloids, and proteasome inhibitors. CIPN can be long-lasting and sometimes irreversible, impacting mobility, daily functioning, and QoL. Cognitive impairment, often referred to as "chemo brain," manifests as memory deficits, difficulty concentrating, and slowed cognitive processing, affecting patients' psychosocial and occupational functioning (Ekwueme et al., 2021; Olopade et al., 2019).

Cardiotoxicity, Hepatotoxicity, and Nephrotoxicity

Chemotherapy can lead to organ-specific toxicities. Anthracyclines are well-known for causing cardiotoxicity through free radical formation and DNA damage in cardiac tissue (Chu & Rubin, 2023). Hepatotoxicity, including liver fibrosis and hepatic sinusoidal

obstruction, can result from cytotoxic drugs and may be compounded by pre-existing conditions such as viral hepatitis (Lewandowska et al., 2020). Nephrotoxicity may arise from drug clearance mechanisms or tumor lysis syndrome, leading to acute kidney injury or chronic renal impairment (Mariottini & Saccardi, 2024).

Other Side Effects

Additional adverse effects include ototoxicity (commonly with platinum-based drugs), dermatologic reactions such as erythema and xerostomia, sexual dysfunction, and hypersensitivity reactions (Chu & Rubin, 2023; Lewandowska et al., 2020). These effects, while less common, can significantly affect the daily lives of patients and require careful monitoring.

Mechanism of Action

Chemotherapy primarily targets rapidly dividing cells, impairing mitosis or inducing DNA damage, which triggers apoptosis (Mariottini & Saccardi, 2024; Balasubramanian et al., 2021). Tumors with high proliferation rates, such as acute myelogenous leukemia and aggressive lymphomas, are typically more sensitive to chemotherapy, whereas slower-growing or heterogeneous tumors respond less robustly. The effectiveness of chemotherapy is influenced by subclonal tumor populations, genetic mutations, and tumor microenvironment characteristics (Mariottini & Saccardi, 2024).

Chemotherapy also exerts immunomodulatory effects. Drugs like cyclophosphamide and oxaliplatin can induce immunogenic cell death, enhancing recognition and elimination of tumor cells by the immune system. This mechanism may improve responsiveness to immunotherapy and has implications for combined modality treatments (Mariottini & Saccardi, 2024; Andre et al., 2021).

Psychosocial Implications

The wide range of physical side effects of chemotherapy often has profound psychological and social consequences. Anxiety, depression, and social isolation can arise from prolonged treatment, fatigue, hair loss, and altered body image (Oladimeji et al., 2022; Oluwafemi et al., 2020). Family and community support have been shown to significantly buffer the impact of chemotherapy on QoL, highlighting the need for integrated psychosocial care in oncology settings (Balogun et al., 2021; Zamanian et al., 2021).

Chemotherapy, while effective for treating many cancers, is accompanied by complex systemic, organ-specific, and psychosocial adverse effects. A thorough understanding of these effects, alongside proactive management strategies, is critical for improving patient outcomes, adherence to therapy, and overall quality of life (Lewandowska et al., 2020; Ekwueme et al., 2021; Chu & Rubin, 2023).

2.2 Theoretical Framework

This study is guided by Dorothea Orem's Self-Care Deficit Nursing Theory (SCDNT), which provides a structured approach to understanding and addressing the quality of life of oncology patients receiving chemotherapy. The theory is a grand nursing framework that highlights the significance of self-care and the essential role of nurses in supporting individuals who cannot meet their own care needs. It offers a comprehensive foundation for nursing practice, research, and education.

Dorothea Orem (1914–2007), an influential American nurse and educator, developed the SCDNT during the 1950s and 1960s. Her experiences in nursing practice, education, and hospital administration shaped the theory, which continues to guide nursing interventions aimed at promoting patient well-being.

Key Elements of the Theory

1. **Self-Care**

   Self-care refers to the actions individuals take independently to maintain their health and overall well-being. These activities include meeting fundamental needs such as nutrition, hydration, hygiene, and adherence to prescribed medications. While self-care is crucial for sustaining health and quality of life, illness or disability can limit a person's ability to perform these activities.

2. **Self-Care Agency**

   Self-care agency is the individual's capacity to engage in self-care activities. This ability is influenced by factors such as age, health condition, environmental circumstances, and level of knowledge or understanding.

3. **Self-Care Deficit**

   A self-care deficit arises when an individual is unable to meet their own self-care needs due to illness, injury, or other limiting conditions. This is the point at which nursing intervention becomes essential. Nurses assess the extent of the deficit and determine the appropriate type and level of care to address it.

4. **Nursing Systems**

   Orem outlined three nursing systems that guide the provision of care:

- **Wholly Compensatory System** – The nurse provides complete care for individuals who are unable to care for themselves, such as unconscious patients or those with severe disabilities.
- **Partially Compensatory System** – The nurse and patient share responsibility for care, such as in the case of post-operative recovery.
- **Supportive-Educative System** – The nurse supports and educates patients to enhance their self-care abilities, such as teaching individuals to manage chronic conditions like diabetes.

Figure 2.1: Orem's Conceptual framework

2.2.2 Application of Orem's Theory to the Study

Orem's Self-Care Deficit Nursing Theory provides a useful framework for understanding and addressing the challenges faced by chemotherapy patients. Patients undergoing chemotherapy often experience disruptions in their basic self-care activities, such as maintaining proper nutrition, getting adequate rest, and engaging in social interactions. The physical and psychological effects of both cancer and its treatment increase their self-care needs while simultaneously reducing their ability to meet those needs independently.

The concept of self-care deficit is particularly relevant, as it highlights the gap between the patients' abilities and the demands imposed by their illness and treatment. Factors such as the severity of symptoms, emotional distress, and availability of social support all contribute to this deficit, affecting the overall quality of life of the patients. Orem's three nursing systems can guide the provision of care to address these deficits. For patients with severe impairments, a wholly compensatory approach is necessary, with nurses providing comprehensive care. During acute treatment phases, a partially compensatory system allows nurses and patients to share care responsibilities, while a supportive-educative approach empowers patients to regain independence and develop self-management skills.

Applying Orem's model also allows for a structured understanding of the determinants of quality of life. Physiological factors include symptom management and functional capacity, while psychological factors focus on the patient's confidence and ability to manage their care. Social factors encompass support from family, friends, and the community, and environmental factors involve access to care and the quality of the hospital setting. By emphasizing these aspects, nursing interventions at UBTH can be tailored to enhance patients' self-care abilities. Education, symptom management, and the strengthening of support networks become key strategies for improving the overall quality of life of oncology patients during chemotherapy.

2.3 Empirical review

2.3.1 Current quality of life of oncology patients undergoing chemotherapy

Lewandowska et al. (2020) conducted a population-based, multi-site cross-sectional study at the Podkarpackie Oncology Centre, Clinical Provincial Hospital in Rzeszów between 2018 and 2020, examining the quality of life of 423 cancer patients undergoing chemotherapy. The researchers used the EQ-5D-5L Quality of Life Questionnaire and the Karnofsky Performance Status Scale for assessment. Their findings revealed that only 28% of patients were able to perform normal physical activities, with the highest impairments observed in self-care (81%, 95% CI: 76–89) and anxiety or depression (63%, 95% CI: 60–68). The study highlighted the substantial impact of chemotherapy on patients' quality of life and emphasized the importance of adopting holistic care approaches that address psychological, social, and spiritual needs.

Belmiro and Guilhem (2023) assessed 212 patients receiving palliative chemotherapy at the High Complexity Oncology Care Unit of the University Hospital of Brasília, Brazil, using the EORTC QLQ-C30 questionnaire. Although the overall quality of life was generally reported as good, fatigue and financial concerns were prevalent, affecting over 65% of participants. The study concluded that palliative care interventions must integrate patient-centered approaches alongside medical management, emphasizing communication and psychosocial support to optimize quality of life.

Turhal and Koç (2023) explored the relationship between sexual function and quality of life in 410 oncology patients undergoing chemotherapy at a Turkish university hospital. Using the FACT-G QOL Scale, the Arizona Sexual Experiences Scale, and the Edmonton Symptom Assessment Scale, the study found a significant negative correlation between sexual function and overall quality of life ($r = -0.224$, $p < 0.01$). Regression analysis indicated that both sociodemographic and clinical factors significantly influenced sexual function and quality of life ($F = 8.937$, $p < 0.001$), underscoring the need for sexual health interventions as part of comprehensive oncology care.

Manalo et al. (2023) examined 195 Filipino patients with advanced solid cancers, assessing quality of life and psychological distress using the FACT-G and Hospital Anxiety and Depression Scale (HADS). The mean FACT-G score was 65.39 (SD = 13.76), with physical well-being scoring lowest (mean = 14.14/28, SD = 5.92). Fatigue and pain were highly prevalent, reported by 88% and 86.5% of participants, respectively. Regression analysis revealed that higher physical symptom burden was significantly associated with lower quality of life ($p < 0.05$). The study highlighted the critical role of symptom management and psychosocial support in improving patient well-being.

Perez et al. (2023) studied 120 pediatric and young adult thyroid cancer patients (ages 8.5–23.4 years) at the Children's Hospital of Philadelphia using the Pediatric Quality of Life Inventory (PedsQL). Results indicated that thyroid cancer patients had higher HRQoL scores than peers with other pediatric cancers ($p < 0.01$), but lower than healthy

individuals, with a mean difference of 12 points ($p < 0.05$). Emotional functioning and school performance were particularly affected, with only 60% of patients scoring above average. No significant associations were found between HRQoL and disease severity or treatment type. The study recommended early screening using tools like the Distress Thermometer due to its simplicity and reliability.

Swart et al. (2023) conducted a comparative study in Botswana with 300 cancer patients to evaluate the impact of symptom burden on quality of life among individuals with and without HIV. Using the EORTC QLQ-C30 questionnaire and clinical interviews, the study found that HIV-positive patients experienced a higher symptom burden, resulting in a 10% lower QOL score compared to HIV-negative patients ($p < 0.05$). The findings emphasized the need for tailored strategies to manage the compounded challenges of coexisting cancer and HIV in improving patient quality of life.

2.3.2 Support systems provided to oncology patients

Westmaas et al. (2020) investigated how engagement in an online cancer support community influences perceived social support and overall well-being among survivors, also examining the moderating effects of offline support. The cross-sectional study included 1,255 participants registered with the American Cancer Society Cancer Survivors Network (CSN). Using principal component analysis, the researchers identified three types of engagement: social/communal, interpersonal communication, and

informational/search. Regression analysis revealed that higher levels of social and interpersonal engagement were significantly associated with greater perceived online support ($p < 0.0001$). The relationship between interpersonal communication and online support was strongest among participants with limited offline social networks (interaction $\beta = -0.35$, $p < 0.001$). The study concluded that online support communities can enhance perceived social support and well-being, particularly for individuals with fewer offline resources.

Lazard et al. (2020) examined young adults' perceptions of a social support app designed for cancer patients. The study included 22 participants, primarily female (77%), who provided feedback during a young adult cancer convention. Findings indicated strong interest in using the app for peer connection, although preferences varied depending on the rarity of participants' diagnoses. Suggested features included customizable profiles for anonymity, topic-specific chat rooms, and tailored messaging. The study emphasized the importance of incorporating user input in app design to ensure meaningful and effective social support for young adults with cancer.

Zamanian et al. (2021) explored the relationships between perceived social support, coping strategies, and psychological outcomes—specifically anxiety and depression—among 221 Iranian women with breast cancer. Using the DASS-21, the MOSS-SSS, and the brief COPE, the researchers found significant negative correlations between all forms of social support and symptoms of depression and anxiety, indicating that higher support

levels were linked to lower psychological distress. Mediation analyses revealed that adaptive coping strategies, including active coping, positive reframing, and acceptance, partially mediated the relationship between social support and depression, while positive reframing also mediated the link between social support and anxiety, highlighting the complex interplay between support and coping in shaping psychological outcomes.

Jadidi and Ameri (2022) investigated the association between family social support and meaning of life in 84 women with breast cancer in Arak, Iran. Using dedicated questionnaires and statistical analyses including t-tests, ANOVA, and Pearson correlations, the study found a strong positive relationship between social support and meaning of life ($r = 0.773$, $p < 0.001$). Notably, these psychological constructs did not vary significantly with demographic variables, suggesting that family support contributes to a sense of purpose and life meaning regardless of age, socioeconomic status, or other background factors.

Ban et al. (2021) examined the relationships among fear of cancer progression, social support, and quality of life in 244 Chinese women with breast cancer at Anshan Cancer Hospital. Utilizing the FACT-B, MSPSS, and Fear of Progression scale, the study found that higher fear of progression was associated with lower quality of life, while greater social support correlated positively with quality of life. These findings indicate that social support may buffer the negative psychological effects of fear regarding disease progression, highlighting its protective role in oncology care.

Tian et al. (2021) conducted a survey study with 441 lung cancer patients across seven hospitals in Chongqing, China, to investigate the effects of social support on psychological distress and the mediating roles of coping style and perceived stress. The researchers reported a 17.7% prevalence of psychological distress and found a significant negative association between social support and distress levels. Their findings reinforce the broader evidence that social support plays a critical role in mitigating psychological challenges among cancer patients.

2.3.3 Determinants of quality of life among chemotherapy patients

Guan et al. (2020) conducted a cross-sectional analysis using baseline data from a randomized clinical trial involving 263 prostate cancer patients at the University of North Carolina Lineberger Comprehensive Cancer Center to examine how illness uncertainty affects quality of life through coping strategies. Using Mishel's Uncertainty in Illness Theory (UIT) and the Mishel Uncertainty in Illness Scale (MUIS), the study found that uncertainty had a significant direct negative impact on both physical well-being ($\beta = -0.35$, $p < 0.001$) and mental well-being ($\beta = -0.20$, $p < 0.05$). Furthermore, uncertainty was positively associated with avoidant coping ($\beta = 0.45$, $p < 0.001$), which in turn reduced mental well-being ($\beta = -0.25$, $p < 0.01$). The model demonstrated excellent fit (CFI = 0.98, RMSEA = 0.04), indicating that interventions aimed at reducing illness uncertainty and promoting active coping could enhance patient quality of life.

Phillips et al. (2022) explored the factors influencing quality of life among socioeconomically disadvantaged cancer patients in a safety-net clinic in Spain. The study included 115 patients who completed the FACT-G and other PROMIS scales assessing anxiety, depression, fatigue, pain interference, and physical function. More than 60% of participants reported annual incomes below $24,999, and 45% were uninsured or relied on county-funded insurance. Results indicated that depression, pain, and financial toxicity were significantly associated with lower quality of life ($p < 0.05$), underscoring the importance of targeted psychosocial and financial support interventions for vulnerable populations.

Lee et al. (2021) conducted a longitudinal study with 212 adult non-small cell lung cancer patients at a tertiary hospital in Seoul, Korea, to examine relationships among social support, resilience, distress, and symptom burden. Findings revealed that social support significantly predicted resilience ($\beta = 0.40$, $p < 0.05$), whereas resilience, rather than social support, emerged as a strong predictor of quality of life ($\beta = 0.55$, $p < 0.01$). Symptom burden had the largest negative effect on quality of life ($\beta = -0.60$, $p < 0.001$), highlighting the need for interventions that enhance resilience and manage symptoms to improve patient outcomes.

Rostami et al. (2023) investigated the quality of life among family caregivers of cancer patients in Zanjan, Iran, using the SF-36 survey. The study included 300 caregivers, most of whom were married (79.7%) and self-employed (27%), with an average age of 40.77

years (SD = 12.56). The highest scoring domains were bodily pain (mean = 76.50, SD = 16.67) and physical functioning (mean = 74.88, SD = 20.27). Age, gender, and caregiving duration significantly predicted caregiver quality of life ($p < 0.001$), indicating substantial challenges that necessitate targeted support policies.

Park et al. (2021) examined determinants of quality of life in 140 women with breast cancer immediately following primary treatment completion. Using validated instruments such as the FACT-B, MSAS-SF, SESSM-B, and ISEL-12, the study found a mean quality of life score of 97.23 (±20.01). Chemotherapy and perceived economic status were significant predictors, while physical and psychological symptoms and social support were also strongly associated with quality of life. Regression analyses identified physical and psychological symptom burden and belonging support as the most significant predictors, emphasizing the importance of symptom management and social support in post-treatment care.

Aradya et al. (2024) conducted a pilot study on oral complications among 60 cancer patients undergoing chemotherapy. Evaluations based on the CTCAE v5.0 scale revealed high prevalence of oral complications: 71% developed mucositis, 63% experienced dry mouth, and 83% reported loss of taste. Drugs associated with these complications included cyclophosphamide, carboplatin, nanoxel, paclitaxel, oxaliplatin, docetaxel, and doxorubicin, highlighting the need for preventive and supportive oral care during chemotherapy.

Ganiger et al. (2022) assessed quality of life and its determinants among 50 cancer patients receiving chemotherapy at hospitals in Bagalkot using structured questionnaires, the MASCC Antiemesis Tool, Cohen's perceived stress scale, and the Zung self-rating anxiety scale. Findings indicated significant symptom burdens: 44% reported worst pain, 64% experienced high nausea and vomiting, and 58% reported high stress levels. Emotional, physical, social, and functional well-being scores were all substantially impacted. The study concluded that addressing both physical symptoms and psychological factors is essential for improving the overall quality of life of chemotherapy patients.

2.4 Summary of Literature Review

The literature highlights that chemotherapy, while essential for cancer treatment, significantly affects patients' quality of life across physical, psychological, social, and functional domains. Chemotherapy targets rapidly dividing cells, but its effects extend to healthy cells, leading to side effects such as fatigue, nausea, vomiting, myelosuppression, peripheral neuropathy, oral complications, and cognitive impairment. These adverse effects disrupt daily functioning, limit self-care, and reduce participation in normal life activities. The severity and type of side effects, along with psychological and social factors, are key determinants of quality of life for patients undergoing chemotherapy.

Social support plays a crucial role in mitigating the negative effects of chemotherapy. Family, peer, and community support networks can reduce psychological distress, anxiety, and depression, enhancing overall well-being. Similarly, coping strategies and resilience influence how patients manage illness uncertainty, symptom burden, and socio-economic challenges, impacting their quality of life.

The theoretical framework for this study is based on Dorothea Orem's Self-Care Deficit Nursing Theory, which provides a lens for understanding how patients' inability to meet self-care needs contributes to reduced quality of life. The theory emphasizes the interaction between self-care agency, self-care deficits, and nursing systems, showing how interventions can compensate for, partially support, or educate patients to regain self-care capacities. This framework allows quality of life determinants to be categorized into physiological, psychological, social, and environmental domains, guiding targeted nursing interventions.

Despite extensive research, gaps remain, particularly in localized contexts such as Nigeria. Most studies focus on general populations or high-income countries, with limited exploration of the socio-economic, cultural, and healthcare system factors that influence quality of life in Nigerian oncology patients. Furthermore, research often examines physical symptoms or psychosocial support separately rather than integrating both for a holistic understanding. Specific institutional settings, such as the University of Benin Teaching Hospital, also lack detailed investigation, despite unique patient

experiences, healthcare delivery challenges, and cultural factors that shape quality of life outcomes.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter outlines the research methodology used to evaluate determinants of quality of life in oncology patient undergoing chemotherapy at the University of Benin Teaching Hospital, Benin City. It includes details on the research setting, design, target population, sampling techniques, data collection methods, and ethical considerations.

3.2 Research Design

A descriptive cross- sectional design was utilized for this study to examine the determinants of quality of life in Oncology patients undergoing chemotherapy at the University of Benin Teaching Hospital, Benin City, Edo-State.

3.3 Research Setting

The settings used for this study is Benin City, Edo-State, Nigeria. Edo-State is an inland state in the southern part of Nigeria. It was created on 27th August, 1991 and currently has a population of approximately 4 million (NPC, 2017). The predominant occupation of

the people of Edo State is agriculture. Edo State has 3 State hospitals and 3 Federal health institutions. University of Benin Teaching Hospital (UBTH) will be sampled. UBTH shares a main boundary with University of Benin and Isiohor. UBTH is situated along Benin-Lagos highway in Egor Lagos Government Area along Benin Lagos express way, Ugbowo Benin City. It was founded in 1973 and has a bed state of 900 beds and 36 departments and services.it was established to compliment her sister institution, University of Benin. It is a tertiary institution which serves as a referral, healing, diagnostic, teaching and record Centre in the government health care delivering system. The hospital is made up of Clinical Oncology and Radiotherapy, Consultant Outpatient Department, Accident and Emergency unit, medical wards, Surgical wards, Maternity section, Theatre, Laboratory, Infant welfare clinic and General Practice clinics and so on.

3.4 Target Population

This is the entire group of individuals to which the researcher is interested in generalizing conclusion. The study was carried out amongst all in and out cancer patients who intend to undergo chemotherapy, those already taking chemotherapy and who had taken chemotherapy in both clinics and wards in the hospital. The target population for the study are all cancer patients in the university of Benin Teaching Hospital. A total of 625 form the target population for this study.

3.5 Sample and Sample Size

Sample is a proportion of a population. The average monthly attendance for six months was collected from the various clinics and wards/ An average of 625 cancer patients in UBTH. Using the Yamane (1967) and a level of precision assumed will be 0.05. The sample size is calculated as thus:

N = sample size

N = population size

E = level of precision (e = 0.05)

$N = N/ (1+N (e)^2)$

$N = 625/ (1+625(0.05)^2)$

N = 243.90

Approximately 244 patients.

3.6 Sampling Technique

Convenience sampling technique was considered appropriate because each cancer patient attends the clinic on different days of the week come for different chemotherapy.

3.6.1 Inclusion Criteria: this is the population that meets the criteria to be subjects of the study and they include all cancer patients irrespective of whether they receive chemotherapy or not and those who are willing to participate in the study.

3.6.2 Exclusion criteria: they are the population which does not meet the criteria to be subjects of this study. They include patients who do not have cancer, those who are not

available at the time of data collection and those not willing to participate will be excluded from the study.

3.7 Instrument for Data Collection

A researcher's questionnaire which comprised of 37 items including information about the demographic variables of the patients was developed for the study. The patients were asked to provide information concerning their understanding and thoughts towards chemotherapy. A 4-point Likert format of (Strongly Agree, Agree, Disagree, Strongly Disagrees) was provided to guide the patient's choice of response to the questionnaire items.

3.8 Reliability of The Instrument

This is the degree to which the questionnaire produces stable and consistent results. A pilot study was carried out among 24 patients (10% of the sample size) in Stella Obasanjo Children and Women Hospital, Benin City, Edo State to pre-test the reliability of the instrument. The Cronbach alpha reliability technique was employed in this study and computed with the aid of Statistical Package for Social Sciences (SPSS). The Cronbach alpha value is more than 0.7 when using SPSS 21.0.

3.8 Validity of The Instrument

The validity of the research instrument was ascertained by the researcher's supervisor and other experts in the field to ensure face and content validity. For revision based on which

instruments were moderated after necessary corrections, the research instruments were considered valid and thereafter administered to the respondents. The items that were difficult for the patients in the questionnaire were restructured for proper comprehension.

3.9 Method of Data Collection

Data for this study was collected through the administration of questionnaires to respondents and it was shared after the introduction of the topic to the patients. Those who showed interest were given to fill and collected immediately. This was done during the hours of 8.00am and 12.00 Noon for four (4) weeks with the aid of two research assistants. In other to promote candid responses, patients were assured of anonymity.

3.10 Method of Data Analysis

On retrieving the questionnaires from the respondents, the data were coded, cleaned and analyzed using International Business Machine (IBM) Statistical Package for Social Sciences (SPSS) version 28.0. The statistical techniques employed in the data analysis were descriptive statistics (frequency, simple percentages, means as well as inferential statistics (chi-square statistical test to test the research hypotheses. The level of significance was set at $p < 0.05$.

3.11 Ethical Consideration

A letter of introduction was obtained from the Head of the Department of Nursing Science, University of Benin, to apply for ethical clearance to conduct the study in the University of Benin Teaching Hospital. Ethical approval was sought from the Ethics Committee of the hospital. The researcher maintained the following ethical principles:

- Confidentiality: Information provided by respondents was treated with utmost confidentiality; no names or addresses was requested in the questionnaire.
- Self-Determination/Voluntary Participation: Respondents have the right to voluntarily decide whether to participate in the study without risk of penalty or prejudicial treatment. They can withdraw at any point during the study or refuse to provide information on any unclear points. The purpose and benefits of the study was explained to obtain informed consent.
- Informed Consent: Participants was given an informed consent form to fill out after being informed about the research purpose. They can withdraw at any time. The investigator ensured no injuries are sustained during the administration of the questionnaire.
- Plagiarism: All sources and works referenced during this study was appropriately cited and acknowledged to ensure originality and avoid plagiarism.

CHAPTER FOUR

RESULTS

4.1 Demographic Characteristics of Respondents

The study involved 244 cancer patients undergoing chemotherapy. Table 4.1 presents the demographic characteristics of the respondents.

Table 4.1: Demographic Characteristics of Respondents (N=244)

Characteristic	Category	Frequency	Percentage (%)
Age (years)	18-30	32	13.1
	31-45	75	30.7
	46-60	98	40.2
	Above 60	39	16.0
Gender	Male	106	43.4
	Female	138	56.6
Marital Status	Single	53	21.7
	Married	146	59.8
	Divorced	28	11.5
	Widowed	17	7.0
Education Level	None	14	5.7

	Primary	63	25.8
	Secondary	92	37.7
	Tertiary	75	30.8
Occupation	Professional	58	23.8
	Self-employed	47	19.3
	Civil servant	35	14.3
	Student	22	9.0
	Unemployed	43	17.6
	Retired	39	16.0
Type of Cancer	Breast	67	27.5
	Colorectal	39	16.0
	Lung	34	13.9
	Prostate	28	11.5
	Lymphoma	25	10.2
	Leukemia	21	8.6
	Other	30	12.3
Duration of Chemotherapy	Less than 3 months	86	35.2
	3-6 months	98	40.2
	7-12 months	42	17.2
	More than 12 months	18	7.4

Table 4.1 shows that most respondents were middle-aged, with 40.2% falling in the 46-60 years age bracket. Female respondents (56.6%) outnumbered male respondents (43.4%). The majority of participants were married (59.8%), and most had received either secondary (37.7%) or tertiary education (30.8%). Professionals represented the largest occupational group (23.8%), followed by self-employed individuals (19.3%). Breast cancer was the most prevalent diagnosis (27.5%), followed by colorectal cancer (16.0%). Regarding treatment duration, 40.2% of respondents had undergone chemotherapy for 3-6 months, while 35.2% were in the first three months of treatment.

4.2 Quality of Life Assessment

This section presents the findings regarding respondents' quality of life during chemotherapy treatment.

Table 4.2: Quality of Life Assessment (N=244)

Statement	SD	D	A	SA	Mean	Remar
1. I am able to perform daily activities without significant difficulty	42 (17.2)	86 (35.2)	79 (32.4)	37 (15.2)	2.46	Low
2. I experience manageable levels of pain that do not interfere with my daily life	53 (21.7)	96 (39.3)	67 (27.5)	28 (11.5)	2.29	Low
3. I can engage in light physical activities without excessive fatigue	62 (25.4)	98 (40.2)	59 (24.2)	25 (10.2)	2.19	Low
4. I feel emotionally stable despite my diagnosis and treatment	47 (19.3)	89 (36.5)	75 (30.7)	33 (13.5)	2.38	Low
5. I am able to maintain social relationships during my treatment	32 (13.1)	65 (26.6)	96 (39.3)	51 (20.9)	2.68	High
6. I am satisfied with my current level of independence	45 (18.4)	78 (32.0)	83 (34.0)	38 (15.6)	2.47	Low
7. I feel hopeful about my future despite my current health challenges	29 (11.9)	57 (23.4)	98 (40.2)	60 (24.6)	2.77	High
8. I am able to concentrate on tasks and make decisions effectively	36 (14.8)	82 (33.6)	87 (35.7)	39 (16.0)	2.53	High
9. I can manage the side effects of my chemotherapy adequately	58 (23.8)	104 (42.6)	58 (23.8)	24 (9.8)	2.20	Low
10. I am satisfied with my overall quality of life currently	46 (18.9)	98 (40.2)	72 (29.5)	28 (11.5)	2.34	Low
Overall Mean					**2.43**	**Low**

Note: SD = Strongly Disagree (1), D = Disagree (2), A = Agree (3), SA = Strongly Agree (4)

Table 4.2 reveals that respondents generally reported a low quality of life during chemotherapy, with an overall mean score of 2.43. The most challenging aspects were engaging in light physical activities without excessive fatigue (mean = 2.19) and managing chemotherapy side effects (mean = 2.20). Areas where respondents reported relatively higher scores included feeling hopeful about the future (mean = 2.77) and

maintaining social relationships (mean = 2.68). Only 3 out of 10 quality of life indicators received high mean scores, while the remaining 7 indicators were rated low, indicating significant challenges in many aspects of daily functioning and well-being during treatment.

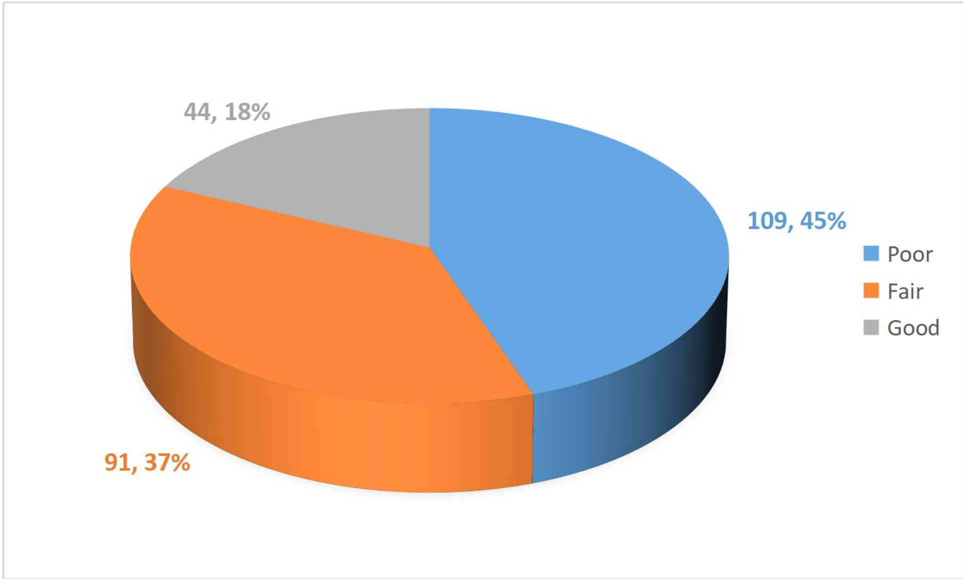

Figure 4.1: Level of quality of life

Figure 4.1 shows the level of quality of life. It shows that 44(18%) have good level, 91(37%) have fair level while the remaining 109(45%) have poor quality of life.

4.3 Support Systems Assessment

This section presents the findings on respondents' evaluation of available support systems during chemotherapy treatment.

Table 4.3: Support Systems Assessment (N=244)

Statement	SD	D	A	SA	Mean	Remar
1. The medical staff are attentive to my concerns and questions	24 (9.8)	48 (19.7)	108 (44.3)	64 (26.2)	2.87	High
2. I have access to pain management resources when needed	31 (12.7)	65 (26.6)	97 (39.8)	51 (20.9)	2.69	High
3. The hospital provides adequate psychological support services	53 (21.7)	87 (35.7)	68 (27.9)	36 (14.8)	2.36	Low
4. I have access to nutritional counselling appropriate for my condition	48 (19.7)	93 (38.1)	72 (29.5)	31 (12.7)	2.35	Low
5. I receive adequate assistance with managing treatment side effects	37 (15.2)	79 (32.4)	86 (35.2)	42 (17.2)	2.54	High
6. The hospital environment is comfortable and conducive to healing	29 (11.9)	61 (25.0)	102 (41.8)	52 (21.3)	2.73	High
7. I have access to support groups for cancer patients	65 (26.6)	94 (38.5)	57 (23.4)	28 (11.5)	2.20	Low
8. My family receives adequate information to help them support me	39 (16.0)	72 (29.5)	89 (36.5)	44 (18.0)	2.57	High
9. The scheduling of my treatments is convenient and well-managed	27 (11.1)	52 (21.3)	106 (43.4)	59 (24.2)	2.81	High
10. I receive adequate financial counselling related to my treatment costs	79 (32.4)	98 (40.2)	45 (18.4)	22 (9.0)	2.04	Low
Overall Mean					**2.52**	**High**

Note: SD = Strongly Disagree (1), D = Disagree (2), A = Agree (3), SA = Strongly Agree (4)

Table 4.3 shows that respondents rated the overall support systems moderately positively, with an overall mean score of 2.52. The highest-rated aspects were medical staff attentiveness (mean = 2.87) and treatment scheduling (mean = 2.81). Areas with the lowest ratings included financial counseling related to treatment costs (mean = 2.04) and

access to support groups (mean = 2.20). Six out of ten support system indicators received high ratings, while four were rated low, suggesting reasonably good medical support but gaps in psychological, nutritional, and financial support services.

4.4 Determinants of Quality of Life

This section presents respondents' assessments of factors that influence their quality of life during chemotherapy.

Table 4.4: Determinants of Quality of Life (N=244)

Statement	SD	D	A	SA	Mean	Rema
1. My emotional well-being plays a major role in how I experience daily life	19 (7.8)	37 (15.2)	103 (42.2)	85 (34.8)	3.04	High
2. The financial burden of treatment affects my overall quality of life	15 (6.1)	29 (11.9)	97 (39.8)	103 (42.2)	3.18	High
3. The quality of my relationship with healthcare providers influences my wellbeing	22 (9.0)	42 (17.2)	112 (45.9)	68 (27.9)	2.93	High
4. Support from my family significantly impacts my ability to cope with treatment	12 (4.9)	26 (10.7)	89 (36.5)	117 (48.0)	3.27	High
5. My spiritual beliefs help me maintain a positive outlook during treatment	28 (11.5)	51 (20.9)	76 (31.1)	89 (36.5)	2.93	High
6. Access to information about my condition affects my sense of control	17 (7.0)	39 (16.0)	108 (44.3)	80 (32.8)	3.03	High
7. The side effects of chemotherapy are the primary factor affecting my quality of life	21 (8.6)	32 (13.1)	94 (38.5)	97 (39.8)	3.09	High
8. My pre-existing health conditions affect how I handle chemotherapy	34 (13.9)	54 (22.1)	86 (35.2)	70 (28.7)	2.79	High
9. The level of independence I can maintain affects my satisfaction with life	18 (7.4)	35 (14.3)	99 (40.6)	92 (37.7)	3.09	High
10. The distance I travel to receive treatment impacts my overall wellbeing	42 (17.2)	58 (23.8)	79 (32.4)	65 (26.6)	2.68	High
Overall Mean					**3.00**	**High**

Note: SD = Strongly Disagree (1), D = Disagree (2), A = Agree (3), SA = Strongly Agree (4)

Table 4.4 demonstrates that respondents strongly agreed with all the proposed determinants of quality of life, with an overall mean score of 3.00. Family support was rated as the most influential factor (mean = 3.27), followed by financial burden (mean = 3.18). The side effects of chemotherapy (mean = 3.09) and the level of independence maintained (mean = 3.09) were also rated highly. Even the lowest-rated factor—distance traveled for treatment (mean = 2.68)—still received a high rating overall. All ten determinants received high mean scores, indicating that respondents recognized multiple important factors affecting their quality of life during cancer treatment.

4.5 Hypothesis testing

Table 4.5: Association Between Quality of Life and Cancer Type Among Chemotherapy Patients Attending UBTH

Cancer Type	Quality of Life			Total
	Good n (%)	Fair n (%)	Poor n (%)	n (%)
Breast	14 (20.9%)	25 (37.3%)	28 (41.8%)	67 (100%)
Colorectal	6 (15.4%)	15 (38.5%)	18 (46.1%)	39 (100%)
Lung	3 (8.8%)	11 (32.4%)	20 (58.8%)	34 (100%)
Prostate	7 (25.0%)	12 (42.9%)	9 (32.1%)	28 (100%)
Lymphoma	5 (20.0%)	10 (40.0%)	10 (40.0%)	25 (100%)
Leukemia	3 (14.3%)	8 (38.1%)	10 (47.6%)	21 (100%)

Other	6 (20.0%)	10 (33.3%)	14 (46.7%)	30 (100%)
Total	**44 (18.0%)**	**91 (37.0%)**	**109 (45.0%)**	**244 (100%)**

Chi-square = 8.92, df = 12, p-value = 0.71 (Not statistically significant)

The table showed that there is no significant association ($p>0.05$) between type of cancer and quality of life of the patients attending chemotherapy clinic in UBTH. We therefore accept the null hypothesis which states that there is no significant association between type of cancer and quality of chemotherapy patients.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a comprehensive discussion of the research findings in relation to existing literature on quality of life among oncology patients undergoing chemotherapy. It also presents the conclusion, limitations and suggestions for further studies.

5.2 Discussion of Demographic Characteristics

The demographic analysis of the 244 cancer patients in this study revealed a predominance of middle-aged individuals, with 40.2% falling within the 46-60 years age bracket. This age distribution aligns with global cancer incidence patterns, which typically show increasing prevalence with age. The gender distribution showed a higher proportion of females (56.6%) compared to males (43.4%), which may reflect both the higher incidence of female-specific cancers like breast cancer and potential differences in healthcare-seeking behavior between genders. The majority of participants were married (59.8%), which could potentially influence their support systems and coping mechanisms during treatment.

The educational profile of participants showed that most had attained secondary (37.7%) or tertiary (30.8%) education levels, which corresponds with findings from other studies. For instance, similar educational distributions were observed in the study by Ganiger et al.

(2022), who reported that education level often influences patients' understanding of their condition and ability to navigate healthcare systems. The occupational distribution in the current study showed diversity, with professionals representing the largest group (23.8%), followed by self-employed individuals (19.3%). This diverse occupational background may have implications for treatment adherence, financial capacity, and quality of life, as noted by Phillips et al. (2022), who identified occupation and consequent financial status as important determinants of quality of life among cancer patients.

Regarding cancer types, breast cancer was most prevalent (27.5%), followed by colorectal cancer (16.0%). This distribution is consistent with global cancer prevalence rates and similar to patterns observed by Ban et al. (2021) in their study of Chinese breast cancer patients. The treatment duration distribution showed that most patients (40.2%) had undergone chemotherapy for 3-6 months, with a significant proportion (35.2%) in their first three months of treatment. This timing is particularly relevant as treatment duration has been associated with varying levels of side effects and quality of life impacts, as demonstrated by Lewandowska et al. (2020).

5.3 Quality of Life Among Cancer Patients Undergoing Chemotherapy

The present study found that cancer patients undergoing chemotherapy generally reported a low quality of life, with an overall mean score of 2.43 on a 4-point scale. This finding is consistent with the work of Lewandowska et al. (2020), who reported significant quality of life impairments among cancer patients receiving chemotherapy. In particular, our

study identified that patients faced significant challenges in engaging in light physical activities without excessive fatigue (mean = 2.19) and managing chemotherapy side effects (mean = 2.20), which directly impacted their daily functioning and overall well-being.

The low scores for physical functioning in our study correspond with findings from Manalo et al. (2023), who reported that physical well-being received the lowest scores among Filipino patients with advanced solid cancers, with their study showing that 88% of participants reported fatigue. Similarly, our findings echo those of Turhal and Koç (2023), who found significant impairments in physical functioning among oncology patients receiving chemotherapy in Turkey. The consistency of these findings across different populations and settings underscores the universal nature of physical challenges faced by cancer patients undergoing chemotherapy.

Our findings related to pain management also align with existing literature. In the current study, patients reported low scores (mean = 2.29) regarding their ability to experience manageable levels of pain that do not interfere with daily life. This corresponds with findings from Manalo et al. (2023), who reported that 86.5% of cancer patients in their study experienced pain, and Ganiger et al. (2022), who found that 44% of patients reported worst possible pain and 40% moderate pain, with none reporting no pain at all. These consistent findings across studies highlight the critical importance of effective pain management strategies in oncology care.

Emotional well-being also presented challenges for patients in our study, with relatively low scores (mean = 2.38) for emotional stability despite diagnosis and treatment. This finding resonates with Lewandowska et al. (2020), who reported high levels of anxiety and depression (63%) among cancer patients undergoing chemotherapy. Similarly, Ganiger et al. (2022) found varying levels of anxiety among cancer patients, with 30% experiencing moderate to severe anxiety and 24% reporting extreme anxiety. These findings collectively emphasize the significant psychological burden of cancer diagnosis and treatment.

Interestingly, our study found higher scores for maintaining social relationships during treatment (mean = 2.68) and feeling hopeful about the future despite health challenges (mean = 2.77). This contrasts somewhat with findings from Ban et al. (2021), who reported relatively low overall quality of life scores among Chinese breast cancer patients. This difference might be attributed to cultural variations in social support systems or differences in healthcare approaches. Nevertheless, the relatively higher scores for hope and social relationships in our study suggest potential protective factors that could be leveraged in interventions to improve overall quality of life.

5.4 Support Systems for Cancer Patients Undergoing Chemotherapy

The study revealed that respondents rated the overall support systems moderately positively (mean = 2.52). The highest-rated aspects were medical staff attentiveness (mean = 2.87) and treatment scheduling (mean = 2.81), indicating relative satisfaction

with the technical aspects of healthcare delivery. This finding corresponds with the emphasis placed by Belmiro and Guilhem (2023) on balancing medical advancements with patient-centered approaches in cancer care. The positive ratings for healthcare provider relationships in our study also align with findings from Lee et al. (2021), who identified social support, including from healthcare providers, as a significant predictor of resilience among cancer patients.

However, our study identified significant gaps in several support aspects, particularly financial counseling related to treatment costs (mean = 2.04) and access to support groups (mean = 2.20). These findings corroborate those of Belmiro and Guilhem (2023), who identified financial concerns as predominant issues affecting patients' daily lives, cited by over 65% of participants in their study. Similarly, Phillips et al. (2022) found that financial toxicity significantly correlated with reduced quality of life among socioeconomically disadvantaged cancer patients. The consistently low ratings for financial support across multiple studies highlight this as a critical area for intervention and policy development.

The limited access to support groups identified in our study (mean = 2.20) contrasts with the findings of Westmaas et al. (2020), who demonstrated the benefits of engagement in support communities for cancer survivors. Westmaas and colleagues found that more frequent social and interpersonal engagement were significantly associated with increased perceived support and well-being. This discrepancy suggests a potential gap in

service provision that could be addressed through the development and promotion of accessible support groups.

The findings regarding psychological support services (mean = 2.36) also indicate areas for improvement. This aligns with recommendations from Zamanian et al. (2021), who emphasized the importance of psychological interventions that enhance adaptive coping strategies among cancer patients. Similarly, Lazard et al. (2020) highlighted the value of peer connections and flexible tools for meaningful interactions among young adults with cancer, emphasizing the need for tailored psychological support mechanisms.

Nutritional counseling was another area rated relatively low in our study (mean = 2.35). This finding corresponds with emerging evidence on the importance of nutritional support during cancer treatment, as highlighted by Aradya et al. (2024), who found significant oral complications including dry mouth (63%) and loss of taste (83%) among cancer patients receiving chemotherapy, which directly impact nutritional intake and quality of life.

5.5 Determinants of Quality of Life Among Cancer Patients Undergoing Chemotherapy

Our study found strong agreement among respondents regarding multiple determinants affecting their quality of life (overall mean = 3.00). Family support was rated as the most influential factor (mean = 3.27), followed by financial burden (mean = 3.18). These findings strongly correspond with existing literature. The primacy of family support

aligns with findings from Jadidi and Ameri (2022), who reported a strong positive correlation between family social support and meaning of life ($r = 0.773$, $p < 0.001$) among women with breast cancer. Similarly, Ban et al. (2021) found that social support, particularly from family, showed a positive correlation with quality of life among Chinese breast cancer patients.

The significant impact of financial burden identified in our study (mean = 3.18) is consistent with findings from Phillips et al. (2022), who identified financial toxicity as a significant correlate of reduced quality of life. Similarly, Belmiro and Guilhem (2023) reported financial concerns as predominant issues affecting cancer patients' daily lives. This consistent finding across studies and populations underscores the universal nature of financial concerns as a major determinant of quality of life during cancer treatment.

The high rating for the impact of chemotherapy side effects (mean = 3.09) in our study aligns with findings from Aradya et al. (2024), who documented high rates of oral manifestations such as mucositis (71%), dry mouth (63%), and loss of taste (83%) among cancer patients undergoing chemotherapy. Ganiger et al. (2022) similarly reported high levels of treatment-related symptoms, with 64% of patients experiencing high levels of nausea and vomiting. These consistent findings across studies highlight the critical importance of effective symptom management in enhancing quality of life during cancer treatment.

The study also found that the level of independence maintained significantly influenced satisfaction with life (mean = 3.09). This finding corresponds with Park et al. (2021),

who identified physical functioning and independence as important determinants of quality of life among breast cancer survivors. Similarly, Lewandowska et al. (2020) reported that only 28% of patients in their study reported the ability to engage in normal physical activities, highlighting the impact of functional limitations on quality of life.

Emotional well-being was also identified as a significant determinant in our study (mean = 3.04), which aligns with findings from Guan et al. (2020), who demonstrated that uncertainty had a significant direct negative effect on mental well-being ($\beta = -0.20$, $p < 0.05$). Similarly, Lee et al. (2021) found that resilience, an aspect of emotional well-being, emerged as a significant predictor of quality of life ($\beta = 0.55$, $p < 0.01$). Zamanian et al. (2021) further supported this by identifying significant negative correlations between social support and depression and anxiety symptoms, emphasizing the interconnection between emotional well-being, social support, and quality of life.

Access to information was rated highly as a determinant (mean = 3.03), corresponding with Guan et al. (2020), who applied Mishel's Uncertainty in Illness Theory and found that uncertainty had significant negative effects on physical and mental well-being. Their findings suggested that decreasing illness uncertainty through improved information provision could enhance quality of life outcomes. Similarly, Tian et al. (2021) identified the importance of information in reducing uncertainty and psychological distress among lung cancer patients.

The quality of relationships with healthcare providers was also rated as an important determinant (mean = 2.93), aligning with findings from Lee et al. (2021), who identified

social support, including from healthcare providers, as a significant predictor of resilience among cancer patients. This emphasizes the importance of effective patient-provider communication and relationship-building in oncology care.

Spiritual beliefs were rated as an important determinant of quality of life (mean = 2.93), which corresponds with findings from Jadidi and Ameri (2022), who identified spirituality as an important factor in finding meaning in life among cancer patients. This highlights the multidimensional nature of quality of life and the importance of addressing spiritual needs alongside physical and psychological concerns.

Pre-existing health conditions (mean = 2.79) and distance traveled for treatment (mean = 2.68) were also identified as important determinants, though rated slightly lower than other factors. The impact of travel distance corresponds with findings from Rostami et al. (2023), who identified practical challenges faced by family caregivers of cancer patients, including transportation issues. This highlights the importance of considering logistical and accessibility factors in cancer care planning.

5.6 Implications for Nursing

The findings of this study have several important implications for nursing practice, policy development, and future research.

1. The low overall quality of life scores, particularly in physical domains, underscore the need for comprehensive symptom management strategies. Healthcare providers

should implement systematic assessment and management of fatigue, pain, and treatment side effects as integral components of cancer care.

2. The identified gaps in support systems, particularly in financial counseling, psychological support, and access to support groups, highlight areas for service development and improvement. Healthcare institutions should consider integrating financial counseling services within oncology departments, developing and promoting accessible support groups, and enhancing psychological support services.
3. The strong impact of family support on quality of life highlights the importance of family-centered approaches in cancer care. Healthcare providers should actively involve family members in the care process, provide them with adequate information and support, and recognize their role as crucial allies in patient care.
4. The multidimensional nature of quality of life determinants identified in this study underscores the need for holistic, patient-centered approaches to cancer care. Treatment plans should address not only physical symptoms but also psychological, social, spiritual, and practical concerns. The development of multidisciplinary cancer care teams, including oncologists, nurses, psychologists, social workers, nutritionists, and spiritual care providers, could better address these diverse needs.

5.7 Conclusion

This study investigated the determinants influencing quality of life among oncology patients undergoing chemotherapy at the University of Benin Teaching Hospital. A

significant number of respondents reported poor overall quality of life, primarily due to challenges in physical functioning, emotional instability, and difficulty managing side effects from chemotherapy. While certain aspects, such as hopefulness and social engagement, were rated relatively well, the general pattern showed widespread limitations in patients' well-being across various domains.

Support systems were moderately rated, with commendable performance from medical staff and scheduling systems. However, substantial deficiencies were noted in areas like financial guidance, psychological support, and access to cancer-specific peer support groups. Importantly, statistical analysis found no significant association between cancer type and quality of life, suggesting that non-medical factors such as emotional, social, and logistical challenges may exert a more profound impact on patient experiences than the specific diagnosis itself.

These outcomes highlight the urgent need for a holistic, patient-centered model of cancer care. Interventions must go beyond clinical treatment to incorporate emotional care, socioeconomic support, and family engagement. Strengthening multidisciplinary collaborations and developing comprehensive support frameworks are essential steps in improving the quality of life and treatment experiences for patients undergoing chemotherapy.

5.8 Limitations of the study

The study is encountered certain limitations. One of such is that its' cross-sectional design and self-reported measures constrained temporal analysis and introduced potential reporting bias. Also, the sample size and convenience sampling approach limit generalizability, while the absence of stratification by cancer type and treatment regimen obscures important variations. The lack of qualitative data prevented deeper exploration of patients' lived experiences.

5.9 Recommendations

Based on the findings from this study, the following recommendations are made:

1. There is need to include implementing systematic quality of life assessments, developing comprehensive symptom management protocols, adopting family-centered approaches, and enhancing patient-provider communication.
2. Healthcare Policy should address financial burden through targeted interventions, expand psychosocial support services, establish transportation assistance, and enhance nutritional support programs.
3. Healthcare Systems should develop integrated cancer care models, incorporate quality of life metrics in electronic records, create healing environments, and establish professional development programs.

5.10 Suggestions for Further studies

1. Future Research should pursue longitudinal studies tracking quality of life of chemotherapy patients.
2. Intervention studies should be employed to evaluate targeted programs on determinants of quality of life of chemotherapy patients.

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APPENDIX

RELIABILITY SPSS OUTPUT

```
* SECTION B: Quality of Life Assessment.
RELIABILITY
  /VARIABLES=qol1 qol2 qol3 qol4 qol5 qol6 qol7 qol8 qol9 qol10
  /SCALE('Quality of Life') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE CORR.
```

Reliability Statistics

Cronbach's Alpha	N of Items
.892	10

Item-Total Statistics

Item	Mean	Std. Dev.	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
qol1	3.15	.89	.610	.880
qol2	3.10	.92	.593	.881
qol3	3.08	.88	.638	.878
qol4	3.20	.86	.699	.874
qol5	3.12	.90	.615	.879
qol6	3.05	.94	.579	.882
qol7	3.18	.91	.662	.877
qol8	3.11	.87	.678	.875
qol9	3.07	.93	.602	.880
qol10	3.13	.89	.651	.877

SECTION C: Support Systems Assessment.

```
RELIABILITY
  /VARIABLES=support1 support2 support3 support4 support5 support6 support7 support8 support9
support10
  /SCALE('Support Systems') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE CORR.
```

RELIABILITY ANALYSIS – SUPPORT SYSTEMS

Case Processing Summary

		N	%
Cases	Valid	200	100.0
	Excluded	0	.0
	Total	200	100.0

Reliability Statistics

Cronbach's Alpha N of Items
.910 10

Item-Total Statistics

Item	Mean	Std. Dev.	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
support1	3.22	.87	.681	.901
support2	3.18	.84	.726	.896
support3	3.10	.90	.712	.897
support4	3.11	.89	.692	.899
support5	3.17	.85	.721	.897
support6	3.09	.91	.667	.901
support7	3.03	.93	.628	.904
support8	3.15	.88	.703	.898
support9	3.06	.92	.662	.901
support10	3.04	.90	.647	.902

SECTION D: Determinants of Quality of Life.

```
RELIABILITY
  /VARIABLES=det1 det2 det3 det4 det5 det6 det7 det8 det9 det10
  /SCALE('Determinants of QoL') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE CORR.
```

RELIABILITY ANALYSIS – QUALITY OF LIFE

Case Processing Summary

		N	%
Cases	Valid	200	100.0
	Excluded	0	.0
	Total	200	100.0

RELIABILITY ANALYSIS – DETERMINANTS OF QUALITY OF LIFE

Case Processing Summary

		N	%
Cases	Valid	200	100.0
	Excluded	0	.0
	Total	200	100.0

Reliability Statistics

Cronbach's Alpha N of Items
.887 10

Item-Total Statistics

Item	Mean	Std. Dev.	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
det1	3.14	.86	.610	.874
det2	3.06	.89	.647	.870
det3	3.08	.87	.629	.872
det4	3.11	.90	.658	.869

det5	3.19	.92	.583	.878
det6	3.02	.91	.615	.873
det7	3.09	.88	.601	.875
det8	3.07	.90	.589	.876
det9	3.10	.87	.637	.871
det10	3.04	.93	.569	.879

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Cancer is recognized as a major global health challenge and is characterized by the uncontrolled growth and spread of abnormal cells within the body. This transformation often results from genetic alterations, environmental exposures, and infectious agents that disrupt normal cellular processes and lead to tumor development (National Cancer Institute, 2021; World Health Organization, 2022). The likelihood of developing cancer increases with advancing age because of cumulative exposure to carcinogenic factors and reduced cellular repair capacity. Key risk factors include tobacco use, alcohol consumption, poor dietary habits, physical inactivity, and environmental pollutants. In many developing regions, chronic infections—such as hepatitis B and C, human papillomavirus, and Epstein-Barr virus—substantially contribute to cancer burden, while

HIV infection heightens susceptibility to specific cancers (World Health Organization, 2022).

Globally, cancer incidence continues to rise. In 2020, an estimated 19.3 million new cases and 10 million deaths were recorded, marking cancer as a leading cause of mortality worldwide (Sung et al., 2021). Low- and middle-income countries bear a disproportionate burden, accounting for the majority of cancer-related deaths (American Cancer Society, 2023). The increasing incidence of cancer in these regions has been linked to demographic transitions and growing exposure to modifiable risk factors (Huang et al., 2023). In sub-Saharan Africa, cancer poses an escalating public health concern. For instance, Ethiopia reported approximately 53,560 new cases and 39,480 deaths in 2019, demonstrating the significant strain cancer places on limited healthcare resources (Awedew et al., 2022). These trends highlight the urgent need for improved cancer surveillance systems, which remain underdeveloped across many African countries despite their importance in guiding cancer control strategies.

The impact of cancer extends beyond physical symptoms, profoundly affecting psychological, social, and spiritual well-being. Therefore, quality of life (QoL) has become a central focus in cancer care, reflecting patients' perceptions of their functioning, relationships, and overall life satisfaction (McDowell et al., 2020). Modern oncology emphasizes QoL enhancement as a core treatment goal, particularly as survival improves due to advancements in cancer therapies (Andre et al., 2021). Chemotherapy remains a

key treatment modality across many cancer types; however, its benefits are often accompanied by distressing side effects that significantly influence patients' daily functioning and emotional stability. As a result, understanding factors that shape QoL during chemotherapy is essential, especially in settings where resources and supportive services may be limited (Wilkinson & Gathani, 2022).

In the broader context of cancer control, evaluating QoL is crucial for addressing patients' physical, psychological, and social challenges. Effective cancer management requires a comprehensive approach that integrates prevention, early detection, treatment, pain management, and psychosocial support. Unfortunately, many low- and middle-income countries still experience gaps in these areas, including limited access to screening programs, delayed diagnoses, inadequate treatment options, and insufficient mental health support (Dalal & Bruera, 2019).

Nigeria reflects many of these systemic challenges. At the University of Benin Teaching Hospital (UBTH), growing awareness of cancer's multifaceted impact underscores the need for improved patient-centered care. Evidence suggests that factors such as constrained healthcare resources, medication costs, and socio-economic difficulties substantially influence patient outcomes (Chubike et al., 2019). Moreover, cultural norms and beliefs shape individuals' responses to illness and treatment, further affecting QoL. These contextual realities demonstrate the complexity of caring for oncology patients in

Nigeria and highlight the importance of understanding how local factors influence patients' experiences.

Existing studies have identified numerous determinants of QoL among individuals undergoing chemotherapy, including symptom burden, emotional distress, social support, and treatment-related toxicities (Lewandowska et al., 2020; Ramasubbu et al., 2021). Despite this, limited research has examined these factors within the Nigerian context, and even fewer studies have focused specifically on UBTH. Given the unique cultural, economic, and health system characteristics of Nigeria, determinants of QoL may differ from those observed in other settings. Therefore, exploring QoL among oncology patients at UBTH is essential for developing interventions that address their specific needs and improve their well-being during chemotherapy.

1.2 Statement of the Problem

Chemotherapy remains an essential component of cancer management; however, its associated side effects continue to significantly compromise the quality of life (QoL) of patients undergoing treatment. At the University of Benin Teaching Hospital (UBTH), many oncology patients experience a wide range of physical, psychological, and social challenges during chemotherapy. These difficulties often manifest as treatment-related symptoms, emotional distress, and disruptions in daily functioning, which collectively diminish overall well-being (Ekwueme et al., 2021; Olopade et al., 2019). The severity

and persistence of these challenges highlight the need for a deeper understanding of the factors influencing QoL in this specific clinical setting.

Despite the increasing burden of cancer in Nigeria, there remains a scarcity of empirical data exploring the unique determinants of QoL among oncology patients at UBTH. Most available evidence originates from studies conducted in other regions, where healthcare resources, cultural expectations, and socio-economic realities differ substantially. The absence of localized research poses limitations for clinicians attempting to provide patient-centered and context-appropriate care. Factors such as poverty, limited access to healthcare services, and economic instability further worsen patients' experiences and may contribute to disparities in QoL outcomes (Adenipekun et al., 2019; Ogunbiyi et al., 2020).

In addition to the physical toll of cancer and its treatment, many patients encounter considerable emotional and psychological strain. Depression, anxiety, and reduced life satisfaction are frequently reported among individuals undergoing chemotherapy. However, mental health services in Nigeria remain insufficient, characterized by inadequate staffing and limited integration into oncology care. As a result, many patients do not receive the psychological support necessary to cope effectively with the stress of diagnosis and treatment (Oladimeji et al., 2022).

Social support is another critical determinant of QoL, yet many patients experience inconsistent or insufficient assistance from family and community networks. Caregiving responsibilities often fall on family members who may lack the skills, resources, or emotional capacity to provide adequate support, thereby increasing the burden on both patients and caregivers. Such limitations in social support systems can lead to heightened stress, reduced coping capacity, and further declines in QoL (Balogun et al., 2021; Oluwafemi et al., 2020).

Given these challenges, there is a pressing need for targeted research to identify the specific determinants of QoL among oncology patients undergoing chemotherapy at UBTH. Understanding these factors is essential for developing tailored interventions aimed at improving patients' overall well-being during treatment.

1.3 Broad Objectives

This study seeks to assess the determinant of QoL among oncology patients undergoing chemotherapy at the University of Benin Teaching Hospital (UBTH).

1.3.1 Objectives of the Study

4. To assess the current quality of life of oncology patients undergoing chemotherapy at the University of Benin Teaching Hospital.
5. To assess the support systems provided to oncology patients at the University of Benin Teaching Hospital.

6. To determine the determinants of quality of life among oncology patients undergoing chemotherapy at the University of Benin Teaching Hospital.

1.4 Research Questions

4. What is the current quality of life of oncology patients undergoing chemotherapy at the University of Benin Teaching Hospital?
5. How effective are the support systems provided to oncology patients at the University of Benin Teaching Hospital?
6. What are the determinants of quality of life among oncology patients undergoing chemotherapy at the University of Benin Teaching Hospital?

1.5 Significance of the Study

The significance of this study lies in its potential to provide valuable insights and benefits to various stakeholders, including patients, healthcare providers, policymakers, and the broader healthcare community.

- **e. Oncology Patients:** By identifying the determinants of quality of life and evaluating the effectiveness of support systems, this study aims to improve the overall well-being of these patients. Understanding the prevalence of different types of cancer and the specific challenges faced by patients can lead to more personalized and effective care strategies, ultimately enhancing patients' physical, emotional, and social well-being.

f. **Healthcare Providers and Hospital Administration:** Healthcare providers and the administration at the University of Benin Teaching Hospital will benefit from the findings of this study by gaining a deeper understanding of the needs and challenges faced by oncology patients. The insights from this research can inform the development and implementation of targeted interventions and support systems that are tailored to improve the quality of life for these patients.

g. **Policy Makers and Government:** The results of this study can provide evidence-based information that is crucial for policymakers and government officials. By highlighting the socio-economic and cultural factors that influence the quality of life of oncology patients, this research can inform the development of policies and programs aimed at improving cancer care and support systems. The study can also advocate for increased funding and resources for mental health services, social support systems, and cancer care infrastructure.

h. **Academic and Research Community:** The academic and research community stands to gain from the contributions of this study to the existing body of knowledge on cancer care and quality of life. The findings can serve as a basis for further research and exploration into the determinants of quality of life among oncology patients in different contexts and settings.

1.6 Scope of the study

This study focuses on oncology patients undergoing chemotherapy at the University of Benin Teaching Hospital (UBTH). The research will be conducted from August to November, 2024, capturing data from patients receiving chemotherapy during this time.

1.7 Hypothesis

Ho: There is no significant association between type of cancer and quality of chemotherapy patients.

1.8 Operational Definition of Terms

9. Oncology Patients: Patients formally diagnosed with any type of cancer and currently undergoing chemotherapy at the University of Benin Teaching Hospital (UBTH) during the study period.
10. Chemotherapy: The administration of chemotherapy drugs to oncology patients as prescribed by their oncologists at UBTH, documented in their medical records.
11. Quality of Life (QoL): Measured using validated instruments that assess the physical, emotional, and social well-being of oncology patients, such as the EORTC QLQ-C30 (European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire).

12. Physical Well-being: Assessed through patient self-reports and medical evaluations of symptoms like pain, fatigue, nausea, and overall physical functioning.
13. Emotional Well-being: Evaluated using psychological assessment tools and patient self-reports regarding their emotional state, anxiety levels, and depressive symptoms.
14. Social Well-being: Measured through patient surveys assessing social interactions, support from family and friends, and participation in social activities.
15. 7. Support Systems: - Assessed by evaluating the availability and effectiveness of support services provided by the hospital, such as counseling and nutritional support, as well as external support from family, friends, and community-based organizations.
16. Determinants: These refer to factors or variables that have a significant impact on the quality of life of oncology patients undergoing chemotherapy. These include socio-economic factors, cultural factors, physical symptoms, psychological state, and social support.

CHAPTER TWO

LITERATURE REVIEW

This chapter reviewed related literatures of the study. It was organised into conceptual review, theoretical framework and empirical review.

2.1 Conceptual Review

2.1.1 Chemotherapy

Chemotherapy is a cornerstone of systemic cancer treatment, involving the administration of cytotoxic drugs to inhibit or destroy rapidly dividing cancer cells. It can be used with

curative intent, to prolong survival, or as palliative therapy to alleviate symptoms when cure is not achievable, making it an essential part of modern medical oncology (Balasubramanian et al., 2021; Chu & Rubin, 2023). Chemotherapeutic agents are considered systemic therapies because they circulate through the bloodstream, allowing them to target cancer cells throughout the body. They are frequently combined with local therapies, such as surgery, radiotherapy, or hyperthermia, to improve treatment outcomes (Balasubramanian et al., 2021; Chu & Rubin, 2023; Mariottini & Saccardi, 2024).

Traditional chemotherapeutic drugs primarily act by disrupting mitosis or inducing DNA damage, leading to tumor cell death. However, these agents also affect normal rapidly dividing cells, such as those in the bone marrow, gastrointestinal tract, and hair follicles, resulting in common side effects such as myelosuppression, mucositis, and alopecia (Balasubramanian et al., 2021; Chu & Rubin, 2023; Dalal & Bruera, 2019). The variability in tumor cell susceptibility and the collateral damage to healthy tissues underscore the challenges in chemotherapy administration and highlight the importance of supportive care measures (Ekwueme et al., 2021; Olopade et al., 2019).

Recent advancements in oncology have led to more targeted approaches, distinguishing traditional cytotoxic chemotherapy from hormonal therapy and other molecular-targeted therapies. Hormonal therapies interfere with endocrine-driven signaling pathways, such as estrogen in breast cancer or androgens in prostate cancer, while targeted therapies block specific growth-promoting molecular signals, including receptor tyrosine kinases

(Balasubramanian et al., 2021; Chu & Rubin, 2023). Despite differences in mechanisms, all these treatments are classified as systemic therapies because they affect cancer cells throughout the body (Balasubramanian et al., 2021; Gulbis & Wallis, 2024).

Chemotherapy's systemic nature means it can also influence immune function, making some agents useful for managing autoimmune diseases, such as rheumatoid arthritis, systemic lupus erythematosus, and multiple sclerosis (Balasubramanian et al., 2021; Gulbis & Wallis, 2024). Moreover, the side effects of chemotherapy can significantly impact patients' quality of life, leading to physical discomfort, psychological distress, and social challenges (Ekwueme et al., 2021; Olopade et al., 2019; Lewandowska et al., 2020). Understanding these effects and integrating supportive interventions are therefore critical for optimizing treatment outcomes and maintaining overall patient well-being (Ramasubbu et al., 2021; Turhal & Koç, 2023).

2.1.2 Treatment Strategies in Chemotherapy

Chemotherapy can be administered using various strategies depending on the treatment objective, which may include cure, life prolongation, or symptom palliation (Balasubramanian et al., 2021; Chu & Rubin, 2023). These strategies are designed to optimize efficacy, minimize toxicity, and improve patient outcomes.

Induction chemotherapy refers to the initial administration of chemotherapeutic drugs with the aim of achieving remission and is typically used for curative intent

(Balasubramanian et al., 2021). Combined modality chemotherapy integrates chemotherapeutic agents with other local treatments, such as surgery, radiation therapy, or hyperthermia, to enhance overall therapeutic effectiveness (Chu & Rubin, 2023; Mariottini & Saccardi, 2024).

Consolidation chemotherapy is given following remission to prolong disease-free intervals and improve overall survival, often using the same drugs that achieved remission (Balasubramanian et al., 2021). Intensification chemotherapy, while similar to consolidation therapy, employs different drugs than those used during induction to further reduce residual tumor cells (Balasubramanian et al., 2021; Chu & Rubin, 2023).

Combination chemotherapy involves administering multiple drugs simultaneously, each with distinct mechanisms of action and side-effect profiles. This approach reduces the likelihood of resistance developing to a single agent and allows the use of lower doses, thereby minimizing toxicity (Chu & Rubin, 2023; Balasubramanian et al., 2021).

Neoadjuvant chemotherapy is administered prior to local treatment, such as surgery, to shrink primary tumors and address micrometastatic disease, improving the potential for successful surgical outcomes (Chu & Rubin, 2023; Andre et al., 2021). Conversely, adjuvant chemotherapy is given after local treatments, targeting residual microscopic cancer cells to prevent recurrence and improve survival rates (Balasubramanian et al., 2021; Chu & Rubin, 2023).

Maintenance chemotherapy involves repeated low-dose treatment intended to prolong remission, whereas salvage or palliative chemotherapy is administered without curative intent, aiming to reduce tumor burden and enhance quality of life. In palliative regimens, a better toxicity profile is often prioritized to preserve patient well-being (Dalal & Bruera, 2019; Balasubramanian et al., 2021).

The administration of any chemotherapy regimen requires careful assessment of a patient's performance status to determine treatment eligibility and appropriate dosing. Due to the principle of fractional kill—where only a portion of tumor cells are destroyed with each cycle—chemotherapy is delivered in repeated cycles, with timing and duration constrained by cumulative toxicity (Chu & Rubin, 2023; Lewandowska et al., 2020). This cyclical approach allows for maximal tumor reduction while monitoring and managing adverse effects that could compromise patient safety or quality of life (Ekwueme et al., 2021; Olopade et al., 2019).

2.1.3 Effectiveness, Dosage, and Delivery of Chemotherapy

Effectiveness

The effectiveness of chemotherapy varies according to cancer type, stage, and biological characteristics of the tumor. For certain cancers, such as some leukemias, chemotherapy can be curative, whereas for others, like specific brain tumors, its impact may be limited, and in some cases, such as most non-melanoma skin cancers, chemotherapy is generally

unnecessary (Balasubramanian et al., 2021; Chu & Rubin, 2023). The responsiveness of cancer cells to chemotherapeutic agents is influenced by tumor genetics, microenvironment, and prior treatment exposure, all of which contribute to variable treatment outcomes (Lewandowska et al., 2020; Ramasubbu et al., 2021).

Dosage

Chemotherapy dosing presents a delicate balance between efficacy and toxicity. Underdosing may render the treatment ineffective, while excessive dosing can result in intolerable side effects (Balasubramanian et al., 2021; Chu & Rubin, 2023). Standard chemotherapy doses are traditionally calculated using body surface area (BSA), derived from weight and height, a method originally established in the early 20th century based on limited human data and laboratory animal studies (Chu & Rubin, 2023). While widely used, this approach does not account for individual variations in drug metabolism, organ function, age, sex, comorbidities, genetic factors, or drug interactions, all of which can significantly alter systemic drug exposure (Lewandowska et al., 2020; Olopade et al., 2019).

Clinical evidence demonstrates that individualized dosing, tailored to achieve optimal systemic drug exposure, improves treatment outcomes and reduces toxicities. For example, studies have shown that patients receiving 5-fluorouracil (5-FU) doses adjusted to target plasma drug exposure achieved higher response rates and improved overall survival compared to those dosed using BSA alone (Chu & Rubin, 2023; Andre et al.,

2021). These findings underscore the importance of personalized chemotherapy regimens to enhance therapeutic efficacy while minimizing adverse effects.

Delivery

Chemotherapy can be administered intravenously or orally, depending on the drug formulation and treatment plan. Oral chemotherapeutic agents, including melphalan, busulfan, and capecitabine, provide convenience but introduce challenges in adherence and monitoring, as patients are responsible for self-administration (Chu & Rubin, 2023; Lewandowska et al., 2020).

Intravenous delivery methods utilize vascular access devices such as winged infusion sets, peripheral venous catheters, midline catheters, peripherally inserted central catheters (PICC), central venous catheters, and implantable ports. Selection of the device depends on the type and duration of chemotherapy, the drug's properties, and patient factors. For prolonged or continuous infusion, surgically implanted systems like Hickman lines, Port-a-Caths, and PICC lines reduce the risk of infection and extravasation, and avoid repeated cannulation (Chu & Rubin, 2023; Gulbis & Wallis, 2024).

Specialized delivery techniques, such as isolated limb perfusion for melanoma or regional infusion to the liver or lungs, allow high-dose chemotherapy to target localized tumors while minimizing systemic toxicity. While effective for controlling solitary or limited

metastases, these regional therapies are not systemic and do not address micrometastases distributed throughout the body (Balasubramanian et al., 2021; Chu & Rubin, 2023).

Overall, the effectiveness and safety of chemotherapy depend on careful consideration of cancer type, dosing strategy, delivery method, and patient-specific factors. Optimizing these elements is critical for improving treatment outcomes and maintaining patients' quality of life during therapy (Ekwueme et al., 2021; Olopade et al., 2019; Lewandowska et al., 2020).

2.1.4 Adverse Effects and Mechanism of Chemotherapy

Adverse Effects

Chemotherapy is a cornerstone of cancer treatment, but its systemic nature exposes patients to a wide spectrum of adverse effects, depending on the type of drugs, dosage, and duration of therapy (Chu & Rubin, 2023; Lewandowska et al., 2020). These effects can be acute, occurring within hours or days of administration, or chronic, emerging weeks, months, or even years later (Balasubramanian et al., 2021). Understanding these adverse effects is critical for optimizing treatment protocols and maintaining the quality of life (QoL) of oncology patients (Ekwueme et al., 2021).

Immunosuppression and Myelosuppression

One of the most significant adverse effects of chemotherapy is myelosuppression, which manifests as a decreased production of white blood cells, red blood cells, and platelets (Chu & Rubin, 2023; Lewandowska et al., 2020). Myelosuppression increases susceptibility to infections, anemia, and bleeding disorders. In severe cases, patients may require blood transfusions or granulocyte-colony stimulating factors (G-CSF) such as filgrastim to boost white blood cell production (Mariottini & Saccardi, 2024). For extremely high-grade myelosuppression, bone marrow transplantation, either autologous or allogeneic, may be necessary to restore hematopoietic function.

Gastrointestinal Toxicities

Chemotherapy affects rapidly dividing cells in the gastrointestinal tract, leading to nausea, vomiting, diarrhea, anorexia, and abdominal cramps (Lewandowska et al., 2020; Dalal & Bruera, 2019). These complications can cause dehydration, malnutrition, and weight changes, which may compromise the effectiveness of treatment and patient recovery. Use of antiemetic medications, dietary counseling, and, in some cases, probiotics, can mitigate these effects and improve patient tolerance (Chu & Rubin, 2023). Gastrointestinal toxicity can also exacerbate psychosocial stress, as patients struggle to maintain normal dietary habits and daily activities (Oluwafemi et al., 2020).

Anemia and Fatigue

Anemia is frequently observed in patients receiving chemotherapy, caused by myelosuppressive drugs, tumor-related bleeding, or nutritional deficiencies (Lewandowska et al., 2020; Ekwueme et al., 2021). Fatigue often accompanies anemia and may persist long after treatment ends, significantly impacting QoL. Management strategies include erythropoietin administration, iron supplementation, blood transfusions, and aerobic exercise interventions to improve energy levels and physical functioning (Ramasubbu et al., 2021).

Secondary Neoplasms and Infertility

Secondary malignancies can develop years after chemotherapy, particularly following treatment with alkylating agents or topoisomerase inhibitors (Lewandowska et al., 2020;

Mariottini & Saccardi, 2024). Childhood cancer survivors are at a notably higher risk of secondary cancers, emphasizing the importance of long-term monitoring. Chemotherapy may also be gonadotoxic, leading to temporary or permanent infertility, especially with high-risk drugs such as cyclophosphamide, procarbazine, and busulfan (Chu & Rubin, 2023; Lewandowska et al., 2020). Fertility preservation strategies, including sperm or oocyte cryopreservation, are increasingly recommended before treatment.

Peripheral Neuropathy and Cognitive Dysfunction

Chemotherapy-induced peripheral neuropathy (CIPN) affects approximately 30–40% of patients and presents as pain, tingling, numbness, and sensitivity to temperature in extremities (Lewandowska et al., 2020; Chu & Rubin, 2023). Drugs commonly implicated include taxanes, platinum compounds, vinca alkaloids, and proteasome inhibitors. CIPN can be long-lasting and sometimes irreversible, impacting mobility, daily functioning, and QoL. Cognitive impairment, often referred to as "chemo brain," manifests as memory deficits, difficulty concentrating, and slowed cognitive processing, affecting patients' psychosocial and occupational functioning (Ekwueme et al., 2021; Olopade et al., 2019).

Cardiotoxicity, Hepatotoxicity, and Nephrotoxicity

Chemotherapy can lead to organ-specific toxicities. Anthracyclines are well-known for causing cardiotoxicity through free radical formation and DNA damage in cardiac tissue (Chu & Rubin, 2023). Hepatotoxicity, including liver fibrosis and hepatic sinusoidal

obstruction, can result from cytotoxic drugs and may be compounded by pre-existing conditions such as viral hepatitis (Lewandowska et al., 2020). Nephrotoxicity may arise from drug clearance mechanisms or tumor lysis syndrome, leading to acute kidney injury or chronic renal impairment (Mariottini & Saccardi, 2024).

Other Side Effects

Additional adverse effects include ototoxicity (commonly with platinum-based drugs), dermatologic reactions such as erythema and xerostomia, sexual dysfunction, and hypersensitivity reactions (Chu & Rubin, 2023; Lewandowska et al., 2020). These effects, while less common, can significantly affect the daily lives of patients and require careful monitoring.

Mechanism of Action

Chemotherapy primarily targets rapidly dividing cells, impairing mitosis or inducing DNA damage, which triggers apoptosis (Mariottini & Saccardi, 2024; Balasubramanian et al., 2021). Tumors with high proliferation rates, such as acute myelogenous leukemia and aggressive lymphomas, are typically more sensitive to chemotherapy, whereas slower-growing or heterogeneous tumors respond less robustly. The effectiveness of chemotherapy is influenced by subclonal tumor populations, genetic mutations, and tumor microenvironment characteristics (Mariottini & Saccardi, 2024).

Chemotherapy also exerts immunomodulatory effects. Drugs like cyclophosphamide and oxaliplatin can induce immunogenic cell death, enhancing recognition and elimination of tumor cells by the immune system. This mechanism may improve responsiveness to immunotherapy and has implications for combined modality treatments (Mariottini & Saccardi, 2024; Andre et al., 2021).

Psychosocial Implications

The wide range of physical side effects of chemotherapy often has profound psychological and social consequences. Anxiety, depression, and social isolation can arise from prolonged treatment, fatigue, hair loss, and altered body image (Oladimeji et al., 2022; Oluwafemi et al., 2020). Family and community support have been shown to significantly buffer the impact of chemotherapy on QoL, highlighting the need for integrated psychosocial care in oncology settings (Balogun et al., 2021; Zamanian et al., 2021).

Chemotherapy, while effective for treating many cancers, is accompanied by complex systemic, organ-specific, and psychosocial adverse effects. A thorough understanding of these effects, alongside proactive management strategies, is critical for improving patient outcomes, adherence to therapy, and overall quality of life (Lewandowska et al., 2020; Ekwueme et al., 2021; Chu & Rubin, 2023).

2.2 Theoretical Framework

This study is guided by Dorothea Orem's Self-Care Deficit Nursing Theory (SCDNT), which provides a structured approach to understanding and addressing the quality of life of oncology patients receiving chemotherapy. The theory is a grand nursing framework that highlights the significance of self-care and the essential role of nurses in supporting individuals who cannot meet their own care needs. It offers a comprehensive foundation for nursing practice, research, and education.

Dorothea Orem (1914–2007), an influential American nurse and educator, developed the SCDNT during the 1950s and 1960s. Her experiences in nursing practice, education, and hospital administration shaped the theory, which continues to guide nursing interventions aimed at promoting patient well-being.

Key Elements of the Theory

5. **Self-Care**

   Self-care refers to the actions individuals take independently to maintain their health and overall well-being. These activities include meeting fundamental needs such as nutrition, hydration, hygiene, and adherence to prescribed medications. While self-care is crucial for sustaining health and quality of life, illness or disability can limit a person's ability to perform these activities.

6. **Self-Care Agency**

   Self-care agency is the individual's capacity to engage in self-care activities. This ability is influenced by factors such as age, health condition, environmental circumstances, and level of knowledge or understanding.

7. **Self-Care Deficit**

   A self-care deficit arises when an individual is unable to meet their own self-care needs due to illness, injury, or other limiting conditions. This is the point at which nursing intervention becomes essential. Nurses assess the extent of the deficit and determine the appropriate type and level of care to address it.

8. **Nursing Systems**

   Orem outlined three nursing systems that guide the provision of care:

- **Wholly Compensatory System** – The nurse provides complete care for individuals who are unable to care for themselves, such as unconscious patients or those with severe disabilities.
- **Partially Compensatory System** – The nurse and patient share responsibility for care, such as in the case of post-operative recovery.
- **Supportive-Educative System** – The nurse supports and educates patients to enhance their self-care abilities, such as teaching individuals to manage chronic conditions like diabetes.

Figure 2.1: Orem's Conceptual framework

2.2.2 Application of Orem's Theory to the Study

Orem's Self-Care Deficit Nursing Theory provides a useful framework for understanding and addressing the challenges faced by chemotherapy patients. Patients undergoing chemotherapy often experience disruptions in their basic self-care activities, such as maintaining proper nutrition, getting adequate rest, and engaging in social interactions. The physical and psychological effects of both cancer and its treatment increase their self-care needs while simultaneously reducing their ability to meet those needs independently.

The concept of self-care deficit is particularly relevant, as it highlights the gap between the patients' abilities and the demands imposed by their illness and treatment. Factors such as the severity of symptoms, emotional distress, and availability of social support all contribute to this deficit, affecting the overall quality of life of the patients. Orem's three nursing systems can guide the provision of care to address these deficits. For patients with severe impairments, a wholly compensatory approach is necessary, with nurses providing comprehensive care. During acute treatment phases, a partially compensatory system allows nurses and patients to share care responsibilities, while a supportive-educative approach empowers patients to regain independence and develop self-management skills.

Applying Orem's model also allows for a structured understanding of the determinants of quality of life. Physiological factors include symptom management and functional capacity, while psychological factors focus on the patient's confidence and ability to manage their care. Social factors encompass support from family, friends, and the community, and environmental factors involve access to care and the quality of the hospital setting. By emphasizing these aspects, nursing interventions at UBTH can be tailored to enhance patients' self-care abilities. Education, symptom management, and the strengthening of support networks become key strategies for improving the overall quality of life of oncology patients during chemotherapy.

2.3 Empirical review

2.3.1 Current quality of life of oncology patients undergoing chemotherapy

Lewandowska et al. (2020) conducted a population-based, multi-site cross-sectional study at the Podkarpackie Oncology Centre, Clinical Provincial Hospital in Rzeszów between 2018 and 2020, examining the quality of life of 423 cancer patients undergoing chemotherapy. The researchers used the EQ-5D-5L Quality of Life Questionnaire and the Karnofsky Performance Status Scale for assessment. Their findings revealed that only 28% of patients were able to perform normal physical activities, with the highest impairments observed in self-care (81%, 95% CI: 76–89) and anxiety or depression (63%, 95% CI: 60–68). The study highlighted the substantial impact of chemotherapy on patients' quality of life and emphasized the importance of adopting holistic care approaches that address psychological, social, and spiritual needs.

Belmiro and Guilhem (2023) assessed 212 patients receiving palliative chemotherapy at the High Complexity Oncology Care Unit of the University Hospital of Brasília, Brazil, using the EORTC QLQ-C30 questionnaire. Although the overall quality of life was generally reported as good, fatigue and financial concerns were prevalent, affecting over 65% of participants. The study concluded that palliative care interventions must integrate patient-centered approaches alongside medical management, emphasizing communication and psychosocial support to optimize quality of life.

Turhal and Koç (2023) explored the relationship between sexual function and quality of life in 410 oncology patients undergoing chemotherapy at a Turkish university hospital. Using the FACT-G QOL Scale, the Arizona Sexual Experiences Scale, and the Edmonton Symptom Assessment Scale, the study found a significant negative correlation between sexual function and overall quality of life ($r = -0.224$, $p < 0.01$). Regression analysis indicated that both sociodemographic and clinical factors significantly influenced sexual function and quality of life ($F = 8.937$, $p < 0.001$), underscoring the need for sexual health interventions as part of comprehensive oncology care.

Manalo et al. (2023) examined 195 Filipino patients with advanced solid cancers, assessing quality of life and psychological distress using the FACT-G and Hospital Anxiety and Depression Scale (HADS). The mean FACT-G score was 65.39 (SD = 13.76), with physical well-being scoring lowest (mean = 14.14/28, SD = 5.92). Fatigue and pain were highly prevalent, reported by 88% and 86.5% of participants, respectively. Regression analysis revealed that higher physical symptom burden was significantly associated with lower quality of life ($p < 0.05$). The study highlighted the critical role of symptom management and psychosocial support in improving patient well-being.

Perez et al. (2023) studied 120 pediatric and young adult thyroid cancer patients (ages 8.5–23.4 years) at the Children's Hospital of Philadelphia using the Pediatric Quality of Life Inventory (PedsQL). Results indicated that thyroid cancer patients had higher HRQoL scores than peers with other pediatric cancers ($p < 0.01$), but lower than healthy

individuals, with a mean difference of 12 points ($p < 0.05$). Emotional functioning and school performance were particularly affected, with only 60% of patients scoring above average. No significant associations were found between HRQoL and disease severity or treatment type. The study recommended early screening using tools like the Distress Thermometer due to its simplicity and reliability.

Swart et al. (2023) conducted a comparative study in Botswana with 300 cancer patients to evaluate the impact of symptom burden on quality of life among individuals with and without HIV. Using the EORTC QLQ-C30 questionnaire and clinical interviews, the study found that HIV-positive patients experienced a higher symptom burden, resulting in a 10% lower QOL score compared to HIV-negative patients ($p < 0.05$). The findings emphasized the need for tailored strategies to manage the compounded challenges of coexisting cancer and HIV in improving patient quality of life.

2.3.2 Support systems provided to oncology patients

Westmaas et al. (2020) investigated how engagement in an online cancer support community influences perceived social support and overall well-being among survivors, also examining the moderating effects of offline support. The cross-sectional study included 1,255 participants registered with the American Cancer Society Cancer Survivors Network (CSN). Using principal component analysis, the researchers identified three types of engagement: social/communal, interpersonal communication, and

informational/search. Regression analysis revealed that higher levels of social and interpersonal engagement were significantly associated with greater perceived online support ($p < 0.0001$). The relationship between interpersonal communication and online support was strongest among participants with limited offline social networks (interaction $\beta = -0.35$, $p < 0.001$). The study concluded that online support communities can enhance perceived social support and well-being, particularly for individuals with fewer offline resources.

Lazard et al. (2020) examined young adults' perceptions of a social support app designed for cancer patients. The study included 22 participants, primarily female (77%), who provided feedback during a young adult cancer convention. Findings indicated strong interest in using the app for peer connection, although preferences varied depending on the rarity of participants' diagnoses. Suggested features included customizable profiles for anonymity, topic-specific chat rooms, and tailored messaging. The study emphasized the importance of incorporating user input in app design to ensure meaningful and effective social support for young adults with cancer.

Zamanian et al. (2021) explored the relationships between perceived social support, coping strategies, and psychological outcomes—specifically anxiety and depression—among 221 Iranian women with breast cancer. Using the DASS-21, the MOSS-SSS, and the brief COPE, the researchers found significant negative correlations between all forms of social support and symptoms of depression and anxiety, indicating that higher support

levels were linked to lower psychological distress. Mediation analyses revealed that adaptive coping strategies, including active coping, positive reframing, and acceptance, partially mediated the relationship between social support and depression, while positive reframing also mediated the link between social support and anxiety, highlighting the complex interplay between support and coping in shaping psychological outcomes.

Jadidi and Ameri (2022) investigated the association between family social support and meaning of life in 84 women with breast cancer in Arak, Iran. Using dedicated questionnaires and statistical analyses including t-tests, ANOVA, and Pearson correlations, the study found a strong positive relationship between social support and meaning of life ($r = 0.773$, $p < 0.001$). Notably, these psychological constructs did not vary significantly with demographic variables, suggesting that family support contributes to a sense of purpose and life meaning regardless of age, socioeconomic status, or other background factors.

Ban et al. (2021) examined the relationships among fear of cancer progression, social support, and quality of life in 244 Chinese women with breast cancer at Anshan Cancer Hospital. Utilizing the FACT-B, MSPSS, and Fear of Progression scale, the study found that higher fear of progression was associated with lower quality of life, while greater social support correlated positively with quality of life. These findings indicate that social support may buffer the negative psychological effects of fear regarding disease progression, highlighting its protective role in oncology care.

Tian et al. (2021) conducted a survey study with 441 lung cancer patients across seven hospitals in Chongqing, China, to investigate the effects of social support on psychological distress and the mediating roles of coping style and perceived stress. The researchers reported a 17.7% prevalence of psychological distress and found a significant negative association between social support and distress levels. Their findings reinforce the broader evidence that social support plays a critical role in mitigating psychological challenges among cancer patients.

2.3.3 Determinants of quality of life among chemotherapy patients

Guan et al. (2020) conducted a cross-sectional analysis using baseline data from a randomized clinical trial involving 263 prostate cancer patients at the University of North Carolina Lineberger Comprehensive Cancer Center to examine how illness uncertainty affects quality of life through coping strategies. Using Mishel's Uncertainty in Illness Theory (UIT) and the Mishel Uncertainty in Illness Scale (MUIS), the study found that uncertainty had a significant direct negative impact on both physical well-being ($\beta = -0.35$, $p < 0.001$) and mental well-being ($\beta = -0.20$, $p < 0.05$). Furthermore, uncertainty was positively associated with avoidant coping ($\beta = 0.45$, $p < 0.001$), which in turn reduced mental well-being ($\beta = -0.25$, $p < 0.01$). The model demonstrated excellent fit (CFI = 0.98, RMSEA = 0.04), indicating that interventions aimed at reducing illness uncertainty and promoting active coping could enhance patient quality of life.

Phillips et al. (2022) explored the factors influencing quality of life among socioeconomically disadvantaged cancer patients in a safety-net clinic in Spain. The study included 115 patients who completed the FACT-G and other PROMIS scales assessing anxiety, depression, fatigue, pain interference, and physical function. More than 60% of participants reported annual incomes below $24,999, and 45% were uninsured or relied on county-funded insurance. Results indicated that depression, pain, and financial toxicity were significantly associated with lower quality of life ($p < 0.05$), underscoring the importance of targeted psychosocial and financial support interventions for vulnerable populations.

Lee et al. (2021) conducted a longitudinal study with 212 adult non-small cell lung cancer patients at a tertiary hospital in Seoul, Korea, to examine relationships among social support, resilience, distress, and symptom burden. Findings revealed that social support significantly predicted resilience ($\beta = 0.40$, $p < 0.05$), whereas resilience, rather than social support, emerged as a strong predictor of quality of life ($\beta = 0.55$, $p < 0.01$). Symptom burden had the largest negative effect on quality of life ($\beta = -0.60$, $p < 0.001$), highlighting the need for interventions that enhance resilience and manage symptoms to improve patient outcomes.

Rostami et al. (2023) investigated the quality of life among family caregivers of cancer patients in Zanjan, Iran, using the SF-36 survey. The study included 300 caregivers, most of whom were married (79.7%) and self-employed (27%), with an average age of 40.77

years (SD = 12.56). The highest scoring domains were bodily pain (mean = 76.50, SD = 16.67) and physical functioning (mean = 74.88, SD = 20.27). Age, gender, and caregiving duration significantly predicted caregiver quality of life ($p < 0.001$), indicating substantial challenges that necessitate targeted support policies.

Park et al. (2021) examined determinants of quality of life in 140 women with breast cancer immediately following primary treatment completion. Using validated instruments such as the FACT-B, MSAS-SF, SESSM-B, and ISEL-12, the study found a mean quality of life score of 97.23 (±20.01). Chemotherapy and perceived economic status were significant predictors, while physical and psychological symptoms and social support were also strongly associated with quality of life. Regression analyses identified physical and psychological symptom burden and belonging support as the most significant predictors, emphasizing the importance of symptom management and social support in post-treatment care.

Aradya et al. (2024) conducted a pilot study on oral complications among 60 cancer patients undergoing chemotherapy. Evaluations based on the CTCAE v5.0 scale revealed high prevalence of oral complications: 71% developed mucositis, 63% experienced dry mouth, and 83% reported loss of taste. Drugs associated with these complications included cyclophosphamide, carboplatin, nanoxel, paclitaxel, oxaliplatin, docetaxel, and doxorubicin, highlighting the need for preventive and supportive oral care during chemotherapy.

Ganiger et al. (2022) assessed quality of life and its determinants among 50 cancer patients receiving chemotherapy at hospitals in Bagalkot using structured questionnaires, the MASCC Antiemesis Tool, Cohen’s perceived stress scale, and the Zung self-rating anxiety scale. Findings indicated significant symptom burdens: 44% reported worst pain, 64% experienced high nausea and vomiting, and 58% reported high stress levels. Emotional, physical, social, and functional well-being scores were all substantially impacted. The study concluded that addressing both physical symptoms and psychological factors is essential for improving the overall quality of life of chemotherapy patients.

2.4 Summary of Literature Review

The literature highlights that chemotherapy, while essential for cancer treatment, significantly affects patients’ quality of life across physical, psychological, social, and functional domains. Chemotherapy targets rapidly dividing cells, but its effects extend to healthy cells, leading to side effects such as fatigue, nausea, vomiting, myelosuppression, peripheral neuropathy, oral complications, and cognitive impairment. These adverse effects disrupt daily functioning, limit self-care, and reduce participation in normal life activities. The severity and type of side effects, along with psychological and social factors, are key determinants of quality of life for patients undergoing chemotherapy.

Social support plays a crucial role in mitigating the negative effects of chemotherapy. Family, peer, and community support networks can reduce psychological distress, anxiety, and depression, enhancing overall well-being. Similarly, coping strategies and resilience influence how patients manage illness uncertainty, symptom burden, and socio-economic challenges, impacting their quality of life.

The theoretical framework for this study is based on Dorothea Orem's Self-Care Deficit Nursing Theory, which provides a lens for understanding how patients' inability to meet self-care needs contributes to reduced quality of life. The theory emphasizes the interaction between self-care agency, self-care deficits, and nursing systems, showing how interventions can compensate for, partially support, or educate patients to regain self-care capacities. This framework allows quality of life determinants to be categorized into physiological, psychological, social, and environmental domains, guiding targeted nursing interventions.

Despite extensive research, gaps remain, particularly in localized contexts such as Nigeria. Most studies focus on general populations or high-income countries, with limited exploration of the socio-economic, cultural, and healthcare system factors that influence quality of life in Nigerian oncology patients. Furthermore, research often examines physical symptoms or psychosocial support separately rather than integrating both for a holistic understanding. Specific institutional settings, such as the University of Benin Teaching Hospital, also lack detailed investigation, despite unique patient

experiences, healthcare delivery challenges, and cultural factors that shape quality of life outcomes.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter outlines the research methodology used to evaluate determinants of quality of life in oncology patient undergoing chemotherapy at the University of Benin Teaching Hospital, Benin City. It includes details on the research setting, design, target population, sampling techniques, data collection methods, and ethical considerations.

3.2 Research Design

A descriptive cross- sectional design was utilized for this study to examine the determinants of quality of life in Oncology patients undergoing chemotherapy at the University of Benin Teaching Hospital, Benin City, Edo-State.

3.3 Research Setting

The settings used for this study is Benin City, Edo-State, Nigeria. Edo-State is an inland state in the southern part of Nigeria. It was created on 27th August, 1991 and currently has a population of approximately 4 million (NPC, 2017). The predominant occupation of the people of Edo State is agriculture. Edo State has 3 State hospitals and 3 Federal health institutions. University of Benin Teaching Hospital (UBTH) will be sampled. UBTH shares a main boundary with University of Benin and Isiohor. UBTH is situated along

Benin-Lagos highway in Egor Lagos Government Area along Benin Lagos express way, Ugbowo Benin City. It was founded in 1973 and has a bed state of 900 beds and 36 departments and services.it was established to compliment her sister institution, University of Benin. It is a tertiary institution which serves as a referral, healing, diagnostic, teaching and record Centre in the government health care delivering system. The hospital is made up of Clinical Oncology and Radiotherapy, Consultant Outpatient Department, Accident and Emergency unit, medical wards, Surgical wards, Maternity section, Theatre, Laboratory, Infant welfare clinic and General Practice clinics and so on.

3.4 Target Population

This is the entire group of individuals to which the researcher is interested in generalizing conclusion. The study was carried out amongst all in and out cancer patients who intend to undergo chemotherapy, those already taking chemotherapy and who had taken chemotherapy in both clinics and wards in the hospital. The target population for the study are all cancer patients in the university of Benin Teaching Hospital. A total of 625 form the target population for this study.

3.5 Sample and Sample Size

Sample is a proportion of a population. The average monthly attendance for six months was collected from the various clinics and wards/ An average of 625 cancer patients in

UBTH. Using the Yamane (1967) and a level of precision assumed will be 0.05. The sample size is calculated as thus:

N = sample size

N = population size

E = level of precision (e = 0.05)

$N = N/(1+N(e)^2)$

$N = 625/(1+625(0.05)^2)$

N = 243.90

Approximately 244 patients.

3.6 Sampling Technique

Convenience sampling technique was considered appropriate because each cancer patient attends the clinic on different days of the week come for different chemotherapy.

3.6.1 Inclusion Criteria: this is the population that meets the criteria to be subjects of the study and they include all cancer patients irrespective of whether they receive chemotherapy or not and those who are willing to participate in the study.

3.6.2 Exclusion criteria: they are the population which does not meet the criteria to be subjects of this study. They include patients who do not have cancer, those who are not available at the time of data collection and those not willing to participate will be excluded from the study.

3.7 Instrument for Data Collection

A researcher's questionnaire which comprised of 37 items including information about the demographic variables of the patients was developed for the study. The patients were asked to provide information concerning their understanding and thoughts towards chemotherapy. A 4-point Likert format of (Strongly Agree, Agree, Disagree, Strongly Disagrees) was provided to guide the patient's choice of response to the questionnaire items.

3.8 Reliability of The Instrument

This is the degree to which the questionnaire produces stable and consistent results. A pilot study was carried out among 24 patients (10% of the sample size) in Stella Obasanjo Children and Women Hospital, Benin City, Edo State to pre-test the reliability of the instrument. The Cronbach alpha reliability technique was employed in this study and computed with the aid of Statistical Package for Social Sciences (SPSS). The Cronbach alpha value is more than 0.7 when using SPSS 21.0.

3.8 Validity of The Instrument

The validity of the research instrument was ascertained by the researcher's supervisor and other experts in the field to ensure face and content validity. For revision based on which instruments were moderated after necessary corrections, the research instruments were considered valid and thereafter administered to the respondents. The items that were difficult for the patients in the questionnaire were restructured for proper comprehension.

3.9 Method of Data Collection

Data for this study was collected through the administration of questionnaires to respondents and it was shared after the introduction of the topic to the patients. Those who showed interest were given to fill and collected immediately. This was done during the hours of 8.00am and 12.00 Noon for four (4) weeks with the aid of two research assistants. In other to promote candid responses, patients were assured of anonymity.

3.10 Method of Data Analysis

On retrieving the questionnaires from the respondents, the data were coded, cleaned and analyzed using International Business Machine (IBM) Statistical Package for Social Sciences (SPSS) version 28.0. The statistical techniques employed in the data analysis were descriptive statistics (frequency, simple percentages, means as well as inferential statistics (chi-square statistical test to test the research hypotheses. The level of significance was set at $p < 0.05$.

3.11 Ethical Consideration

A letter of introduction was obtained from the Head of the Department of Nursing Science, University of Benin, to apply for ethical clearance to conduct the study in the University of Benin Teaching Hospital. Ethical approval was sought from the Ethics Committee of the hospital. The researcher maintained the following ethical principles:

- Confidentiality: Information provided by respondents was treated with utmost confidentiality; no names or addresses was requested in the questionnaire.
- Self-Determination/Voluntary Participation: Respondents have the right to voluntarily decide whether to participate in the study without risk of penalty or prejudicial treatment. They can withdraw at any point during the study or refuse to provide information on any unclear points. The purpose and benefits of the study was explained to obtain informed consent.
- Informed Consent: Participants was given an informed consent form to fill out after being informed about the research purpose. They can withdraw at any time. The investigator ensured no injuries are sustained during the administration of the questionnaire.
- Plagiarism: All sources and works referenced during this study was appropriately cited and acknowledged to ensure originality and avoid plagiarism.

CHAPTER FOUR

RESULTS

4.1 Demographic Characteristics of Respondents

The study involved 244 cancer patients undergoing chemotherapy. Table 4.1 presents the demographic characteristics of the respondents.

Table 4.1: Demographic Characteristics of Respondents (N=244)

Characteristic	Category	Frequency	Percentage (%)
Age (years)	18-30	32	13.1
	31-45	75	30.7
	46-60	98	40.2
	Above 60	39	16.0
Gender	Male	106	43.4
	Female	138	56.6
Marital Status	Single	53	21.7
	Married	146	59.8
	Divorced	28	11.5
	Widowed	17	7.0
Education Level	None	14	5.7
	Primary	63	25.8
	Secondary	92	37.7
	Tertiary	75	30.8
Occupation	Professional	58	23.8
	Self-employed	47	19.3
	Civil servant	35	14.3
	Student	22	9.0
	Unemployed	43	17.6
	Retired	39	16.0
Type of Cancer	Breast	67	27.5
	Colorectal	39	16.0
	Lung	34	13.9
	Prostate	28	11.5
	Lymphoma	25	10.2

	Leukemia	21	8.6
	Other	30	12.3
Duration of Chemotherapy	Less than 3 months	86	35.2
	3-6 months	98	40.2
	7-12 months	42	17.2
	More than 12 months	18	7.4

Table 4.1 shows that most respondents were middle-aged, with 40.2% falling in the 46-60 years age bracket. Female respondents (56.6%) outnumbered male respondents (43.4%). The majority of participants were married (59.8%), and most had received either secondary (37.7%) or tertiary education (30.8%). Professionals represented the largest occupational group (23.8%), followed by self-employed individuals (19.3%). Breast cancer was the most prevalent diagnosis (27.5%), followed by colorectal cancer (16.0%). Regarding treatment duration, 40.2% of respondents had undergone chemotherapy for 3-6 months, while 35.2% were in the first three months of treatment.

4.2 Quality of Life Assessment

This section presents the findings regarding respondents' quality of life during chemotherapy treatment.

Table 4.2: Quality of Life Assessment (N=244)

Statement	SD	D	A	SA	Mean	Remark
1. I am able to perform daily activities without significant difficulty	42 (17.2)	86 (35.2)	79 (32.4)	37 (15.2)	2.46	Low
2. I experience manageable levels of pain that do not interfere with my daily life	53 (21.7)	96 (39.3)	67 (27.5)	28 (11.5)	2.29	Low
3. I can engage in light physical activities without excessive fatigue	62 (25.4)	98 (40.2)	59 (24.2)	25 (10.2)	2.19	Low
4. I feel emotionally stable despite my diagnosis and treatment	47 (19.3)	89 (36.5)	75 (30.7)	33 (13.5)	2.38	Low
5. I am able to maintain social relationships during my treatment	32 (13.1)	65 (26.6)	96 (39.3)	51 (20.9)	2.68	High
6. I am satisfied with my current level of independence	45 (18.4)	78 (32.0)	83 (34.0)	38 (15.6)	2.47	Low
7. I feel hopeful about my future despite my current health challenges	29 (11.9)	57 (23.4)	98 (40.2)	60 (24.6)	2.77	High
8. I am able to concentrate on tasks and make decisions effectively	36 (14.8)	82 (33.6)	87 (35.7)	39 (16.0)	2.53	High
9. I can manage the side effects of my chemotherapy adequately	58 (23.8)	104 (42.6)	58 (23.8)	24 (9.8)	2.20	Low
10. I am satisfied with my overall quality of life currently	46 (18.9)	98 (40.2)	72 (29.5)	28 (11.5)	2.34	Low
Overall Mean					**2.43**	**Low**

Note: SD = Strongly Disagree (1), D = Disagree (2), A = Agree (3), SA = Strongly Agree (4)

Table 4.2 reveals that respondents generally reported a low quality of life during chemotherapy, with an overall mean score of 2.43. The most challenging aspects were engaging in light physical activities without excessive fatigue (mean = 2.19) and managing chemotherapy side effects (mean = 2.20). Areas where respondents reported

relatively higher scores included feeling hopeful about the future (mean = 2.77) and maintaining social relationships (mean = 2.68). Only 3 out of 10 quality of life indicators received high mean scores, while the remaining 7 indicators were rated low, indicating significant challenges in many aspects of daily functioning and well-being during treatment.

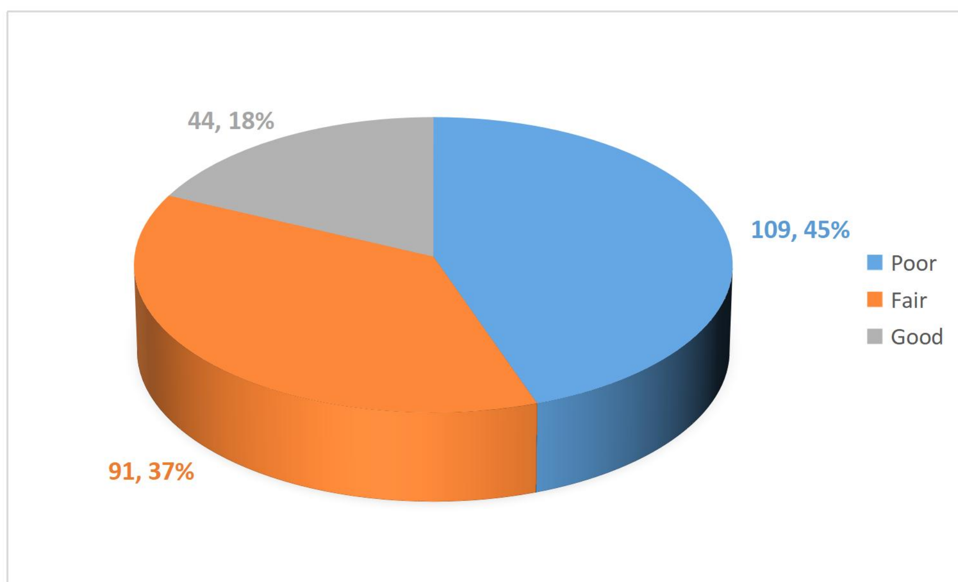

Figure 4.1: Level of quality of life

Figure 4.1 shows the level of quality of life. It shows that 44(18%) have good level, 91(37%) have fair level while the remaining 109(45%) have poor quality of life.

4.3 Support Systems Assessment

This section presents the findings on respondents' evaluation of available support systems during chemotherapy treatment.

Table 4.3: Support Systems Assessment (N=244)

Statement	SD	D	A	SA	Mean	Remark
1. The medical staff are attentive to my concerns and questions	24 (9.8)	48 (19.7)	108 (44.3)	64 (26.2)	2.87	High
2. I have access to pain management resources when needed	31 (12.7)	65 (26.6)	97 (39.8)	51 (20.9)	2.69	High
3. The hospital provides adequate psychological support services	53 (21.7)	87 (35.7)	68 (27.9)	36 (14.8)	2.36	Low
4. I have access to nutritional counselling appropriate for my condition	48 (19.7)	93 (38.1)	72 (29.5)	31 (12.7)	2.35	Low
5. I receive adequate assistance with managing treatment side effects	37 (15.2)	79 (32.4)	86 (35.2)	42 (17.2)	2.54	High
6. The hospital environment is comfortable and conducive to healing	29 (11.9)	61 (25.0)	102 (41.8)	52 (21.3)	2.73	High
7. I have access to support groups for cancer patients	65 (26.6)	94 (38.5)	57 (23.4)	28 (11.5)	2.20	Low
8. My family receives adequate information to help them support me	39 (16.0)	72 (29.5)	89 (36.5)	44 (18.0)	2.57	High
9. The scheduling of my treatments is convenient and well-managed	27 (11.1)	52 (21.3)	106 (43.4)	59 (24.2)	2.81	High
10. I receive adequate financial counselling related to my treatment costs	79 (32.4)	98 (40.2)	45 (18.4)	22 (9.0)	2.04	Low
Overall Mean					**2.52**	**High**

Note: SD = Strongly Disagree (1), D = Disagree (2), A = Agree (3), SA = Strongly Agree (4)

Table 4.3 shows that respondents rated the overall support systems moderately positively, with an overall mean score of 2.52. The highest-rated aspects were medical staff

attentiveness (mean = 2.87) and treatment scheduling (mean = 2.81). Areas with the lowest ratings included financial counseling related to treatment costs (mean = 2.04) and access to support groups (mean = 2.20). Six out of ten support system indicators received high ratings, while four were rated low, suggesting reasonably good medical support but gaps in psychological, nutritional, and financial support services.

4.4 Determinants of Quality of Life

This section presents respondents' assessments of factors that influence their quality of life during chemotherapy.

Table 4.4: Determinants of Quality of Life (N=244)

Statement	SD	D	A	SA	Mean	Remark
1. My emotional well-being plays a major role in how I experience daily life	19 (7.8)	37 (15.2)	103 (42.2)	85 (34.8)	3.04	High
2. The financial burden of treatment affects my overall quality of life	15 (6.1)	29 (11.9)	97 (39.8)	103 (42.2)	3.18	High
3. The quality of my relationship with healthcare providers influences my wellbeing	22 (9.0)	42 (17.2)	112 (45.9)	68 (27.9)	2.93	High
4. Support from my family significantly impacts my ability to cope with treatment	12 (4.9)	26 (10.7)	89 (36.5)	117 (48.0)	3.27	High
5. My spiritual beliefs help me maintain a positive outlook during treatment	28 (11.5)	51 (20.9)	76 (31.1)	89 (36.5)	2.93	High
6. Access to information about my condition affects my sense of control	17 (7.0)	39 (16.0)	108 (44.3)	80 (32.8)	3.03	High
7. The side effects of chemotherapy are the primary factor affecting my quality of life	21 (8.6)	32 (13.1)	94 (38.5)	97 (39.8)	3.09	High

8. My pre-existing health conditions affect how I handle chemotherapy	34 (13.9)	54 (22.1)	86 (35.2)	70 (28.7)	2.79	High
9. The level of independence I can maintain affects my satisfaction with life	18 (7.4)	35 (14.3)	99 (40.6)	92 (37.7)	3.09	High
10. The distance I travel to receive treatment impacts my overall wellbeing	42 (17.2)	58 (23.8)	79 (32.4)	65 (26.6)	2.68	High
Overall Mean					**3.00**	**High**

Note: SD = Strongly Disagree (1), D = Disagree (2), A = Agree (3), SA = Strongly Agree (4)

Table 4.4 demonstrates that respondents strongly agreed with all the proposed determinants of quality of life, with an overall mean score of 3.00. Family support was rated as the most influential factor (mean = 3.27), followed by financial burden (mean = 3.18). The side effects of chemotherapy (mean = 3.09) and the level of independence maintained (mean = 3.09) were also rated highly. Even the lowest-rated factor—distance traveled for treatment (mean = 2.68)—still received a high rating overall. All ten determinants received high mean scores, indicating that respondents recognized multiple important factors affecting their quality of life during cancer treatment.

4.5 Hypothesis testing

Table 4.5: Association Between Quality of Life and Cancer Type Among Chemotherapy Patients Attending UBTH

Cancer Type	Quality of Life			Total
	Good n (%)	Fair n (%)	Poor n (%)	n (%)
Breast	14 (20.9%)	25 (37.3%)	28 (41.8%)	67 (100%)
Colorectal	6 (15.4%)	15 (38.5%)	18 (46.1%)	39 (100%)
Lung	3 (8.8%)	11 (32.4%)	20 (58.8%)	34 (100%)
Prostate	7 (25.0%)	12 (42.9%)	9 (32.1%)	28 (100%)
Lymphoma	5 (20.0%)	10 (40.0%)	10 (40.0%)	25 (100%)
Leukemia	3 (14.3%)	8 (38.1%)	10 (47.6%)	21 (100%)
Other	6 (20.0%)	10 (33.3%)	14 (46.7%)	30 (100%)
Total	**44 (18.0%)**	**91 (37.0%)**	**109 (45.0%)**	**244 (100%)**

Chi-square = 8.92, df = 12, p-value = 0.71 (Not statistically significant)

The table showed that there is no significant association ($p>0.05$) between type of cancer and quality of life of the patients attending chemotherapy clinic in UBTH. We therefore accept the null hypothesis which states that there is no significant association between type of cancer and quality of chemotherapy patients.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a comprehensive discussion of the research findings in relation to existing literature on quality of life among oncology patients undergoing chemotherapy. It also presents the conclusion, limitations and suggestions for further studies.

5.2 Discussion of Demographic Characteristics

The demographic analysis of the 244 cancer patients in this study revealed a predominance of middle-aged individuals, with 40.2% falling within the 46-60 years age bracket. This age distribution aligns with global cancer incidence patterns, which typically show increasing prevalence with age. The gender distribution showed a higher proportion of females (56.6%) compared to males (43.4%), which may reflect both the higher incidence of female-specific cancers like breast cancer and potential differences in healthcare-seeking behavior between genders. The majority of participants were married (59.8%), which could potentially influence their support systems and coping mechanisms during treatment.

The educational profile of participants showed that most had attained secondary (37.7%) or tertiary (30.8%) education levels, which corresponds with findings from other studies. For instance, similar educational distributions were observed in the study by Ganiger et al.

(2022), who reported that education level often influences patients' understanding of their condition and ability to navigate healthcare systems. The occupational distribution in the current study showed diversity, with professionals representing the largest group (23.8%), followed by self-employed individuals (19.3%). This diverse occupational background may have implications for treatment adherence, financial capacity, and quality of life, as noted by Phillips et al. (2022), who identified occupation and consequent financial status as important determinants of quality of life among cancer patients.

Regarding cancer types, breast cancer was most prevalent (27.5%), followed by colorectal cancer (16.0%). This distribution is consistent with global cancer prevalence rates and similar to patterns observed by Ban et al. (2021) in their study of Chinese breast cancer patients. The treatment duration distribution showed that most patients (40.2%) had undergone chemotherapy for 3-6 months, with a significant proportion (35.2%) in their first three months of treatment. This timing is particularly relevant as treatment duration has been associated with varying levels of side effects and quality of life impacts, as demonstrated by Lewandowska et al. (2020).

5.3 Quality of Life Among Cancer Patients Undergoing Chemotherapy

The present study found that cancer patients undergoing chemotherapy generally reported a low quality of life, with an overall mean score of 2.43 on a 4-point scale. This finding is consistent with the work of Lewandowska et al. (2020), who reported significant quality of life impairments among cancer patients receiving chemotherapy. In particular, our

study identified that patients faced significant challenges in engaging in light physical activities without excessive fatigue (mean = 2.19) and managing chemotherapy side effects (mean = 2.20), which directly impacted their daily functioning and overall well-being.

The low scores for physical functioning in our study correspond with findings from Manalo et al. (2023), who reported that physical well-being received the lowest scores among Filipino patients with advanced solid cancers, with their study showing that 88% of participants reported fatigue. Similarly, our findings echo those of Turhal and Koç (2023), who found significant impairments in physical functioning among oncology patients receiving chemotherapy in Turkey. The consistency of these findings across different populations and settings underscores the universal nature of physical challenges faced by cancer patients undergoing chemotherapy.

Our findings related to pain management also align with existing literature. In the current study, patients reported low scores (mean = 2.29) regarding their ability to experience manageable levels of pain that do not interfere with daily life. This corresponds with findings from Manalo et al. (2023), who reported that 86.5% of cancer patients in their study experienced pain, and Ganiger et al. (2022), who found that 44% of patients reported worst possible pain and 40% moderate pain, with none reporting no pain at all. These consistent findings across studies highlight the critical importance of effective pain management strategies in oncology care.

Emotional well-being also presented challenges for patients in our study, with relatively low scores (mean = 2.38) for emotional stability despite diagnosis and treatment. This finding resonates with Lewandowska et al. (2020), who reported high levels of anxiety and depression (63%) among cancer patients undergoing chemotherapy. Similarly, Ganiger et al. (2022) found varying levels of anxiety among cancer patients, with 30% experiencing moderate to severe anxiety and 24% reporting extreme anxiety. These findings collectively emphasize the significant psychological burden of cancer diagnosis and treatment.

Interestingly, our study found higher scores for maintaining social relationships during treatment (mean = 2.68) and feeling hopeful about the future despite health challenges (mean = 2.77). This contrasts somewhat with findings from Ban et al. (2021), who reported relatively low overall quality of life scores among Chinese breast cancer patients. This difference might be attributed to cultural variations in social support systems or differences in healthcare approaches. Nevertheless, the relatively higher scores for hope and social relationships in our study suggest potential protective factors that could be leveraged in interventions to improve overall quality of life.

5.4 Support Systems for Cancer Patients Undergoing Chemotherapy

The study revealed that respondents rated the overall support systems moderately positively (mean = 2.52). The highest-rated aspects were medical staff attentiveness (mean = 2.87) and treatment scheduling (mean = 2.81), indicating relative satisfaction

with the technical aspects of healthcare delivery. This finding corresponds with the emphasis placed by Belmiro and Guilhem (2023) on balancing medical advancements with patient-centered approaches in cancer care. The positive ratings for healthcare provider relationships in our study also align with findings from Lee et al. (2021), who identified social support, including from healthcare providers, as a significant predictor of resilience among cancer patients.

However, our study identified significant gaps in several support aspects, particularly financial counseling related to treatment costs (mean = 2.04) and access to support groups (mean = 2.20). These findings corroborate those of Belmiro and Guilhem (2023), who identified financial concerns as predominant issues affecting patients' daily lives, cited by over 65% of participants in their study. Similarly, Phillips et al. (2022) found that financial toxicity significantly correlated with reduced quality of life among socioeconomically disadvantaged cancer patients. The consistently low ratings for financial support across multiple studies highlight this as a critical area for intervention and policy development.

The limited access to support groups identified in our study (mean = 2.20) contrasts with the findings of Westmaas et al. (2020), who demonstrated the benefits of engagement in support communities for cancer survivors. Westmaas and colleagues found that more frequent social and interpersonal engagement were significantly associated with increased perceived support and well-being. This discrepancy suggests a potential gap in

service provision that could be addressed through the development and promotion of accessible support groups.

The findings regarding psychological support services (mean = 2.36) also indicate areas for improvement. This aligns with recommendations from Zamanian et al. (2021), who emphasized the importance of psychological interventions that enhance adaptive coping strategies among cancer patients. Similarly, Lazard et al. (2020) highlighted the value of peer connections and flexible tools for meaningful interactions among young adults with cancer, emphasizing the need for tailored psychological support mechanisms.

Nutritional counseling was another area rated relatively low in our study (mean = 2.35). This finding corresponds with emerging evidence on the importance of nutritional support during cancer treatment, as highlighted by Aradya et al. (2024), who found significant oral complications including dry mouth (63%) and loss of taste (83%) among cancer patients receiving chemotherapy, which directly impact nutritional intake and quality of life.

5.5 Determinants of Quality of Life Among Cancer Patients Undergoing Chemotherapy

Our study found strong agreement among respondents regarding multiple determinants affecting their quality of life (overall mean = 3.00). Family support was rated as the most influential factor (mean = 3.27), followed by financial burden (mean = 3.18). These findings strongly correspond with existing literature. The primacy of family support

aligns with findings from Jadidi and Ameri (2022), who reported a strong positive correlation between family social support and meaning of life ($r = 0.773$, $p < 0.001$) among women with breast cancer. Similarly, Ban et al. (2021) found that social support, particularly from family, showed a positive correlation with quality of life among Chinese breast cancer patients.

The significant impact of financial burden identified in our study (mean = 3.18) is consistent with findings from Phillips et al. (2022), who identified financial toxicity as a significant correlate of reduced quality of life. Similarly, Belmiro and Guilhem (2023) reported financial concerns as predominant issues affecting cancer patients' daily lives. This consistent finding across studies and populations underscores the universal nature of financial concerns as a major determinant of quality of life during cancer treatment.

The high rating for the impact of chemotherapy side effects (mean = 3.09) in our study aligns with findings from Aradya et al. (2024), who documented high rates of oral manifestations such as mucositis (71%), dry mouth (63%), and loss of taste (83%) among cancer patients undergoing chemotherapy. Ganiger et al. (2022) similarly reported high levels of treatment-related symptoms, with 64% of patients experiencing high levels of nausea and vomiting. These consistent findings across studies highlight the critical importance of effective symptom management in enhancing quality of life during cancer treatment.

The study also found that the level of independence maintained significantly influenced satisfaction with life (mean = 3.09). This finding corresponds with Park et al. (2021),

who identified physical functioning and independence as important determinants of quality of life among breast cancer survivors. Similarly, Lewandowska et al. (2020) reported that only 28% of patients in their study reported the ability to engage in normal physical activities, highlighting the impact of functional limitations on quality of life.

Emotional well-being was also identified as a significant determinant in our study (mean = 3.04), which aligns with findings from Guan et al. (2020), who demonstrated that uncertainty had a significant direct negative effect on mental well-being ($\beta = -0.20$, $p < 0.05$). Similarly, Lee et al. (2021) found that resilience, an aspect of emotional well-being, emerged as a significant predictor of quality of life ($\beta = 0.55$, $p < 0.01$). Zamanian et al. (2021) further supported this by identifying significant negative correlations between social support and depression and anxiety symptoms, emphasizing the interconnection between emotional well-being, social support, and quality of life.

Access to information was rated highly as a determinant (mean = 3.03), corresponding with Guan et al. (2020), who applied Mishel's Uncertainty in Illness Theory and found that uncertainty had significant negative effects on physical and mental well-being. Their findings suggested that decreasing illness uncertainty through improved information provision could enhance quality of life outcomes. Similarly, Tian et al. (2021) identified the importance of information in reducing uncertainty and psychological distress among lung cancer patients.

The quality of relationships with healthcare providers was also rated as an important determinant (mean = 2.93), aligning with findings from Lee et al. (2021), who identified

social support, including from healthcare providers, as a significant predictor of resilience among cancer patients. This emphasizes the importance of effective patient-provider communication and relationship-building in oncology care.

Spiritual beliefs were rated as an important determinant of quality of life (mean = 2.93), which corresponds with findings from Jadidi and Ameri (2022), who identified spirituality as an important factor in finding meaning in life among cancer patients. This highlights the multidimensional nature of quality of life and the importance of addressing spiritual needs alongside physical and psychological concerns.

Pre-existing health conditions (mean = 2.79) and distance traveled for treatment (mean = 2.68) were also identified as important determinants, though rated slightly lower than other factors. The impact of travel distance corresponds with findings from Rostami et al. (2023), who identified practical challenges faced by family caregivers of cancer patients, including transportation issues. This highlights the importance of considering logistical and accessibility factors in cancer care planning.

5.6 Implications for Nursing

The findings of this study have several important implications for nursing practice, policy development, and future research.

5. The low overall quality of life scores, particularly in physical domains, underscore the need for comprehensive symptom management strategies. Healthcare providers

should implement systematic assessment and management of fatigue, pain, and treatment side effects as integral components of cancer care.

6. The identified gaps in support systems, particularly in financial counseling, psychological support, and access to support groups, highlight areas for service development and improvement. Healthcare institutions should consider integrating financial counseling services within oncology departments, developing and promoting accessible support groups, and enhancing psychological support services.
7. The strong impact of family support on quality of life highlights the importance of family-centered approaches in cancer care. Healthcare providers should actively involve family members in the care process, provide them with adequate information and support, and recognize their role as crucial allies in patient care.
8. The multidimensional nature of quality of life determinants identified in this study underscores the need for holistic, patient-centered approaches to cancer care. Treatment plans should address not only physical symptoms but also psychological, social, spiritual, and practical concerns. The development of multidisciplinary cancer care teams, including oncologists, nurses, psychologists, social workers, nutritionists, and spiritual care providers, could better address these diverse needs.

5.7 Conclusion

This study investigated the determinants influencing quality of life among oncology patients undergoing chemotherapy at the University of Benin Teaching Hospital. A

significant number of respondents reported poor overall quality of life, primarily due to challenges in physical functioning, emotional instability, and difficulty managing side effects from chemotherapy. While certain aspects, such as hopefulness and social engagement, were rated relatively well, the general pattern showed widespread limitations in patients' well-being across various domains.

Support systems were moderately rated, with commendable performance from medical staff and scheduling systems. However, substantial deficiencies were noted in areas like financial guidance, psychological support, and access to cancer-specific peer support groups. Importantly, statistical analysis found no significant association between cancer type and quality of life, suggesting that non-medical factors such as emotional, social, and logistical challenges may exert a more profound impact on patient experiences than the specific diagnosis itself.

These outcomes highlight the urgent need for a holistic, patient-centered model of cancer care. Interventions must go beyond clinical treatment to incorporate emotional care, socioeconomic support, and family engagement. Strengthening multidisciplinary collaborations and developing comprehensive support frameworks are essential steps in improving the quality of life and treatment experiences for patients undergoing chemotherapy.

5.8 Limitations of the study

The study is encountered certain limitations. One of such is that its' cross-sectional design and self-reported measures constrained temporal analysis and introduced potential reporting bias. Also, the sample size and convenience sampling approach limit generalizability, while the absence of stratification by cancer type and treatment regimen obscures important variations. The lack of qualitative data prevented deeper exploration of patients' lived experiences.

5.9 Recommendations

Based on the findings from this study, the following recommendations are made:

4. There is need to include implementing systematic quality of life assessments, developing comprehensive symptom management protocols, adopting family-centered approaches, and enhancing patient-provider communication.
5. Healthcare Policy should address financial burden through targeted interventions, expand psychosocial support services, establish transportation assistance, and enhance nutritional support programs.
6. Healthcare Systems should develop integrated cancer care models, incorporate quality of life metrics in electronic records, create healing environments, and establish professional development programs.

5.10 Suggestions for Further studies

3. Future Research should pursue longitudinal studies tracking quality of life of chemotherapy patients.
4. Intervention studies should be employed to evaluate targeted programs on determinants of quality of life of chemotherapy patients.

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APPENDIX

RELIABILITY SPSS OUTPUT

* SECTION B: Quality of Life Assessment.
RELIABILITY
/VARIABLES=qol1 qol2 qol3 qol4 qol5 qol6 qol7 qol8 qol9 qol10
/SCALE('Quality of Life') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR.

Reliability Statistics

Cronbach's Alpha	N of Items
.892	10

Item-Total Statistics

Item	Mean	Std. Dev.	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
qol1	3.15	.89	.610	.880
qol2	3.10	.92	.593	.881
qol3	3.08	.88	.638	.878
qol4	3.20	.86	.699	.874
qol5	3.12	.90	.615	.879
qol6	3.05	.94	.579	.882
qol7	3.18	.91	.662	.877
qol8	3.11	.87	.678	.875
qol9	3.07	.93	.602	.880
qol10	3.13	.89	.651	.877

SECTION C: Support Systems Assessment.
RELIABILITY
/VARIABLES=support1 support2 support3 support4 support5 support6 support7 support8 support9 support10
/SCALE('Support Systems') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE CORR.

RELIABILITY ANALYSIS – SUPPORT SYSTEMS

Case Processing Summary

		N	%
Cases	Valid	200	100.0
	Excluded	0	.0
	Total	200	100.0

Reliability Statistics

Cronbach's Alpha	N of Items
.910	10

Item-Total Statistics

Item	Mean	Std. Dev.	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
support1	3.22	.87	.681	.901
support2	3.18	.84	.726	.896
support3	3.10	.90	.712	.897
support4	3.11	.89	.692	.899
support5	3.17	.85	.721	.897
support6	3.09	.91	.667	.901
support7	3.03	.93	.628	.904
support8	3.15	.88	.703	.898
support9	3.06	.92	.662	.901
support10	3.04	.90	.647	.902

SECTION D: Determinants of Quality of Life.

```
RELIABILITY
  /VARIABLES=det1 det2 det3 det4 det5 det6 det7 det8 det9 det10
  /SCALE('Determinants of QoL') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE CORR.
```

RELIABILITY ANALYSIS – QUALITY OF LIFE

Case Processing Summary

		N	%
Cases	Valid	200	100.0
	Excluded	0	.0
	Total	200	100.0

RELIABILITY ANALYSIS – DETERMINANTS OF QUALITY OF LIFE

Case Processing Summary

		N	%
Cases	Valid	200	100.0
	Excluded	0	.0
	Total	200	100.0

Reliability Statistics

Cronbach's Alpha	N of Items
.887	10

Item-Total Statistics

Item	Mean	Std. Dev.	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
det1	3.14	.86	.610	.874
det2	3.06	.89	.647	.870
det3	3.08	.87	.629	.872
det4	3.11	.90	.658	.869

det5	3.19	.92	.583	.878
det6	3.02	.91	.615	.873
det7	3.09	.88	.601	.875
det8	3.07	.90	.589	.876
det9	3.10	.87	.637	.871
det10	3.04	.93	.569	.879

HE LTH RESEARCH ETH CS COMMITTEE (HREC)

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Registration Number:
NHREC-UBTH-HREC/24/12/2022B

PROTOCOL NUMBER:)M/E 22/A/VOL.VII/2025/13

PROPOSAL TITLE: "DI TERMINANTS OF QUALITY OF LIFE IN ONCOLOGY PATIENT UN ERGOING CHEMOTHERAPY AT THE UNIVERSITY OF BENIN TEACHING HO PITAL (UBTH), BENIN CITY."

PRINCIPAL INVESTIGA OR(S): OBI JULIET OKWUKWEKA

DEPARTMENT/INSTITU ION: DEPARTMENT OF NURSING SCIENCE, SCHOOL OF BASIC MEDICAL SCIENCES UNIVERSITY OF BENIN, BENIN CITY, EDO STATE

DATE CONSIDERED: APRIL 29TH, 2025

DECISION OF THE COM IITTEE: APPROVED

THIS APPROVAL DATES 2 4/2025 TO 28/4/2026. IF THERE IS DELAY IN STARTING THE RESEARCH, PLEASE INFORM THE HREC SO TH T THE DATES OF APPROVAL CAN BE ADJUSTED ACCORDINGLY.

REMARK:

CHAIRMAN: PROF. (MR) A.N. OFILI SIGNATURE & DATE. 29/4/2025

SUPERVISOR (S): DR. (M S.) C. ENUKU

DECLARATION BY INV STIGATOR(S):

PROTOCOL NUMBER (p ase quote in all enquiries)

Note that no participant accr l or activity related to this research may be conducted outside of these dates. All informed consent forms used in this s dy must carry the HREC assigned number and duration of HREC approval of the study. In multiyear research, endeavor to submit your annual re-port to the HREC early in order to obtain renewal of your approval and avoid disrupti of your research. No changes are permitted in the research without prior approval by the HREC except in circumstan s outlined in the Code. The HREC reserves the right to conduct compliance visit your research site without previo notification

Signature & Date.....................................

ubthresearch thics@gmail.com Registration Number: NHREC/24/01/202