

**INFLUENCE OF PSYCHOSOCIAL DISTRESS PREDICTORS ON QUALITY OF
LIFE IN WOMEN WITH BREAST CANCER IN NAIROBI COUNTY**

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**A dissertation submitted in partial fulfilment of the degree of Doctor of Philosophy in
Counselling Psychology of Kenya Methodist University**

August 2024

DECLARATION PAGE

This dissertation is my original work and has not been presented for a degree or any other award in any other University.

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DEDICATION

I dedicate this thesis to my parents, who in life believed in me and supported me; to Dad, who would have become an excellent counselling psychologist since he approached every problem with curiosity. To mama, who always believed in me and was so proud of my accomplishments, when I eventually get to the graduation square, her “shangwe na nderemo” will be the loudest. To my siblings: Wambui, Nyambura, Njuguna and Njuhi for being the wind beneath my wings and convincing me that I am intelligent. To Waceke, my daughter, for ensuring that I had all I needed to succeed in my scholarly pursuits. To Keke, my niece, who provided the gadgets to ease my work, kicked my shins, and made sure I moved. To all of my nieces and nephews, thank you for being sporty and excellent motivators. Finally, I dedicate this study to the breast cancer survivors who participated in it, for without their indulgence, we would not have achieved this milestone. Moreover, I am indebted to women living with breast cancer, for they have taught me about human resilience. To all breast cancer warriors - I salute you Mamas!

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ABSTRACT

Breast cancer diagnosis and treatment affect a woman's physical, emotional, social, and sexual wellbeing, making quality of life a crucial treatment outcome. The aim of this study was to uncover some predictors of psychosocial distress and their influence on breast cancer patients' quality of life. To achieve this purpose, the study focused on establishing the prevalence of psychological distress, the influence of socio-demographic variables, treatment-related side effects, body image, and the link between social support and quality of life in Kenyan women with breast cancer. The Stress Process Model (SPM), the Social Cognitive Theory of Health Promotion (SCTHP), and the Fundamental Cause Theory (FCT) served as the study's three guiding theories. The study design was sequential exploratory mixed-methods. Data were collected from two cancer hospitals in Nairobi County. With phenomenology explaining the breast cancer patients lived experiences, qualitative data was gathered through interview schedules with 20 patients, two 6-member focus group discussions, and 8 healthcare practitioners. A questionnaire was used to gather quantitative data from 256 patients from two hospitals, revealing a median age of 47 years. Thematic analysis found that breast cancer patients experienced both losses and unexpected gains. Financial hardship hit hardest. The effects of breast loss were enduring; the financial model had gaps; positive social support was plentiful, but there was also negative social support. Descriptive statistics found that psychosocial distress was prevalent and severe, with 63% of participants reporting severe distress and 23% reporting clinically significant distress. Additionally, 91% of participants reported financial distress, with 36% reporting clinical depression and 40% reporting anxiety. Of the individuals, 75% had comorbid clinical-severe depression and anxiety. In order to ascertain the factors that predicted psychosocial distress, a multinomial logistic regression analysis was conducted. Factors affecting outcomes included income ($p < 0.05$, OR 5.50), early diagnosis ($p < 0.05$, OR 0.31), severe treatment side effects ($p < 0.05$, OR 2.89), poor body image ($p < 0.05$, OR 1.83), and decreased sexual function ($p < 0.05$, OR 3.83). Social support moderated psychosocial distress ($p < 0.05$, OR 0.69). The results of the multivariate logistic regression analysis, which investigated the influence of psychosocial distress predictors on quality of life, indicated statistically significant relationships. The presence of some income ($p < 0.05$, OR 1.08), early diagnosis ($p < 0.05$, OR 2.03), mild treatment side effects ($p < 0.05$, OR 1.88), negative body image ($p < 0.05$, OR 0.915), diminished sexual function ($p < 0.05$, OR 0.288), and adequate social support ($p < 0.05$, OR 1.65). Social support moderated the influence of distress on quality of life ($p < 0.05$, OR 1.57). All hypothesised psychosocial distress predictors correlated with quality of life. However, social support ameliorated the harmful effects of distress on participants' quality of life. The main unattended issues in treatment were body image and sexual function. Distress and emotional disorders such as anxiety and depression were either disregarded or not addressed effectively. Financial distress stood out; this calls for a reassessment of the SHIF cancer financing policy to close gaps. Furthermore, non-disease factors have an influence on the quality of life for women with breast cancer. As a result, it is critical to incorporate distress screening into cancer care and to adopt a multidisciplinary approach to managing both the disease and the psychosocial challenges that breast cancer patients face. The incorporation of psychotherapy and social interventions into breast cancer care is necessary to achieve the fundamental treatment goal of enhancing quality of life.

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ABBREVIATIONS AND ACRONYMS

QOL	–	Quality of life
BC	-	Breast cancer
KNH	-	Kenyatta National Hospital
WHO	-	World Health Organisation
NCCN	-	National Comprehensive Cancer Network
HCGCCK	-	Health Care Global Cancer Centre Kenya
MRTH	-	Moi Referral and Teaching Hospital
KUTRRH	-	Kenyatta University Teaching and Referral Hospital

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Globally, the incidence and prevalence of cancer are on the rise. There were approximately 20 million new cancer diagnoses and nearly 9.7 million cancer deaths worldwide in 2022, according to (Bray et al., 2024). Additionally, breast cancer is currently more common in women than lung cancer in the general population. There are 2.3 million new cases each year, accounting for 11.7% of all new cases (Sung et al., 2021). Sung and his team also discovered that one in six cancer-related fatalities in women and one in four new cancer cases in women are caused by breast cancer. Breast cancer incidence was first in 159 of the 185 nations studied, and it was first in mortality in 110 of them, accounting for 666,103 deaths Sung et al. (2021). In Kenya, breast cancer incidents considerably outnumber those of other cancers. Breast cancer accounted for 16% of the approximately 44,726 cancer cases diagnosed in 2022 (International Agency for Research in Cancer, 2022). In Kenyan women, breast cancer accounts for 25.6% of all new cases, with a 11.6% fatality rate (International Agency for Research in Cancer, 2022).

Quality of life (QOL) is critical to breast cancer treatment outcomes, necessitating a comprehensive approach that considers physical, psychological, social, and functional well-being. Prioritising QOL alongside clinical objectives may improve overall health and treatment outcomes (Carlson et al., 2019). Notwithstanding the advancements in cancer care in Kenya, the emphasis continues to be on disease-related aspects. The existing biomedical paradigm neglects to consider the psychological and social difficulties (psychosocial distress) that are concurrent with the disease (Nmoh, 2019). Although there is no widely accepted definition of quality of life, it frequently encompasses four major domains: physical well-being, psychological well-being, social relationships, and functional capacities Mokhatri-Hesari &

Montazeri, 2020). According to Ramasubbu et al. (2020), psychosocial distress can negatively influence all of these domains.

The physical domain comprises physical symptoms of breast cancer (BC) and functional abilities. Moreover, poor emotional states, can worsen pain and fatigue, reducing physical wellbeing, while stress can weaken the immune system, leading to poor prognostic outcomes (Carlson et al., 2019). The social domain encompasses the quality of interpersonal relationships and support networks, as well as the patient's social interests. According to Mokhatri-Hesari and Montazeri (2020), predictors of psychological distress, including treatment side effects and body image may influence retreat from social activities and strained relationships with family and acquaintances. Furthermore, patients may encounter stigma and prejudice because of their breast cancer diagnosis, limiting their social engagement.

The psychological domain encompasses emotional and cognitive aspects of well-being. Psychosocial distress predictors such as body image, treatment side effects, and stage of diagnosis may impair emotional well-being due to increased worry, sadness, fear of a worsening prognosis, and hopelessness, according to Ebob-Anyah and Bassah (2022). Functional domain refers to a BC patient's ability to perform daily activities and independence. Furthermore, psychosocial distress may cause fatigue and diminished motivation, which may limit involvement in work, domestic tasks, and leisure activities, thereby lowering overall functional well-being (Fernández-De-Larrea et al., 2018).

Psychosocial distress, also referred to as distress, is a negative emotional experience that affects a person's thoughts, feelings, behaviour, and social and spiritual aspects of life. Distress diminishes an individual's capacity to manage cancer, its physical symptoms, and treatment. Breast cancer is a chronic as well as an acute disease. The treatment, which may include breast or lymph node excision, chemotherapy, radiotherapy, or hormonal therapy, results in body part

loss, asymmetry, and a high burden of symptoms. These events come as a shock, putting women's physical health, emotional well-being, relationships, roles, functionality, appearance, attractiveness, and sexuality under strain (Konieczny et al., 2020). Given the severity of these chronic strains, it is unsurprising that psychosocial distress and clinically significant mental disorders such as anxiety, and depression are prevalent in breast cancer patients (Al-Ghabeesh et al., 2019). As a result, treatment noncompliance, poor treatment results, and a lower QOL are all associated with psychosocial distress. (Fernández-De-Larrea et al., 2018).

Numerous experiences endured by women diagnosed with breast cancer are indicative of long-lasting psychosocial distress and impaired QOL (Carlson et al., 2019). Every stage comes with a set of different psychosocial challenges. The diagnosis stage comes with shock, fear, and worry. The treatment stage ushers in financial stress and distressful treatment side effects like insomnia, fatigue, and nausea (Culbertson, 2020). For women who undergo surgery, scars, loss of breast and symmetry, and a change in appearance and body image accompany this stage. The survival stage is fraught with uncertainty and fear of recurrence. These aftermaths have an effect on quality of life because they make it challenging for women to do many things (Culbertson, 2020).

According to studies, breast cancer patients typically experience psychosocial distress. Psychosocial distress affects 25–50% of breast cancer patients in North America and Europe. This is associated with suboptimal treatment adherence, clinical and psychosocial functioning, and life quality (Carlson et al., 2019; Goerling et al., 2020; Lo-Fo-Wong et al., 2016). A study done in Iran by Rezaei et al. (2016) established that other psychosocial concerns among breast cancer patients include appearance since treatment comes with body mutilation, disfigurement, loss of breast(s) and symmetry. Moreover, some women develop lymphedema, together; these conditions present a direct threat to a woman's feelings of femininity, attractiveness, body

image, and the patient's emotional and sexual functioning. Put together, these symptoms affect all domains of QOL (Culbertson, 2020).

Treatment side effects affect all domains of quality-of-life. According to a study done in India by Paraskevi (2012), side effects of chemotherapy like nausea, tiredness, and trouble sleeping have an effect on how women function physically. Hence, treatment side effects affect a number of the quality-of-life domains. Further, Paraskevi and colleagues adduce late effects of treatment like lymphedema, pain, cognitive impairment, menopausal symptoms may persist and affect the physical, emotional, and sexual, and role function dimensions of quality of life. In Poland, Konieczny et al. (2020) found a link between not having enough money and poor general functioning and quality of life among breast cancer patients. The study found considerable differences in emotional and cognitive QOL between women with and without financial resources, with women with money outperforming their counterparts.

The stage of cancer at diagnosis also influences the mode of treatment. In Taiwan, Huang et al. (2017) discovered that women with advanced breast cancer receive multiple therapies, beginning with surgery, depending on the stage of the disease. These treatments lowered women's quality of life when compared to chemotherapy alone. Further, Kocan and Gursay (2016) conducted research in Turkey to investigate the effects of mastectomy on the body image. The study found that women who undergo mastectomy must live with mutilations, the loss of one or both breasts, and body image issues such as negative self-perception, shame, and half-woman syndrome that affected their overall QOL.

The influence of clinical socio-demographic factors on all domains of breast cancer patients' quality of life is consistent across studies. In Germany, Heuser et al. (2018) discovered that women with higher education were able to return to work sooner after cancer treatment. They attributed this to white-collar jobs being less physically demanding than blue-collar jobs.

Furthermore, Huang et al. (2017) discovered in Taiwan that higher socioeconomic status, stage at diagnosis, and treatment type influenced the QOL global functioning domain. Most of the time, social support is a positive element of social functioning.

In Nepal, Singh Shrestha et al. (2017) found that breast cancer patients' perceptions of social support from family, friends, and coworkers affect how well they adjust to their treatment and prognosis. In this study, social support was determined to be a protective factor for female cancer patients' physical and mental adaption to distress. Similarly, Leung et al. (2014) found in an Australian study that social support was a predictor of improved QOL in both the physical and emotional domains.

Breast cancer patients in Africa, as in other regions of the world, experience significant psychosocial distress (Van Oers & Schlebusch, 2013). This study found that women who had a mastectomy, were young, and had a lower socioeconomic status, were likely to have an anxiety disorder. Furthermore, women without social support and those with treatment-related side effects such as pain and fatigue were at risk for anxiety, which lowered their emotional QOL. Breast cancer patients in Nigeria, according to Ojewole et al. (2018), experienced significant psychological distress linked to unmet information needs. Body image was also a problem, affecting women's sexual functioning. Ethiopian researchers, Hassen et al. (2019), found a relationship between late diagnosis, treatment side effects, and impaired sexual function in women receiving chemotherapy.

According to recent studies conducted in Kenya, between 34 and 50% of cancer patients have significant psychosocial distress (Isaiah, 2019; Ndeti et al., 2018). These studies advocated for continuous monitoring and treatment of distress across the disease continuum. In their study, Saina et al. (2021) identified high distress among breast cancer patients. Late diagnosis, chemotherapy, and employment all elevated the likelihood of severe depression, the study

revealed. Unemployed patients fared better in the domain of global functioning. This conclusion was attributable to the fact that employed patients were ineligible for government welfare assistance (Saina et al., 2021).

Nakitare (2012) also discovered that the women in his study performed well in the quality of life domains of physical, social, and global health. Social support, according to his argument, could serve as a buffer for these patients. However, the study found these women scored low in sexual and financial areas. Muiva (2014) found elevated levels of anxiety, fear, and worry as well as a poor quality of life in breast cancer patients' role function and sexual domains. Muiva suggested a more patient-centered approach to treatment in order to alleviate emotional distress. Another study by Isaiah (2019) reports that half the number of women in his study exhibited anxiety and depressive symptoms, which were unrecognised and untreated. The study found that sociodemographic and clinical factors like diagnosis stage and socioeconomic status significantly contribute to higher levels of anxiety and depression, subsequently affecting quality of life.

Macharia et al. (2019), Muiva (2014), and Nmoh (2019) report that breast cancer patients report high levels of distress. According to the studies, psychosocial distress was unrecognised and untreated. Saina et al. (2021) discovered that screening for and treating depression and other mental health issues enhanced the psychological health and quality of life of cancer patients. Treatment plans in Kenya do not take into account psychosocial distress as a significant complication of cancer, despite these findings.

The Kenyan government is actively working to enhance breast cancer treatment and management. Some counties are expanding their level five and six hospitals to incorporate cancer centres in accordance with the national cancer strategic plan for 2020–2030. In addition to Nairobi County, nine other counties have cancer treatment centers. The fact that only two

public hospitals provide comprehensive breast cancer care hinders the timely treatment of many women. Many breast cancer patients with health insurance cannot get treatment quickly in private hospitals because the cost exceeds their coverage. Similarly, Kenya has a scarcity of oncologists (Wambalaba et al., 2019). Patients who cannot afford to pay for private hospital care face treatment delays. Treatment delays have an adverse effect on cancer progression, psychosocial distress, quality of life, and prognosis (Macharia et al., 2019). There has been very little psycho-oncology study in Kenya so far. According to Ndeti et al. (2018), the lack of widespread recognition and integration of psychosocial care into cancer treatment is a result. Furthermore, Ndeti (2018) highlights the scarcity of study, documentation, and therapy for psychosocial distress predictors, as well as their influence on women's quality of life across the disease continuum. Psychosocial distress and quality of life as treatment outcomes have not gained much attention. This study aimed to enhance understanding of psychosocial distress predictors and their influence on the quality of life of breast cancer patients. It intended to highlight that the present emphasis in breast cancer treatment should not be primarily on disease treatment, but also on patients' total well-being, including psychosocial well-being and quality of life (QOL), thus the term whole person approach.

1.2 Statement of the Problem

Quality of life is the subjective evaluation and satisfaction of breast cancer patients with their current functioning compared to their perceived optimal level before the disease (Ramasubbu et al., 2020). It encompasses a woman's physical, emotional, social, family, spiritual and sexual well-being. In Kenya, the cancer treatment paradigm places a higher priority on disease management than on quality of life, ignoring the complex interplay between the physical, psychological, and social aspects of breast cancer that influence QOL.

Failure to address psychosocial distress can result in non-compliance, dysregulation of the immune system, deterioration of treatment outcomes, and lower QOL (Carlson et al. 2019). Furthermore, Kenyan breast cancer treatment still lacks a comprehensive understanding and integration of factors such as predictors of psychosocial distress that influence quality of life, including clinical and sociodemographic variables, body image and sexual adjustment, treatment side effects, and social support (Nmoh, 2019).

Consequently, the disease-centered biomedical paradigm continues to be the basis for breast cancer treatment and management, with minimal to no priority given to quality of life (QOL) and, as a result, minimal to no psychosocial interventions (Ndeti et al., 2018). Psychosocial interventions, on the other hand, are just as critical as disease treatment in order to ensure both longevity and quality of life. These interventions include, but are not limited to, educating patients about the cancer's clinical course and treatment options, guaranteeing treatment affordability, implementing psychotherapy interventions to manage distress, body image, and sexual function, providing family therapy, and offering other forms of practical social support. (Sebri & Pravettoni, 2023).

A better understanding of the multi-layered interaction between predictors of psychosocial distress and quality of life was required to guide tailored psychotherapy interventions and support services for breast cancer patients. As a result, the primary aim of this study was to shed insight on the complex interactions between hypothesised predictors of psychosocial distress and quality of life (QOL), consequently making substantial contributions to improving quality of life and treatment outcomes in breast cancer care.

1.3 Purpose of the Study

The purpose of this mixed-methods study was to show how psychosocial distress predictors such as social demographics, treatment side effects, body image, and social support influence the quality of life of breast cancer patients.

1.4 Objectives of the Study

- i. To determine the prevalence of psychosocial distress experienced by women diagnosed with breast cancer in Nairobi County.
- ii. To establish the influence of clinical and socio-demographic characteristics on the quality of life in women with breast cancer in Nairobi County.
- iii. To determine the influence of treatment-related side effects on the quality of life in women with breast cancer in Nairobi County
- iv. To establish the influence of body image on the quality of life in women with breast cancer in Nairobi County.
- v. To ascertain the influence of social support on the quality of life in women with breast cancer in Nairobi County.

1.5 Research Hypotheses

- i. H_{0i} : Psychosocial distress is neither prevalent nor severe among breast cancer patients in Nairobi County.
 H_{1i} : Psychosocial distress is prevalent and severe among breast cancer patients in Nairobi County.
- ii. H_{0ii} : There is no significant relationship between social-demographic factors and the quality of life of women with breast cancer in Nairobi County.
 H_{1iii} : There is a significant relationship between some social-demographic factors and the quality of life of women with breast cancer in Nairobi County.

iii. H0iii: There is no significant relationship between treatment side effects and quality of life of women with breast cancer Nairobi County.

H1iii: There is a significant relationship between treatment side effects and quality of life of women with breast cancer Nairobi County.

iv. H0iv: Body image has no significant influence on the quality of life of women with breast cancer in Nairobi County.

H1iv: Body image has a significant influence on the quality of life of women with breast cancer in Nairobi County.

v. H0v: Social-support plays no significant role in determining the quality of life of women with breast cancer in Nairobi County.

H1v: Social support has a moderating influence on psychosocial distress, as well as the overall quality of life, experienced by women with breast cancer in Nairobi County.

1.6 Rationale of the study

Cancer treatment in Kenya focuses on the disease. As a result, in both public and private oncology settings, psychosocial distress is underappreciated and unmanaged (Ndeti et al., 2018). Regardless, cancer of the breast is a life-threatening disease that causes life events and chronic strains that predict significant psychosocial distress, which has been shown to impair a patient's ability to cope with the disease, reduce immunity, and reduce quality of life in a variety of domains (Ebob-Anyah & Bassah, 2022). The study's aim was to identify predictors of psychosocial distress in Kenyan breast cancer patients. The ultimate objective was to promote screening, monitoring, and the development of psychotherapeutic interventions to improve the quality of life of these patients throughout the course of the disease.

1.7 Limitations of the Study

The study faced challenges in generalisability due to geographical expansion, but KNH's and Nairobi County's status as a cancer hub provided respondents from Kenya. Some hospitals did not allow data collection, but KNH and HCGCCK provided sufficient participants. English was difficult to administer to uneducated women, but a Kiswahili questionnaire facilitated interviews. West-developed instruments raised validity concerns, but pretesting quantitative tools and qualitative findings mitigated these issues by contextualizing words. Additionally, qualitative findings captured contextual phenomena in the distress checklist and treatment side effects, while others were included in future research recommendations. Triangulation bias was mitigated through exploratory sequential; QUAN-QUAL, member checking, and peer debriefs.

1.8 Delimitation of the study

This summarises up the parameters of the investigation. Even though there are many predictors of psychosocial distress, this study investigated the influence of social support, body image, treatment-related side effects, and clinical and socio-demographic factors on breast cancer patients' quality of life. Sociodemographic characteristics though baseline in any study were crucial in understanding quality of life among breast cancer patients. This study-included women aged 18–70 who received outpatient therapy at one private and one private hospital in Nairobi County, even though sixteen counties and several hospitals treat cancer in Kenya. The study excluded inpatients and hospice patients.

1.9 Significance of the Study

The findings of this study are profound and will be useful in creating a better understanding of some of the predictors of psychosocial distress and their influence on QOL in women with breast cancer. This will help to raise awareness of the existing gaps and guide in developing

psychosocial interventions, and cancer treatment and management policies that will consider quality of life and a critical treatment outcome and take care of not only the disease, but also psychosocial distress and its predictors.

Cancer is a "we" disease, therefore its diagnosis, treatment side effects, and implications, as well as its chronic nature, have emotional, psychological, social, spiritual, and economic ramifications for patients and families. Breast cancer is resource-intensive and requires interventional optimisation. Advocating for holistic, multidisciplinary cancer therapy and management that incorporates evidence-based psychosocial distress predictors may influence health policymakers to prioritise patient-centered care. As a result, the findings will help the National Institute of Cancer Kenya address identified gaps and invest in research and innovation to enhance understanding of the complex relationship between body image, sexual function, and quality of life after breast cancer, potentially enabling the development of targeted interventions.

Understanding the influence of psychosocial distress on prognostic outcomes and quality of life in breast cancer patients can help health policymakers adopt a holistic, multidisciplinary approach to cancer treatment and management. This approach would make breast cancer care more patient-centered and comprehensive. The findings could prompt national, county, and hospital policies to integrate psychosocial care into treatment and differentiate it from palliative care. Psychosocial care focuses on psychological and social aspects of quality of life, while palliative care focuses on symptom management and comfort.

The study's findings will aid psychologists and mental health professionals in formulating interventions for managing and treating psychosocial distress in breast cancer patients in Kenya. The findings may also inspire medical schools and universities to train psycho-oncology specialists. Finally, the findings aim to demystify psychosocial distress and mental

health issues, leading to a change in breast cancer patients' health-seeking behaviours and encouraging them to express distress and seek psychosocial care in the future.

1.10 The study's assumptions

- i. The study assumed that there would be adequate number of female breast cancer patients undergoing treatment at KNH and HCGCCK clinics in the course of the study.
- ii. In addition, the study assumed that respondents would have the endurance to sit through interviews and would be willing to engage in the research and answer questions truthfully.
- iii. Further, the study assumed that healthcare service providers, especially nurses would be supportive in data collection activities.
- iv. It was presumed that breast cancer support groups would be accessible to participate in focus group discussions.

1.11 Operational Definition of Terms

Psychosocial distress	a negative affective experience caused by a combination of psychological (cognitive, behavioural, and emotional), social, and/or spiritual factors that can make it difficult to cope with breast cancer, its physical symptoms, and its treatment, thereby diminishing the quality of life.
Distress	Feelings of vulnerability, that occur in a continuum ranging from panic, sadness, fear, worry to more serious problems like adjustment disorder, anxiety, depression, social isolation, disordered body image, self-esteem and existential crisis.
Socio-demographics	Socio-demographics are the characteristics of a group based on both social and demographic factors. In this study, important sociodemographic factors included marital status, socioeconomic background and stage of disease.
Treatment side effects	In this study, the main treatment-sided effects included pain, neuropathy, fatigue, nausea, appetite, insomnia, mouth sores, scarring, loss of breast, hair, and weight, skin discoloration, appetite, memory and concentration, and lymphedema, among others.
Body Image	The study defines body image as a breast cancer patient's perception or mental picture that informs self-image, satisfaction with appearance, femininity, body integrity and wholeness, sexual function, and affective, cognitive, behavioural, and social functioning.

Social Support	Social support is operationalised as the breast cancer patients' subjective experience of availability of interpersonal resources that may include presence, emotional support, affection, practical help and informational support, positive or unhelpful interactions, and negligence.
Quality of Life (QOL)	This study defines quality of life as a subjective attribute that includes both positive and negative aspects of breast cancer patients' perceptions of their physical, emotional, cognitive, social, sexual, and role functioning.
Domains	Global dimensions of a breast cancer patients wellbeing. In this study, they will include physical, emotional, social, and sexual and functional.
Physical domain	The physical domain assesses the physical health of BC patients due to disease or treatment-related side effects, such as arm pain, lymphedema, fatigue, nausea, insomnia, appetite loss, and other functional dysfunctions and poor affective states.
Emotional domain	In this study, the emotional domain encompasses negative affective states such as worry, fear, sadness, nervousness, self-esteem, and hopelessness triggered by cancer diagnosis and treatment.
Social and family domain	This study's social domain includes relationships with spouses, acceptance of the diagnosis, communication, and family support. Social life and support from friends and other groups.

Functional domain

Breast cancer patient's ability to play their previous roles optimally in comparison to pre-diagnosis level of functioning. These roles may include ability to take care of self, family roles like taking care of children, wifely role, going to work or engage in activities they enjoyed before diagnosis.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section contains literature reviews from other sources that are relevant to the study's objectives: clinical and social-demographic characteristics on quality of life, the influence of treatment side effects on QOL, the influence of body image on QOL, and the relationship between social support and quality of life. Moreover, this section provides the theoretical framework that guided the development of the study. To explain the phenomenon under investigation, we employed the stress process model, the social cognitive model of health, and the fundamental cause theory. In addition, the chapter includes a diagrammatic presentation of the study variables and a conclusion about the gaps.

2.2 Quality of Life in Women with Breast Cancer

The term Quality of Life refers to how women diagnosed with breast cancer perceive and respond to the diagnosis, treatment, and other elements of their lives, such as sexuality, social life, work, family, their faith and relationships (Ramasubbu et al., 2020). However, treatment outcome metrics are disease-based and ignore quality of life. When evaluating treatment outcomes, the concept of quality of life, how it is measured are fiercely contested, occasionally acrimonious, and frequently overlooked.

The quality of life of breast cancer patients is primarily a topic of discussion at conferences in Kenya, as is the case in other developing countries, rather than a practical aspect of treatment. In essence, quality of life research is still in its early stages, implying that more attention should be paid to this critical but underappreciated breast cancer treatment outcome (Isaiah, 2019). In fact, growing optimism regarding the outcomes of biomedical treatment and life expectancy among breast cancer survivors may detract from the importance of quality of life (Álvarez-Pardo et al., 2023) . While this argument may hold true for the time being because the Kenyan

population is not oriented toward a whole-person approach to treatment, sooner rather than later, women living with breast cancer will become aware of true cure and quality of life will reclaim its rightful place as a useful treatment outcome.

Despite the ongoing controversies, it is critical to consider the reported patient outcome in terms of quality of life. Moreover, Schmidt et al. (2020) emphasise the need to thoroughly evaluate all aspects of quality of life in order to establish care standards and measure treatment outcomes. Patients with breast cancer often face challenges in various aspects of their lives, including emotional, family, social, sexual, and spiritual realms (Ramasubbu et al., 2020). In fact, identifying and monitoring predictors of psychosocial distress through screening, as well as standardising the treatment of these symptoms in oncological care, could help to improve the quality of life after breast cancer.

QOL issues are categorised into domains, influenced by factors such as physical, emotional, social, sexual, and role functions, among others (Ramasubbu et al., 2020). Some of the factors that influence quality of life domains are psychosocial distress predictors such as treatment-related symptoms, social demographics, body image, and social support (Ettridge et al., 2022). Similarly, Ebbestad et al. (2023) show that knowledge and monitoring of diagnosis and treatment side effects, which are important in breast cancer patients' QOL, would allow for the evaluation of the treatment and its effects, as well as the planning of nursing and psychosocial interventions to support these patients and contribute to improving QOL.

Treatment side effects related to symptom burden in breast cancer patients cause changes in independence and autonomy, these changes affect the women's social and role functioning. These changes include dependence and loss of identity, as well as anxiety and fears, and impairment in the emotional function and global domain of QOL (Fernández-De-Larrea et al., 2018). In other words, if a woman's physical, emotional, social, role and sexual aspects are

negatively affected, the woman's QOL will suffer. Furthermore, An et al. (2022) surmise that body image may influence a variety of QOL domains.

Body image encompasses a woman's impression of herself, as well as her attitudes and behaviours. Lower QOL in the social, emotional, and sexual function domains is associated with negative body image (Ettridge et al., 2022). Mastectomy and other aesthetic changes in appearance have been found detrimental to relationships (Nmoh, 2019). Furthermore, the degree of altered QOL is related to age, marital status, education, financial status, stage at diagnosis, and treatment type. Similarly, social support influences the quality of life of breast cancer survivors. According to (Jewett et al., 2022), higher levels of social support at the time of diagnosis are indicative of improved physical and mental QOL at subsequent follow-up.

Although Kenya has achieved significant advances in breast cancer detection, diagnosis, and treatment, therapeutic success in terms of life quality is questionable. According to Schmidt et al. (2020), the question should be whether breast cancer patient's lives should be judged by how long they can live or if the focus should also be on how well they can live. Due to the fact that breast cancer is chronic, acute, and pervasive, its effects permeate every aspect of a woman's life, focusing solely on physical health outcomes is analogous to investing in longevity at the expense of life quality (Lin et al., 2013). Psychosocial distress is crucial in defining health-related quality of life, much like the disease itself. It is essential to closely observe and handle emotional and social difficulties during all phases of breast cancer in order to assess the efficacy and achievement of therapies. Therefore, it is necessary to utilise both subjective and objective indicators of quality of life (QOL).

2.3 Psychosocial distress and Quality of Life in Women with Breast Cancer

When a woman receives a breast cancer diagnosis, she embarks on a journey marked by distress and other psychosocial effects that can affect numerous facets of her well-being and quality of

life. According to recent research (Carlson et al., 2019; Muzzatti et al., 2020), women experience a various type of distress. Psychosocial distress includes subthreshold everyday emotional vulnerabilities such as worry, fear, and sadness, as well as clinically significant anxiety and depression.

Other unmet needs, including social isolation and spiritual crisis, can also compromise treatment compliance and have an injurious influence on a woman's quality of life (Carlson et al., 2019). Breast cancer diagnosis is not an isolated event; it is a process that takes place throughout the disease course and involves a series of experiences and strains. According to seminal research, there are four major times of elevated distress for breast cancer patients across the disease spectrum: diagnosis, treatment, recurrence, and progression

Psychosocial distress and its effect on the quality of life of breast cancer patients is extensively studied. According to the findings, women diagnosed with breast cancer endure psychosocial distress, which leads to extra stresses affecting a range of quality of life areas (Peters et al., 2020). During the diagnosis stage, these women may suffer distress in the form of shock and panic, concern, fear, uncertainty, and anger. After a mastectomy or lumpectomy, for example, a woman's body is mutilated or her breasts removed, which has a negative impact on her perception of her own body (dissatisfaction with appearance, femininity, attractiveness, sexuality). According to meta-analysis, these cumulative pressures may result in clinically significant psychological problems such as adjustment disorder, anxiety, and depression, in addition to the disease (Carlson et al., 2019; Ercolano et al., 2019; Kocan & Gursoy, 2016; Mehnert et al., 2018).

Further studies show that 25% to 50% of breast cancer patients feel severe distress, which is linked to poor QOL, treatment adherence, and clinical and psychosocial (Carlson et al., 2019; Goerling et al., 2020; Lo-Fo-Wong et al., 2016). According to Kenyan statistics, 50% of cancer

patients report increased distress. However, Macharia et al. (2019) discovered that, despite elevated distress among cancer patients, Kenyan cancer care remains disease-focused, failing to detect, monitor, or mainstream psychosocial distress. Many oncology facilities in Kenya do not implement routine screening for distress. However, KNH does screen for distress and refer patients with socio-economic concerns to a lay navigator and those with emotional distress to a palliative care team. However, neither a structured procedure nor interventions for preventing or mitigating psychosocial distress exist for managing clinically significant distress (Ndeti et al., 2018).

A seminal study by Carlson and Bultz (2003) discovered that cancer patients' psychosocial distress was significant, with 33–50% meeting the criteria for severe distress. Depression was prevalent among 36.3% of this sample, while anxiety was prevalent among 30.3% and somatisation was prevalent among 39.7%. Depression has an adverse effect on the emotional, functional, social, and sexual spheres of life. Additionally, a meta-analysis on QOL conducted by Mokhatri-Hesari and Montazeri (2020) identified anxiety and depression as the most prevalent mental illnesses in breast cancer patients, stating that early detection, monitoring, and treatment of depression may be critical in improving the patient's QOL. Psychomotor retardation and low mood both impair role function and sexuality in depression, which affects all aspects of QOL in a significant way.

Researchers in other parts of the world have reported results that are more distressing. Mehnert et al. (2018) found that 52 percent of a sample of 3724 German patients were clinically distressed. Additionally, Mehnert and colleagues discovered that 81.4 percent of patients experiencing severe fatigue, insomnia, and difficulty moving met the criteria for high distress (5 on the distress thermometer). However, a two-stage Dutch study by Lo-Fo-Wong et al. (2016) found that 41% of breast cancer patients reported significant distress six months after diagnosis, compared to 39% in a previous study. Further, Lo-Fo-Wong and colleagues

discovered that 32% of patients reported experiencing distress 15 months after diagnosis, while 22% reported clinically significant distress 5–15 months after diagnosis. Lastly, Lo-Fo-Wong et al. (2016) found that one out of every five women with breast cancer feels clinically significant distress. Muscle weakness and fatigue being the most distressing symptoms. These two symptoms have a direct impact on women's quality of life in the physical, functional, and social domains, as muscle weakness and fatigue impair their ability to self-care, work, engage in previously enjoyed activities, and perform other significant roles in their lives. Additionally, physical symptoms such as insomnia and fatigue can exacerbate mood, concentration, and memory, impairing emotional and cognitive domains of QOL.

Additionally, Alagizy et al. (2020) discovered clinically significant distress in women studied over a six-month period in Egypt. 31.8 percent of women exhibited depressive symptoms early on, while 26.2 percent exhibited anxiety symptoms. However, patients with advanced cancer experienced greater distress; 68.6 percent reported depressive symptoms, 73.3 percent reported anxiety, and 78.1 percent reported perceived stress. Sagarika and Prasanta (2019) conducted a stage-by-stage comparison study in India, comparing 30 women at various stages of the disease continuum (diagnosis, treatment, advanced). The study discovered that 53% of the women sampled had symptoms of depression, anxiety, or trauma. AlGhabeesh et al. (2024) discovered that 24% of 324 women sampled in Jordan scored above the clinical depression cut-off point. Additionally, 36.3 percent of women reported clinically significant anxiety, and 35.5 percent reported poor physical, emotional, and social quality of life.

In Africa, Ojewole et al. (2018) conducted research in Nigeria on the relationship between unmet information needs and anxiety. The researchers discovered that each unmet need had an effect on psychological distress. In a sample of 244 female patients receiving treatment, 76% reported significant distress, while 53% reported clinical anxiety. Additionally, a study by Wondimagegnehu et al. (2019) discovered a 25% depression prevalence in a sample of 458

breast cancer patients in Ethiopia. This study established a correlation between depression and poor treatment compliance, decreased quality of life, and decreased survival rates.

These findings corroborate findings from Kenya, where over half of cancer patients were found to have clinically significant depression, anxiety, or adjustment disorders (MoH, 2013). In a recent study involving 389 women, Ndeti et al. (2018) discovered that 6% of patients had suicidal ideation. In addition, 33.9 percent had mild to severe depression, and more than half had mild to severe posttraumatic stress disorder. This study confirmed previous research indicating that cancer patients are distressed. Ndeti and colleagues suggested integrating psychosocial care into the cancer treatment process.

According to Isaiah's (2019) cross-sectional study at KNH, 50.3% of patients reported depressive symptoms and 53.6% reported anxiety. In addition, these clinically significant conditions remained undiagnosed and untreated. Nevertheless, the study found that depression and anxiety were associated with poorer treatment outcomes and a reduced quality of life. In his recommendations, Isaiah emphasised the significance of screening, treating, and monitoring distress at all stages of the disease progression, as well as integrating psychosocial services into cancer treatment. Another study, Saina et al. (2021), discovered that women receiving chemotherapy at Moi Training and Referral Hospital experienced high levels of depression. Following up on these women revealed that those diagnosed with and treated for depression-experienced improvements in the physical, emotional, and global function domains of quality of life. The study's recommendations emphasise the importance of integrating psychosocial care into cancer treatment.

Increased emotional distress is associated with more severe physical symptoms (pain, nausea, fatigue, and insomnia) and lower QOL in multiple domains across studies. Following compelling meta-analyses demonstrating the negative effects of psychosocial distress on

cancer management and patient quality of life, Canada established the standard in 2004 by incorporating distress as the sixth vital sign. Given that studies show a high level and prevalence of distress among breast cancer patients, it seems logical to follow Canada's lead and incorporate psychosocial care into cancer treatment. Indeed, Ndeti et al. (2018), Isaiah (2019), and Saina et al. (2021) advocate for monitoring and treating distress throughout the disease continuum. Ndeti (2018) also suggests conducting psychosocial studies to shed light on non-medical aspects of cancer treatment. Understanding psychological distress predictors and their influence on breast cancer patients' quality of life can promote awareness and support for cancer management policies incorporating psychosocial care. It would also ensure the development of a more targeted use of scarce resources in the treatment of psychosocial distress, thereby improving women's quality of life.

2.4 Clinical and Social-demographic Characteristics and Quality of Life in Women with Breast Cancer

Socio-demographic profile of women with breast cancer is both a risk and a benefit to their mental health and quality of life for two reasons. The first consideration is a woman's financial position. The second problem is a lack of resources. Having either of these two things, on the other hand, may help women prevent breast cancer or discover it early enough to undergo prompt treatment. On the other hand, it may result in a delayed diagnosis, delayed treatment due to financial constraints, and a bad prognosis (Konieczny et al., 2020).

Second, Konieczny and colleagues found that sociodemographic factors influence a wide range of breast cancer risks, and that these risks change over time. Konieczny et al. (2020) conducted a study in Poland and discovered a link between age and a lower quality of life in the emotional and social functioning domains among younger patients. Because they were more likely to experience treatment-related adverse effects, older women had a lower quality of life in the physical domain. Furthermore, Konieczny and colleagues discovered that marital status,

education, socioeconomic level, having children, stage of diagnosis and treatment approach all affected the quality of life of women with breast cancer. Women in relationships had higher quality of life in the cognitive and physical aspects, whereas single women had lower quality of life in these domains. Additionally, studies have shown that marriage reduces financial stress. Singh discovered, like Konieczny et al. (2020), that marital status and family type among Taiwan women had a substantial link with a patient's mood. When compared to unmarried women who lived in nuclear homes, married women who lived in joint households had fewer mood disorders.

A cross-sectional quantitative study conducted in Taiwan discovered that women with a higher level of education demonstrated significantly higher levels of positive QOL in the physical, emotional, cognitive, and sexual domains than women with vocational education (Huang et al., 2017). Research has shown that women with lower levels of education are more likely to experience a poor quality of life. In a facility-based cross-sectional quantitative analysis of 404 women in Ethiopia, Hassen et al. (2019) found that breast cancer patients with a college degree had 1.6 times the quality of life of those without a college degree. This may be attributable to the fact that women with a college education had greater access to economic resources and information than those with limited or no education. The study found a correlation between household income and a higher quality of life, supporting Konieczny et al. (2020) who found a correlation between socioeconomic status and increased access to health care, reduced financial stress, and reduced distress due to financial concerns and treatment affordability. This study suggested paying more attention to the issue of body image in younger women, as well as using individualised psychotherapy and social support to address emotional and social functioning deficits.

Similarly, Hansen and colleagues discovered a negative relationship between financial difficulties and breast cancer patients' QOL because of delayed treatment and having to travel

long distances to access treatment, which caused distress and influenced prognostic outcomes. In addition, Hassen et al. (2019) established in their summary of findings that on average, women in the study had low scores in the physical, emotional, and sexual domains, attributed to treatment side effects on the psychological and physical aspects of sexuality.

Early diagnosis, marriage, higher education, employment, and having children were linked to better physical, affective, social, and global quality of life in a Malaysian pilot cross-sectional study (Ramadas et al., 2015). The study affirmed that early detection results in a better prognosis than late detection. In line with Ramadas and colleagues' findings regarding marital status, Leung et al. (2014) observed married and women in relationships received greater emotional and loving support and performed better in the emotional and sexual areas of QOL.

In Kenya, there is resource inequality, which encompasses, among other things, power, wealth, education, information, and social ties. Furthermore, the unequal allocation of social and economic resources leads to health inequalities that significantly influence psychosocial distress and the quality of life of breast cancer patients (Nmoh, 2019). Cancer treatment, for example, only extended from Nairobi and Uasin Gishu Counties to a few other counties including Garissa, Mombasa, Embu, Nakuru, and Meru after healthcare devolution. Nonetheless, most oncologists, screening services, and other treatment options, including radiotherapy and Hormonal therapy, are only available in Nairobi County. Because of this reality, socioeconomic considerations have a significant impact on prognosis and QOL (Nmoh, 2019).

Breast cancer is associated with a lower likelihood of remaining married, according to Kenyan research. According to Isaiah (2019) and Nmoh (2019), breast cancer and its treatment affect women's relationships with their spouses; many women experience abandonment due to separation or lack of care. According to these studies, breast cancer and its treatment put

women's relationships in jeopardy in Kenya, and their experiences are likely to influence their quality of life. Life.

2.5 Treatment Side Effects and Quality of Life in Women with Breast Cancer

Treatment has a direct negative impact on the psychosocial functioning of women with breast cancer (Hamer et al., 2017). Pain, fatigue, nausea, insomnia, and other treatment-related symptoms can diminish the quality of life of patients (Mandelblatt et al., 2020).

Because women's quality of life and care are important, healthcare providers must pay close attention to treatment-related symptoms and what patients say about their treatment and care. Merriam-Webster Dictionary (2002) defines symptoms as subjective indications of illness or bodily disruption as observed by the patient. This definition implies that symptoms are subjective and, in the majority of cases, negative. That is, these symptoms can be determined solely based on the patient's description (Cleeland, 2007). Nonetheless, it is critical to remember that symptoms could be caused by the disease itself, treatment side effects, or psychosocial issues (Bubis et al., 2018).

Although treatment-related symptoms are obvious in Kenyan breast cancer patients, the interaction of physical and psychosocial elements, as well as their significance in reducing or aggravating treatment side effects and the patient's QOL, is only evaluated at the palliative stage (Isaiah, 2019). Side effects from breast cancer treatment might occur because of surgery or multimodal treatment. Surgical techniques can remove the entire breast (mastectomy) or just a portion of the breast (partial mastectomy). In either case, breast cancer surgery is mutilating, resulting in scarring and loss of breast and symmetry, which can change women's perceptions of femininity, beauty, and sexual function (Paterson et al., 2016). Breast loss has a negative impact on marriages in Kenya (Nmoh, 2019). Similarly, chemotherapy has many distressing side effects that impair the woman's functioning and quality of life.

Treatment-related symptoms rarely occur in isolation. These symptoms, according to Cleeland (2007), occur in clusters and amplify one another. The symptoms may include fatigue, sleep disturbance, queasiness, vomiting, poor appetite, memory and concentration issues, hot flashes, and dryness in the mouth and mood issues among others. The severity of treatment side effects and patients' judgment of the implications of the symptoms are referred to as symptom burden (Cleeland, 2007).

Moreover, the cumulative effect of multiple treatment side effects on breast cancer patients' quality of life is significant. Multiple studies have shown that treatment-related symptoms frequently overlap (Bubis et al., 2018; Mandelblatt et al., 2020). Pain, for example, has an impact on sleep. Together, they contribute to fatigue and depression. While loss of appetite adds to emaciation as well as anxiety about being able to tolerate the next dose of treatment.

Due to secondary conditions such as lymphedema or pain in the hand on the affected breast's side, the ability to do basic things such as washing themselves or caring for their family is diminished (Brando et al., 2017). In addition, these side effects prevent women from engaging in social activities, resulting in social isolation and other psychosocial problems. As a result, women with breast cancer must deal with many treatment-related symptoms that cause significant pain and distress, negatively influencing their physical, emotional, social, and role-function aspects of their quality of life (Bubis et al., 2018).

A survey of over a million cancer patients in Canada, Bubis et al. (2018) discovered that sleep disturbance, fatigue, nausea, loss of appetite, depression, and anxiety were the most common symptom clusters. Being a woman was a risk factor for increased symptom load and lower QOL in the affective, physical, role, and sexual function domains. In addition, this study found that early in the course of the disease, breast cancer-diagnosed women experienced a greater burden of treatment-related symptoms. Furthermore, the study showed a relationship between

financial stress and a greater burden of treatment-related symptoms (Bubis et al., 2018). This finding is important in this study because treatment-related side effects and the impact of symptom burden on psychosocial distress and quality of life are not emphasised in Kenya.

Additionally, the study established a relationship between financial stress and an increase in symptom load. This finding again validates the current study because, despite the fact that a breast cancer diagnosis is a life event that causes chronic stresses such as shock, worry, dread, and financial strains that are linked to worsening symptoms, little or no attention is paid to the link between psychosocial distress related to the diagnosis, treatment and symptom burden. Surprisingly, Bubis and colleagues discovered that rural women had a decreased symptom burden and improved physical function, which they attributed to optimism and stoicism.

This discovery is congruent with Isaiah's (2019) study in Kenya, in which he discovered that rural and low-income patients had a higher quality of life in the physical domain than those in higher-income metropolitan settings, attributing his findings to spirituality and stoicism. In an experimental investigation of older breast cancer survivors (36 months post diagnosis) and older disease free women, Mandelblatt et al. (2020) observed that older women with breast cancer had higher symptom load and lower global wellbeing (QOL) than the control population.

Women who received chemotherapy with or without hormonal therapy had the highest symptom burden. Women who received hormonal therapy, on the other hand, had a higher symptom burden than women who did not have cancer. The most common symptoms in this study population were pain, sleep disturbance, fatigue, depression, and anxiety. This finding is crucial because it shows that treatment-related symptoms exist at every stage of the breast cancer continuum. Moreover, they interact additively, exacerbate psychosocial distress, and have a negative effect on quality of life (QOL) (Mandelblatt et al., 2020).

According to a study conducted in Palestine by Yoon et al. (2008) found 46% of women had at least one severe treatment-related symptom, with the most prevalent being nausea/vomiting, hot flushes, vaginal dryness, and sleep disturbance, all of which were associated with poor role, emotional, and sexual function. Additionally, the study discovered that demographics had an effect on symptom severity. Women, who were older, widowed or had never married, employed, black or Hispanic were less likely than other women to experience severe symptoms were.

This finding is important in this study because it highlights a symptom cluster that is common among Kenyan women as well as a cluster that affects sexual function, which was identified as a major concern by women in the (Isaiah, 2019; Nmoh, 2019) studies. Nmoh's qualitative findings painted a bleak picture of the women's psychosocial challenges, which included impaired sexual function; however, these issues were unattended.

2.6 Body Image and Quality of Life in Women with Breast Cancer

How women with breast cancer feel about their bodies affects their quality of life and prognosis. Patients with breast cancer undergo invasive treatment and surgical procedures, which may result in temporary or permanent losses (Kocan & Gursoy, 2016). Hair loss, eyelash loss, and darkening of the nails are examples of temporary losses, whereas breast loss and symmetry are permanent losses.

In addition, after surgery or because of the tumour, women with breast cancer may develop secondary conditions such as lymphedema, which causes arm swelling, discoloration, and deformity. Because of their physical changes, women with breast cancer have been found to develop body image concerns (Paterson et al., 2016). Body image in breast cancer is defined as a multifaceted concept that includes breast cancer patients' cognitions, feelings, and consequent behaviours towards their appearance (Melissant et al., 2018). Breast cancer

patients' attitudes toward their physical self, contentment with their looks, and desirability are cognitive components of body perception. The affective component reflects a breast cancer patient's perceived loss of physical integrity, dissatisfaction with the surgical scars that ensue, feelings of guilt and insecurity about their femininity and attractiveness (Kocan & Gursoy, 2016). These patients may be socially isolated since they are averse to meeting people due to their appearance (Melissant et al., 2018; Paterson et al., 2016).

According to Grogan and Mehan (2017) surgery is associated with little physical problems in the majority of women. However, scarring, breast loss, and asymmetry may leave psychological scars that last a lifetime. Breasts are both functional and sentimental organs, not just for women, but also for society as a whole. Breast loss following mastectomy, as well as other conditions such as lymphedema that alter a woman's appearance, have an effect on a woman's body image and reactions of those around her.

Consequently, empirical research suggests a link between women's satisfaction with their appearance (body image), which influences their self-esteem and has an impact on their emotional, social, and sexual QOL domains (Rosenberg et al., 2013). In a systematic investigation, Paterson et al. (2016) discovered that negative body image was highly associated with lower QOL in emotional, social functioning, and global health status in younger women. In the meta-analysis that Paterson and her colleagues did, they also looked at eleven studies that linked young women's worries about their bodies to their sexuality and relationships. One of the studies found that a sizeable number of women expressed dissatisfaction with their appearance during intimate encounters. Breast cancer patients' body image and sexual function were found to be substantially connected in an American study by Dalton et al. (2009). According to the study, women who have had cancer treatment are more likely to experience sexual dysfunction because of the physical changes generated by treatment. Likewise, Dalton and colleagues discovered a correlation between poor relationships, distorted body image, and

reduced sexual desire in younger women. Additionally, poor relationships were associated with disturbed body image and reduced sexuality.

Kocan and Gursoy (2016) discovered that after mastectomy, women expressed unfavourable feelings about their looks, using terms such as abnormal, deformed, and ugly. These descriptions imply negative attitudes and affectivity, which are detrimental to women's emotional well-being. Additionally, Kocan and Gursoy (2016) discovered that poor body image had a detrimental effect on husband-wife interactions and impaired women's sexual and role functioning. They found that dissatisfaction with appearance lead to social avoidance, which affected patients' social QOL. Morales discovered in a study conducted in Spain that women who had undergone mastectomy associated their loss of breasts with their femininity, beauty, sexuality, and motherhood.

As a result, breast loss is connected with negative body image, which is associated with low self-esteem, as well as having an impact on family dynamics and negatively affecting the sexual and role function domains of the woman's QOL (Yılmaz & Gürler, 2020). Breast cancer patients undergo physical losses and changes that affect their cognitive, emotional, and behavioural functioning, lowering their self-esteem and impairing their emotional and social domains of QOL (Morales-Sánchez et al., 2021). According to Brandão et al. (2017), negative appraisal of her physical appearance affected breast cancer patients' self-esteem. As a result, having a negative body image can lead to low self-esteem. Furthermore, there is a correlation between body image and psychological functioning. Satisfaction with one's appearance and a positive body image improved self-esteem and a higher quality of life (Brandão et al., 2017).

When evaluating treatment outcomes in Kenya, the biomedical strategy for treating and managing breast cancer does not prioritise body image. Nonetheless, body image is linked to self-esteem, which influences the emotional and social functioning aspects of breast cancer

patients' quality of life (Sebri et al., 2022). Many women, particularly younger women, report feeling anxious about their body image following breast cancer treatment. Positive self-image is associated with higher quality of life in the areas of physical, emotional, cognitive, and social well-being (Kocan & Gursoy, 2016; Melissant et al., 2018; Morales-Sánchez et al., 2021).

While many studies indicate that breast cancer treatment, such as surgical interventions, has an adverse influence on women's body image, Denford et al. (2011) did a study in England and found that breast loss can manifest itself in a variety of ways, not all of which are negative. As a result, it is critical to listen to women's lived experiences with cancer and breast loss rather than assuming their thoughts and reactions are universal. In the United Kingdom, Grogan and Mehan (2017) did a qualitative study that validated the findings of Denford et al. (2011). This study established a recurring theme of prioritising a disease-free life over physical beauty.

Additionally, Grogan and Mehan (2017) discovered that breast loss diminishes women's body confidence, causing them to feel self-conscious in public. However, the study indicated that women's concerns extended beyond breast loss to the complete therapeutic environment of breast loss, menopausal symptoms, and infertility risk. Furthermore, Grogan and Mehan (2017) discovered that women's body image issues are caused by weight gain rather than a loss or reduction in breast size; while breast loss may be camouflaged, weight gain cannot. Thus, body weight was associated with impairments in the emotional, sexual, and social dimensions of women's QOL in this study. Grogan and Mehan conclude that the social objectification of the breast increases the risk of negative body image among breast cancer survivors. The research revealed a correlation between women's body perceptions and their emotional and sexual functioning.

An important final point made by Grogan and Mehan (2017) is how cultural objectification of the breast impacts body perception, feelings of femininity, desirability, and sexual

functioning of women with breast cancer. Therefore, Grogan and Mehan (2017) recommend using counselling as part of treatment to assist women with low body objectification consciousness in adjusting to changes in their appearance, body image, and self-esteem. In addition, they suggest group therapy to learn more about how some women keep a positive view of their bodies after having their breasts removed, gaining weight, and dealing with problems like lymphedema.

Nmoh (2019) presents a dismal depiction of Kenyan mastectomy survivors in an unpublished qualitative study. Several women reported that their relationships ended because of judgements on their appearance and perceived femininity following the mastectomy. These experiences echo those of An et al. (2022), who found that breast loss interferes with BC patients emotional functioning, disrupts relationships, and has a long-term influence on their self-concept in a culture where the breast defines womanhood. According to a physician interviewed, men regard mastectomy patients as unattractive, sexually inactive, and expensive to maintain, resulting in separations. Cancer activists cited the half-person phenomenon to support patients' body image issues. The study also showed that stigma reduces younger patients' chances of finding partners who accept them. In conclusion, Nmoh (2019) observed that supportive group interactions with other survivors helped women manage physical changes and stigma. These forums improved their emotional functioning and quality of life.

2.7 Social Support and Quality of Life in Women with Breast Cancer

Humans are social beings. A helping hand, an attentive ear, a validating touch, and a willingness to share information are crucial for assisting women with breast cancer to adapt to the disease and deal with stressful situations or chronic strains with resiliency. Nonetheless, breast cancer diagnosis and treatment significantly limit women's engagement in social activities, limiting a woman's opportunities for interaction with others and hence her capacity

to seek social support. Alternatively, patients may withdraw from social networks due to treatment-related issues such as changes in appearance, self-stigma, and depression (Almuhtaseb et al., 2021).

Furthermore, contextual factors such as a patient's social environment and healthcare policy all have an impact on treatment outcomes and quality of life (Ginter & Braun, 2019). Social support refers to the emotional, informational, or instrumental assistance provided by others, fostering a sense of belonging, acceptance, and caring. Social support, including care, presence, and comfort, significantly influences a breast cancer patient's ability to cope with the disease, treatment, and psychosocial distress (Ginter & Braun, 2019). Consequently, social support is a strong predictor of how women will deal with breast cancer (Sebri et al., 2021)

Perceived social support can take the form of emotional, instrumental, informative, affectionate, or participatory support, according to (Fernandes et al. (2014) emotional support comprises empathy from individuals who console and reassure patients that they have their backs, as well as the resilience to encourage patients to share their ideas and feelings. On the other hand, Fong et al. (2017) believe that instrumental support is essentially material assistance. In Kenya, instrumental support may include providing financial support for treatment, assisting the patient with basic hygiene, watching after children, cleaning the house, providing food, and volunteering to transport the patient to appointments. Informational assistance may include psychoeducation about the disease, treatment options, side effects, and how to manage distress.

Affectionate support, as defined by Fernandes et al. (2014), is a display of love and affection that allows women living with breast cancer to feel wanted, feminine, and desirable. Nmoh (2019) demonstrated that emotional support from husbands was uncommon in the Kenyan environment, while negative perceptions toward a woman's femininity and desirability were

prevalent, resulting in significant levels of self- and society shame. Therefore, it is vital to look at the social environment of breast cancer patients to see if it improves or degrades the women's quality of life. Family members, co-workers, religious affiliations, support groups, and healthcare experts comprise the women's social milieu.

Leung et al. (2014) argue that interpersonal links are important in how people deal with life crises. Perceived social support has been linked to better physiological and psychological adaptation to chronic ailments, and it has been shown to be especially helpful in lowering psychosocial distress in breast cancer patients (Fernandes et al., 2014; Ginter & Braun, 2019; Leung et al., 2014).

Patients with breast cancer have significant psychological needs, including much-needed help for dealing with fear, concern, anxiety, disturbing treatment side effects, body image, and other unmet needs. According to Jadidi and Ameri (2022), social support is associated with better breast cancer adjustment and mitigating the negative effects of psychosocial distress on women's quality of life. Further, Escalera et al. (2019) adduce the moderating effects of social support on intrusive thoughts and anxiety. However, Ginter and Braun (2019) and Sebri et al. (2021) argue that interpersonal relationships are bidirectional, noting that a social environment can be supportive or stressful. Positive social support is associated with a higher quality of life, but a stressful social environment may detract from it. Consequently, unsupportive family members, co-workers, society, healthcare systems, and providers can cause psychosocial distress (Sebri et al., 2021). Even positive interactions, such as disclosure, which serves as the foundation for social support, can be distressing. According to Ginter and Braun (2019), disclosure implies emotional effort, which includes regulating the emotions of others. As a result, the patient becomes burdened and distressed.

Furthermore, Singh Shrestha et al. (2017) discovered a correlation between adequate social support and improved mental wellness and quality of life in Nepalese breast cancer patients. Similarly, Fernandes et al. (2014) conducted a review in Spain and concluded that women diagnosed with breast cancer can benefit from emotional support while adjusting to their diagnosis. According to the study, family, friends, and spouses are the most important sources of social support. According to the study, the most important sources of social support are family, friends, and spouses.

In comparison, a study by Ginter and Braun (2019) demonstrated that, while spousal assistance was regarded critical in many studies, it was not the primary source of support for many unmarried women. This argument is relevant to the Kenyan setting, where Nmoh (2019) discovered that many women's marriages collapsed following a breast cancer diagnosis. Additionally, Fernandes et al. (2014) discovered that emotional support positively influences treatment decisions and adherence, hence contributing to health promotion and quality of life. In addition, research conducted in Nepal, the United States, and Australia demonstrates a negative correlation between love and attention and a lower anxiety level and a higher quality of life. (Ginter & Braun, 2019; Leung et al., 2014; Singh Shrestha et al., 2017).

Further, Ginter and Braun (2019) discovered qualitatively that family and friends support influenced how a woman diagnosed with breast cancer responded to the diagnosis, treatment side effects, and changes in appearance. Ginter and Braun (2019) assert that friendships offer both emotional and instrumental assistance, hence conferring benefits. In their study, Ginter and Braun (2019) discovered that women who were diagnosed with breast cancer and maintained frequent communication with their friends experienced enhanced coping mechanisms and an improved overall quality of life, particularly in the emotional and social aspects. Additionally, this study proved that support groups provided an advantageous environment for breast cancer patients to engage and bond with like-minded travellers. Studies

have shown that joining support groups reduces anxiety and enhances emotional well-being and quality of life (Jadidi & Ameri, 2022). In comparison, Isaiah (2019) discovered that help from friends was variable and frequently absent in Kenya.

Furthermore, the Leung et al. (2014) study discovered that married women and those in relationships received more emotional, affectionate, and instrumental assistance. Subsequently, the study found a positive correlation between high baseline social support ratings and higher QOL scores in the physical, emotional, and cognitive domains. Finally, Leung et al. (2014) discovered that emotional, loving, and interactive care, rather than instrumental support, improved the well-being of women with breast cancer. The findings of Leung and colleagues contradict those of Kenyan research (Nmoh, 2019), who discovered that instrumental support was a major factor in predicting patients' quality of life because it included enhanced financial and practical support for women's role duties. Isaiah (2019) discovered a significant link between a lack of social support and increased depression and anxiety levels, which had a significant impact on patients' emotional functioning. In addition, the study revealed a significant relationship between positive social support and enhanced social function, which is consistent with findings from both Western and Eastern nations. Isaiah (2019) uncovered an intriguing relationship between family support and patients' improved hope, resiliency, and physical functioning.

Finally, Fong et al. (2017) found that a decrease in the quantity and quality of social support significantly predicted an increase in negative emotional outcomes, such as depression. Moreover, Jadidi and Ameri (2022) concur with Fong and colleagues that treatment regimens that focus solely on the clinical management of breast cancer while ignoring patients' psychosocial needs expose patients to mental and emotional turmoil and diminished quality of life. In their recommendations, Fong et al. (2017) and Leung et al. (2014) both emphasised the significance of professionals discussing psychological and social distress with their patients

when developing treatment plans. However, in Kenya, healthcare models and systems do not incorporate these types of therapies by default.

2.8 Theoretical Framework

The study examined predictors of psychosocial distress, as well as what concerns women with breast cancer have about their health and quality of life at each stage of the disease. We used the stress process model by Pearlin, Menaghan, Morton, and Joseph, the social cognitive model of health by Albert Bandura, and the fundamental cause theory by Link and Phelan. The validity of these theories was established by demonstrating the influence of the disease, treatment, individual, family, and psychological and social factors on the psychosocial distress and quality of life of breast cancer patients.

2.8.1 Stress Process Model (SPM)

The stress process model was developed by Pearlin Leonard and his colleagues in 1981. The main concept of this model is stress proliferation. Stress proliferation pertains to the way in which the exposure to a single stressor can precipitate the emergence of further stressors or worsen pre-existing ones. It implies that stressors are not isolated occurrences but rather might start a domino effect of stresses that lead to chronic strains. This model was useful in explaining how breast cancer patients construct and interpret meanings of their BC diagnosis in the context of structural and cultural constraints, as well as how these constraints were negotiated in their interpersonal interactions (McLeod, 2012). The SPM explains that stressful experiences have a context, and each stressful experience can be linked to a social context or individual challenges. Hence, the SPM was useful in explaining psychosocial distress by showing the relationship between predictors of distress, mediators and moderators of distress, and QOL.

Psychosocial distress encompassed four conceptual domains in this study: sources of stress, stress mediators, stress moderators, and outcomes. This study hypothesized that clinical and

sociodemographic characteristics, treatment side effects, and body image were predictors of psychosocial distress. In addition, McLeod (2012) posits, by extending the stress model, that the impact of stressors on outcomes depends on the level of stress proliferation as well as personal and social resources, such as self-concept and social support.

This study anticipated showing social support as a social resource that could moderate the relationship between anticipated stressors and subjective wellbeing (QOL). Pearlin and her colleagues propose that a stressor is an experience that occurs in a person's life or a long-term strain on a person's body. Life events and long-term strains may occur concurrently in breast cancer. Thus, life events can trigger long-term strains, or long-term strains can trigger life events. This interaction is dubbed stress proliferation by (Pearlin et al., 1981). Breast cancer is a chronic stressor because it is a long-term concern that negatively affects a woman's emotions, physical, financial, social, and spiritual well-being. It has a negative impact on their family members as well. In this study, these stressors included the diagnosis of breast cancer, leading to strains such as shock and panic following diagnosis, fear of prognosis, worry about treatment cost and implications, and the burden of physical symptoms and multiple losses that ensue.

Since cancer operates on a continuum, starting at diagnosis, treatment, survivorship, remission, and palliation, this theory aided in explaining breast cancer as a life event that creates new chronic strains at every stage on the disease continuum. Applied to this study, the SPM explained diagnosis with breast cancer as a stressful life event that triggered chronic strains encompassing physical health, emotional and cognitive health, family welfare, and poor body image.

The treatment stage introduces new stressors. According to Nakitare (2012) many Kenyan women are diagnosed with breast cancer at an advanced stage, and many of them undergo surgery. Surgical procedures such as mastectomy (removal of breast), quadrantectomy (partial

removal of breast) or lumpectomy (removal of cancerous material while preserving breast) are life events that change a woman's appearance. Mutilation caused by these surgical procedures was found to contribute to disordered body image (dissatisfaction with appearance, perceived loss of femininity and attractiveness and half-woman syndrome), which is a chronic strain (Álvarez-Pardo et al., 2023).

Poor body image caused strains that influence physical and psychosocial distress such as sexual function and intimacy, as well as social isolation. While resources such as self-concept, emotional support, assurance, psychotherapy, and social support moderated body image induced chronic strains and influenced the woman's self-esteem and other quality of life outcomes (Morales-Sánchez et al., 2021). Further treatment side effects triggered other chronic strains like fatigue, pain, and insomnia. These strains accentuated critical life events like menopausal symptoms and threats to motherhood, inability to work, dependency on others, and other secondary conditions like lymphedema. Because of these accumulated strains, some women with breast cancer experienced distress and clinically significant conditions such as depression, and anxiety, resulting in a variety of negative effects on their quality of life (Schmidt et al., 2020). These effects influenced their physical, emotional, mental, and sexual function, as well as roles and social responsibilities, financial distress, and existential crisis.

The concept of stress proliferation was useful in explaining the tendency for stressors to beget stressors. For example, a BC diagnosis is a life event that is distressful and calls for aggressive treatment. Treatment interventions like surgery are eventful since they scar and lead to loss of breast and symmetry. Loss of breast and scarring lead to disordered body image and a perceived loss of femininity and attractiveness, which affected sexual function (Prabandari et al., 2022).

Further, treatment side effects are additive; for example, pain may trigger insomnia while lack of sleep may exacerbate fatigue. These physical symptoms may trigger emotional distress and depression. Thus, physical stressors may beget psychological stressors. Combined, physical and psychological symptoms strain social factors like intimacy, interpersonal relationships, and the ability to socialise and fulfil roles, leading to poor QOL outcomes. That is, there is likely to be a significant life event or a chronic strain at every stage along the disease continuum. As hypothesised by Pearlin et al. (1981), the current study confirmed that indeed the BC journey is one occasioned by life events and chronic strains.

2.8.2 Social Cognitive Theory of Health Promotion

Social Learning Theory, developed by Albert Bandura in the 1960s, evolved into Social Cognitive Theory (SCT) in 1986. This theory is applicable to health-related behaviours since it postulates a complex, dynamic, and reciprocal relationship between self-efficacy, goals in mind, outcome expectancies, perceived environmental barriers, and facilitators in influencing motivation, behaviour, and wellbeing (Bandura, 1998). This theory applied to examine BC diagnosis, treatment and management through the lens of social cognitive theory's proposed approach of health promotion and disease prevention. Social cognitive theory proposes a complex structure of causes in which human agency, self-efficacy, and reciprocal determinism may play a role in predicting psychosocial distress in a BC patient's and influences their quality of life.

Social cognitive theory looks at both social and personal factors that affect health. When applied to this study, the risk and protective factors for distress among breast cancer patients are inherent in both the patients and the social institutions that shape their lives. Hence, Bandura's concepts imply a holistic approach to breast cancer treatment and management. Focusing not only on the disease but also on a woman's psychosocial functioning, social milieu, as well as the healthcare model and policies.

Moreover, Bandura (1998) asserts that humans are defined by their capacity to organise, regulate, and enact behaviours that they believe will result in desirable outcomes. This study employed the concepts of intentionality and self-reflection. Intentionality is a proactive commitment to taking actions that will likely result in the desired outcome. This would entail actions such as seeking treatment and adhering to treatment guidelines, changing one's lifestyle, seeking information, and cognitive restructuring in breast cancer patients (Frishman, 2012). Self-reflection enables individuals to consider and evaluate their motivations, values, and life goals. Self-reflectiveness, in explaining the phenomenon under investigation, influenced a breast cancer patient's assessment of their circumstances. The appraisal's outcome informed coping skills and methods for coping with distress.

Similarly, self-efficacy is necessary but inadequate for behaviour change. Furthermore, knowledge and prior experience influence breast cancer patients' self-efficacy. Similar studies show a negative relationship between women's knowledge about breast cancer, its management, and treatment and psychosocial distress (Chirico et al., 2017). According to Bandura (1998), self-efficacy is the result of the interaction between beliefs, cognised objectives, outcome expectancies, and perceived circumstantial barriers and facilitators (social support) in the management of human motivation, action, and well-being/quality of life. In this study, self-efficacy refers to a breast cancer patient's confidence in completing a certain behaviour and overcoming obstacles to that behaviour. Diagnosis and prognosis of cancer necessitate behavioural changes in numerous areas of a woman's functioning. This calls for cognitive restructuring focusing on thoughts and feelings about identity, appearance, femininity, and attractiveness to thwarted developmental goals such as career advancement, inability to have children, and other drastic lifestyle changes. While barriers include the life-threatening nature of a breast cancer diagnosis and subsequent stressful life events such as

interference with role function, sexual function, abandonment by spouse, family problems, treatment decisions, and financial distress (Escalera et al., 2019).

Furthermore, SCT sees stress responses as determined by perceived incapacity to regulate challenges and onerous situational constraints (Bandura, 1998). Applied to this study, women who believed they were capable of adequately coping with anticipated stressors were less likely to be distressed by them. Thus, self-efficacy, or a lack of it, influenced the level of distress experienced by women with breast cancer. These women's confidence in their ability to overcome cancer diagnosis and treatment implications determined how long they persevered in the face of the BC adversity. Furthermore, Bandura hypothesises that self-efficacy may affect how well these women deal with problems like losing a breast, having trouble paying bills, or the cancer recurring again. Also considered was the influences of self-defeating and self-helping thoughts on distress and anxiety and depression comorbidity experienced by majority of women in the current study in the course of dealing with taxing personal and environmental demands (Escalera et al., 2019).

Importantly, this theory demonstrates that mitigating psychosocial distress and augmenting the quality of life of patients with breast cancer is not solely a matter of personal choice. Many predictors of psychological distress are determined not only by personal or environmental factors, but also by the health care model (Bandura, 1998). Despite the availability of NHIF, cancer treatment is extremely expensive in Kenya, rendering it unaffordable to the majority. There many treatment expenditures that are not covered, and Kenya's healthcare model does not consider psychosocial distress. In line with Bandura's notions, the findings confirmed that the social and economic structure of health services might be an impediment to improving prognostic outcomes and the quality of life of breast cancer patients.

2.8.3 Fundamental Cause Theory

The fundamental cause theory is accredited to Link and Phelan (1995). They contend that socioeconomic status and social networks are likely fundamental causes contributing to disease and quality of life. They contend that these determinants play both risk and protective roles because they represent access to critical resources and influence a wide range of disease outcomes (Link & Phelan, 1995). According to Link and Phelan, money, knowledge, power, prestige, and useful social networks all contribute to the predictability of health outcomes.

When it comes to breast cancer, woman with greater financial resources can afford to undergo frequent screenings, hence boosting their likelihood of receiving an early diagnosis. In addition, women with greater resources have access to timely specialised and auxiliary services that aid in the management of breast cancer, which increases their likelihood of having a better QOL (Chi, 2019). In addition, a BC patient with good human capital is likely to receive better social support that mitigates aspects of psychosocial distress enhancing their emotional and social domains of QOL. In Kenya, women with breast cancer confront a number of social-economic obstacles. These gaps not only result in unequal access to treatment, but also to information and other adjuvant services. These disparities influence psychosocial distress, prognostic outcomes, and QOL.

Therefore, the fundamental cause hypothesis was effective in explaining the socio-demographic factors in this study, including financial status, stage of diagnosis, body image, and social support, as well as their influence on the quality of life and overall wellbeing of breast cancer patients. According to Link and Phelan (1995), a deficiency of resources is a fundamental cause. In a variety of ways, resources are vital for enabling women with breast cancer to mitigate the disease's effects. The unequal distribution of wealth in Kenya is a major and fundamental cause of emotional and social distress. Equally, there is inequity in healthcare services in Kenya. While the majority of oncologists practice in Nairobi, public radiotherapy

services are limited to Kenyatta National Hospital (KNH), Moi Referral and Teaching Hospital (MRTH), and, more recently, Kenyatta University Teaching and Referral Hospital (KUTRRH) and Coast General Level Six Hospital, Nakuru Level Six Hospital and Garissa Hospital. This disparity in service distribution contributes to psychosocial distress by affecting treatment accessibility, timeliness, affordability and compliance (Twahir et al., 2021). Additionally, Link and Phelan (1995) demonstrate that fundamental causes affect a variety of disease risk factors and outcomes that change over time. Applied to this study, it accounted for psychosocial distress associated with living with breast cancer at each stage of the disease continuum and the associated outcomes. For instance, a stable financial situation enabled timely treatment, proper adherence to treatment regimens, and the ability to afford auxiliary services.

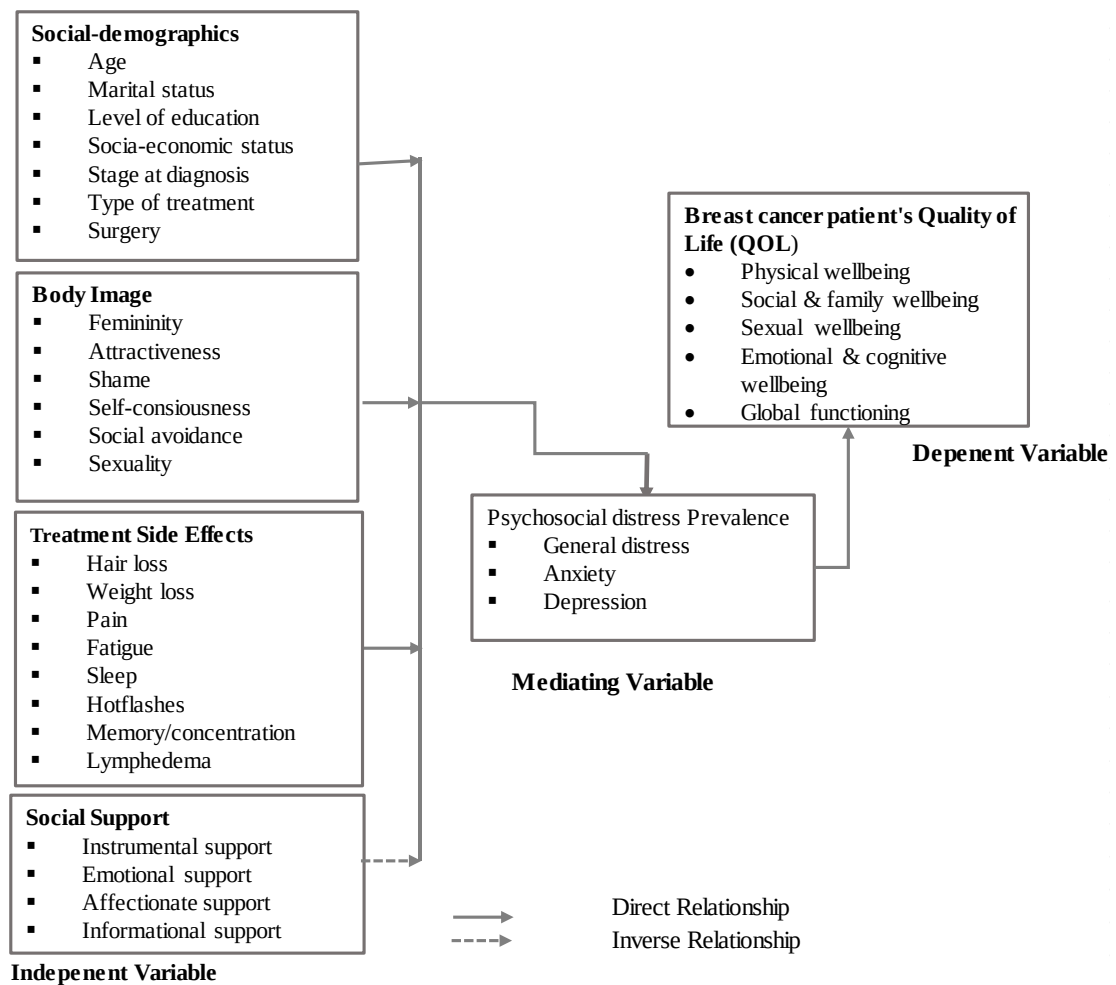
The study found that socioeconomic status and access to knowledge about disease, management, treatment, and health promotion are crucial factors in overcoming post-mastectomy challenges in breast cancer patients. Those with sufficient income were able to afford breast prostheses and clothing, reducing asymmetry and body image concerns. According to Chi (2019), there is link between social capital and superior physiological and psychological adaptability to breast cancer diagnosis and ensuing challenges. Furthermore, the theory was crucial in elucidating the biomedical model, which solely addresses proximal factors of breast cancer while neglecting distal factors, including financial distress and other psychosocial issues that affect the quality of life of breast cancer patients.

2.9 Conceptual Framework

A conceptual framework is a descriptive or illustrative map of the study's variables. The premise of this study is that treatment side effects (symptom burden), clinical and sociodemographic characteristics, body image, and social support predict psychosocial distress that impairs breast cancer patients QOL. The literature consistently connects the hypothesised predictors with distress and poorer outcomes in five distinct dimensions of quality of life (An et al., 2022; Bubis et al., 2018; Ebbestad et al., 2023; Jadidi & Ameri, 2022).

Figure 2 1:

Conceptual Framework



2.10 Knowledge Gap

Although there are several studies on the determinants of psychosocial distress and its implications on quality of life, review of literature indicates psychosocial distress has not been included in the vocabulary of cancer treatment and management in Kenya (Ndetei et al., 2018). The significance of predictors of psychosocial distress and their implications on quality of life have not been recognised and incorporated in BC treatment. Treatment-related symptoms that act synergistically to exacerbate psychosocial distress are not given adequate attention during the early stages of diagnosis and treatment. Nonetheless, it has been demonstrated that the psychosocial distress has a detrimental influence on quality of life (Ercolano, et al., 2019).

Additionally, distress screening, monitoring, and treatment at every stage of the cancer continuum is not a concern in Kenya, despite the fact that 25-65 percent of women diagnosed with cancer experience clinically significant distress, according to the research (Ndeti et al., 2018). Moreover, in Kenya, women's body image is rarely considered a factor that may affect breast cancer patients' quality of life. Nonetheless, evidence suggests that women's dissatisfaction with their bodies after surgery and cancer treatment, exacerbated by societal reactions, has significant consequences on their emotional, sexual, and social functioning (Sebri et al., 2022).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses, the study design, study area, and target population; inclusion and exclusion criteria; sampling procedures; recruitment and consent procedures; study variables; data collection instruments; pre-testing; recruitment and training of research assistants; data management; data analysis; and ethical concerns.

3.2 Study Area

The research took place in Nairobi County, at Kenyatta National Hospital (KNH) and the Health Care Global Cancer Centre Kenya (HCGCCK). Nairobi County was picked for its many cancer centres, oncologists, screening services, and treatment facilities. Many women with breast cancer from across the country come to Nairobi to consult specialists or obtain specialised treatment, making this target demographic representative of the general population.

3.3 Research Philosophy

According to Creswell and Plano Clark (2018), research philosophy is a researcher's approach to collecting, analysing, and using relevant data. This inquiry was pragmatic. A pragmatic approach promotes consequences and problem solving. Pragmatism does not distinguish between reality outside and reality inside the mind, according to Creswell and Plano Clark (2018). In Kenya, the biomedical model of treatment assumes the breast cancer patient's body and mind are separate. As a result, psychosocial distress is not viewed as a condition to be considered in breast cancer treatment or a factor influencing the quality of life of women living with BC (Ndeti et al., 2018).

3.4 Study Design

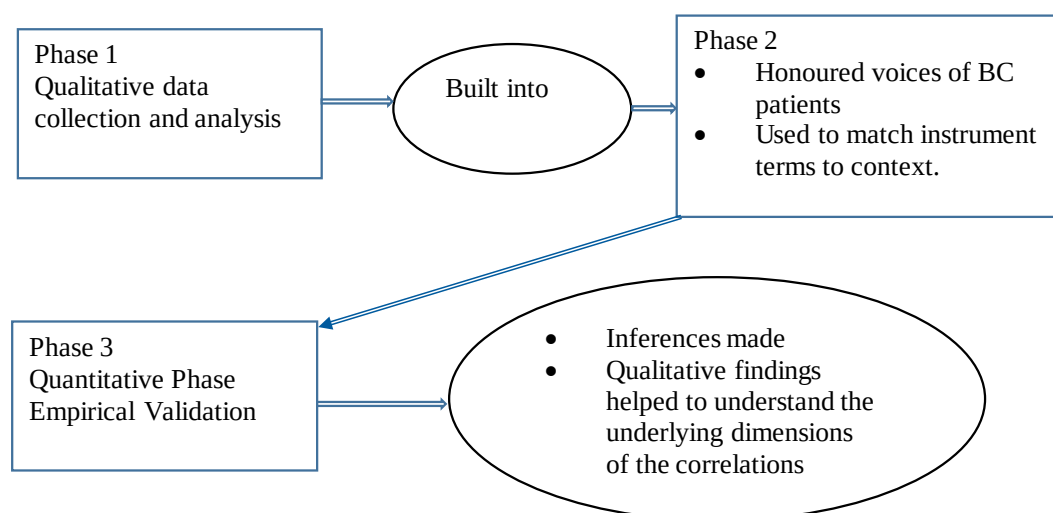
A study design is a conceptual framework that includes philosophical assumptions, research methodologies, and data gathering methods (Creswell & Plano Clark, 2018). To ensure that

the study's goals and philosophical foundation were accomplished, we used a mixed-method approach. There are three fundamental designs for mixed methods. The study employed an exploratory sequential cross-sectional design. The exploratory sequential design is a three-phase mixed-methods technique that allows for sequential data gathering, beginning with qualitative or quantitative data collecting based on goals (Creswell & Plano Clark, 2018).

In this case, the goal of a sequential exploratory study was to preserve the women's voices by documenting their real-life experiences with breast cancer. Second, the phenomenological approach contextualised quantitative methods. Finally, we used the qualitative findings to clarify the underlying dimensions of the quantitative results. The study lasted from January to July 2023. Quantitative approaches investigated psychosocial distress and sociodemographic. We used both qualitative and quantitative methods to fulfil our objectives regarding treatment side effects, body image, social support, and quality of life.

Figure 3 1:

Exploratory Sequential Mix-method Flow Chart



3.5 Target Population

The study was conducted in Nairobi County. The study originally targeted four Nairobi County hospitals, but only two volunteered to participate. Thus, 763 breast cancer patients aged 18 to 70 were assessed at Kenyatta National Hospital (KNH) and Health Care Global Cancer Centre Kenya (HCGCCK). The study sample comprised women across various socioeconomic and demographic backgrounds. They were also of diverse age groups, representing all stages of the disease continuum. This approach aimed to enhance comprehension of the clinical and demographic variations that influence prognosis, distress, and quality of life. We chose Nairobi County because it embodies Kenya, boasting two government-financed public hospitals that provide specialised breast cancer care, in addition to over 10 privately operated institutions. Hence, women from the other 46 counties travel to Nairobi to obtain radiotherapy and professional treatment. As a result, the sample is indicative of the intended population as a whole.

Table 3.1

Target population

Hospital	Ownership	Approx. No. of Patients per year	Percentage
Kenyatta National Hospital Cancer Centre	Public	600	79
HCGCCK Cancer Centre	Private	163	21
Total		763	100

3.5.1 Inclusion and Exclusion Criteria

(i) Inclusion Criteria

Women aged 18–70 with breast cancer, regardless of disease stage, were interviewed if they consented.

(ii) Exclusion Criteria

The study excluded male breast cancer patients, women under 18, those over 70, those too ill, and those reluctant to participate.

3.6 Sampling Procedures and Sample Size Determination

Sampling serves the purpose of acquiring a subset that accurately represents the entire population, allowing researchers to make valid conclusions without examining every individual in the population (Creswell & Plano Clark, 2018). The sampling procedure and determination of sample size are crucial factors that significantly impact the reliability and validity of research findings. Consequently, for this study, we employed a combination of probability and non-probability sampling methods. In addition, it was essential to determine the appropriate sample size for the quantitative phase to ensure that the study had enough power to detect statistically significant effects.

3.6.1 Sampling - Qualitative Data Phase

In the qualitative phase, the sample included 20 breast cancer patients for individual interviews, 12 other patients for two 6-person focus groups, four nurses, one lay navigator (social worker), and three physicians as show on Table 3.2:

Table 3.2

Sample - Qualitative Phase

Cancer Centre	Patients per month	No. of patients	Nurses	Lay Navigator	Oncologists
Kenyatta National Hospital	160	16	3	1	3
HCGCCK Cancer Centre	8	4	1	-	-
Faraja Cancer Support	40	12	-	-	-
Total	208	32	4	1	3

Opportunity sampling was employed, with the support of section head nurses, to choose KNH and HCGCCK breast cancer patients who met inclusion criteria. One on-call nurse from each cancer station (diagnosis and treatment planning, treatment, and follow-up) was chosen by opportunity sampling and scheduled appointments when it was convenient for them on interview day. Experts, including a resident oncologist, a radio-oncologist, and a palliative care specialist, were chosen based on their availability and consent.

Research focus groups were held at Faraja Cancer Support. Twelve women were chosen via purposive sampling for the two 6-member FGDs. To provide a thorough representation to pick from, the management was notified of the study and requested to include the FGD into the support group sessions for breast cancer patients.

3.6.2 Sample Size

The target population, tolerance for error, and purpose of generalising conclusions determined this study's quantitative sample size. Thus, 256 women were selected for the quantitative investigation. This is 34% of the target population, which (Mugenda & Mugenda, 2003) consider sufficient. Formula for 256-responder sample size:

$$ss = \frac{Z^2 * (p) * (1-p)}{c^2}$$

Where:

Z value (at 1.96 for 95 percent confidence level)

p = percentage of choices made in decimal (.5 used for sample size needed)

c = decimal confidence interval (e.g., .04 = ± 4)

Correction of finite population

$$\text{new ss} = \frac{ss}{1 + \frac{ss-1}{763}}$$

Sample=256

3.6.3 Sampling - Quantitative Data Phase

The study used quota sampling for the quantitative phase, involving patients. Two strata were assigned to study sites, serving as study population quotas. Participants were recruited proportionate to the number of female breast cancer patients visiting the facility annually. Consecutive sampling was applied until the minimum requirement was met.

Table 3.3***Sample – Quantitative Phase***

Cancer Center	Ownership	Approx. No. of Patients per year	Sample
Kenyatta National Hospital	Public	600	202
HCGCCK Cancer Centre	Private	163	54
Total		763	256

3.7 Data Collection Instruments

The study collected qualitative data using interview schedules with nurses and oncologists, and patients, and focus group discussions. With the participants' permission, interviews were audio recorded and verbatim transcribed for analysis.

3.7.1 In-depth Interview Schedules

The interview schedules included a set of questions that the interviewers asked each category of participants individually. The questions covered patients' quality of life post-breast cancer, distressing experiences, living through treatment and its side effects, body image issues, and the subjective perception of social support. Interview questions for nurses included their training background, psychosocial challenges they observed, quality of life along the disease continuum. We also asked about distress screening and mainstreaming of psychosocial interventions in treatment and any other phenomena they thought were relevant to the study. We asked the oncologists about their training, length of service, and prevalent psychosocial issues. We also enquired about common treatment side effects and informational support. Further, we also enquired about the prospect of their listening to non-disease concerns. We enquired about their thoughts on mastectomy, sexual function, and mainstreaming psychotherapy in treatment. These interview schedules allowed for a more in-depth assessment of respondents' viewpoints, understandings, perceptions, and experiences with the phenomenon.

3.7.2 Discussions in Focus Groups

To fill the gaps left by individual interviews, we had two six-member FGDs with women who had been preselected to participate in an open discussion. Through group talks, we were able to learn about the conscious, semiconscious, and unconscious psychological and social dynamics of breast cancer patients. Furthermore, in accordance with Hennink (2014), the researcher used group settings to allow the women to use the perspectives of others as cues to better elicit their own thoughts. Another advantage of employing FGDs was that they contributed to the development of collective narratives on topics that encompassed more than individual perspectives.

3.7.3 Questionnaire

We collected quantitative data with a digital interviewer-administered questionnaire. The questionnaire had the following tools:

Clinical and Socio-demographics Questionnaire, this questionnaire included seven questions: five socio-demographic and two clinical. We also used the Distress Thermometer and Problem Checklist. The NCCN DT is a single-item tool that assesses a patient's distress levels using a 39-item problem checklist. This study adopted ten concerns from emotional and practical functional areas, treatment side effects, and social support without affecting the scoring or interpretation of results, as the checklist's sole aim is to identify problems leading to the patient's distress. A score $4 \geq$ is considered clinically significant, indicating that the individual requires additional care or referral for psychosocial support. A score of $7 \geq$ indicates severe distress requiring immediate intervention. The DT and problem checklist have been utilised in a variety of countries and cultures and has consistently demonstrated strong psychometric qualities; test-retest correlation coefficient of 0.80 and high diagnostic validity using other follow up tools like the HADS (Donovan et al., 2014).

Additionally we use the Hospital Anxiety and Depression Scale (HADS). This tool was used to screen patients for clinically significant anxiety and depression. It tool includes fourteen questions, seven of which deal with anxiety and seven with depression. An "A" indicated a question about anxiety, while a "D" indicated a question about depression. Scores of 0-7 on each subscale are considered normal, 8-10 borderline, and 11 or more indicate clinical "caseness" (Boxley et al., 2016). The Hospital Anxiety and Depression Scale (HADs) is reliable in both overall ($\alpha = 0.89$) and subscale ($\alpha = 0.84$) scores even when translated into many languages .(Boxley et al., 2016). In this study, the pretest Cronbach alpha was 0.88.

Further, we incorporated Memorial Symptom Assessment Scale – Short Form [MSAS-SF]) to measure treatment side effects. The MSAS-SF is a patient-rated instrument in which patients rated the severity of symptom distress associated with 26 physical symptoms and the frequency of 4 psychologic symptoms over the previous week. Patients confirmed presence of symptom by indicating yes, they had experienced the symptom, then went on to respond to the statement that best explained how much it bothered them on a scale from 0 to 4, ranging from "not at all" to "very much" If the symptom is absent, a zero value is assigned. The level of severity was measured on a 5-point (0–4) Likert scale (not at all, 0.8; a little bit, 1.6; somewhat, 2.4; quite a bit, 3.2; very much, 4.0). The frequency of psychologic symptoms was rated by first establishing presence of symptoms in past week, followed by a scores on severity Rarely (1), occassionally (2), frequently (3), and almost constantly (4). Higher scores indicated greater severity. The Cronbach's alpha coefficients for the MSAS (SF) range from 0.7 to 0.841, and the test-retest reliability is 0.87. The internal consistency score for the composite score of symptom severity is between 0.8 and 0.87 (Mendoza et al., 2013). This study also found the tool to have good face, content, and construct validity, with an $\alpha = 0.88$ score.

We used the Sexual Adjustment and Body Image Scale (SABIS) to measure body image and sexual adjustment after breast cancer. SABIS is a 14-item questionnaire designed to examine

changes in sexuality and body image in female breast cancer patients who had undergone surgery, chemotherapy, hormone therapy, and/or radiation therapy. The questionnaire is divided into two scales, with six items pertaining to body image and eight pertaining to sexual adjustment. The Sexual Adjustment and Body Image Scale (SABIS) with 14 items on two measures to assess sexual adjustment and body image (BI) was developed by (Dalton et al (2009). The six-item body image scale has two subscales: prior and prospective. BI scale items are graded on a 1-to-5 Likert scale. Items 1, 2, and 3 assess the body image before breast cancer, while items 4, 5, and 6 assess body image after breast cancer. The scale was rated based on the sub-scale mean scores; it does not have a total score. Lower subscale mean scores were indicative of a negative body image.

The sexual adjustment scale comprises eight items and three subscales: previous sexual adjustment, effect on sexual functionality, and the significance of breasts in sexuality. The scale's subscales receive scores ranging from 1 to 5, and its effect on sexual function is evaluated using a Likert-type scale. The scale's total scores range from -2 to +2, with lower subscale mean scores indicating poor sexual adjustment (Dalton et al., 2009). The instrument has psychometric validity across cultures for assessing body image and sexuality in breast cancer patients (Dalton et al., 2009). In a study conducted in Turkey, Cronbach's alpha values of 0.91, 0.96, and 0.91 for the subscales of sexual adjustment and 0.98 and 0.97 for the subscales of body image were determined (Yılmaz & Gürlü, 2020). In this study a cronbach alpha of 0.78 was established.

We used the Modifiebd Medical Outcomes Social Support Survey (mMO-SSS) to assess social support. The tool evaluats four elements of social support: emotional support, affectionate support and informational support. On a 5-point likert scale ranging from [1] – none of the times to [5] – all of the time. The eMOS-SS evaluated the extent to which an individual's interpersonal relationships were viewed as serving specific purposes. The mMO-SSS was

scored by calculating the average for all the 8-items transformed to a zero-100 scale with higher scores indicating more support. Pierce et al. (2021) found strong convergent, divergent, and discriminant validity, good internal consistency, and a consistent factor structure in the mMOS-SS. The mMOS-SS has great reliability, with a Cronbach alpha value of >0.91 , including a pretest result of 0.94 in this investigation.

Finally we used the Functional Assessment of Cancer Therapy-Breast – FACT-B a 37-item questionnaire designed to examine five components of quality of life in patients with breast cancer. It is rated on a 4-point likert scale ranging from [0] – not at all to [4] – very much. The FACT-B total score has an internal consistency of 0.90, with subscale alpha coefficients ranging from 0.63 to 0.86. Test-retest reliability and convergent, divergent, and known group validity have been confirmed by studies in different cultures (Hahn et al., 2015). The pretest results had a Cronbach alpha of 0.81. FACIT-B Subscale scores are calculated by inverting negatively expressed questions (subtracting the response from 4) and then totaling the raw (0-4) values. The overall score is then determined by summing the scores of the subscales. The higher the score, the better the life quality.

3.8 Data Collection Procedures

Data collecting processes comprise the systematic acquisition of specific information in order to address research questions or test hypotheses. In a this mixed-method study we employed a QUAL-QUAN design, data collection procedures involved initially, collecting qualitative data and analysing it before collecting quantitative data. This QUAL-QUAN approach guided choice of contextual concerns to include in the problem checklist as well as understanding underlying dimensions of the quantitative findings. The researcher contacted the heads of the oncology departments at KNH and HCGCCK, as well as the director of psychosocial support at Faraja Cancer Support, to inform them about the study's objectives, procedures, and ethical issues, and to introduce the research assistants. During both phases of data collection, Section

nurses at the two sites helped the researcher and assistants secure a room for the informed consent and interview procedures. Faraja Cancer Support aided the researcher in arranging the two-six person FGD discussion groups used in the study. The study collected qualitative data using interview schedules with key informants, nurses, and oncologists, an in-depth interview schedule for one-on-one interviews with patients, and focus group discussions. With the participants' permission, interviews were audio recorded and verbatim transcribed for analysis. Quantitative data was acquired by an interviewer-administered digital questionnaire.

3.8.1 Data Management

The study collected qualitative data using a voice recorder and handwritten notes, with each patient's recording numbered. We stored audio recordings in password-protected files and collected quantitative data using a Google Form-converted digital questionnaire. The data was saved in password-protected Excel files. After completion, the files will be erased.

3.9 Pre-test

It is expedient to pre-test data collection instruments before they are finally used to collect data (Creswell & Plano Clark, 2018). The qualitative data collection instruments were pre-tested at KNH with three patients, one nurse, and one oncologist. We conducted quantitative instrument pre-testing with 30 Faraja Breast Cancer Support Group patients and survivors. The goal was to eliminate measurement errors and respondent stress, and a 10% pre-test sample size was sufficient, as per Perneger et al. (2015).

3.9.1 Reliability

Reliability relates to how well a study's data gathering and analysis provide consistent results (Perneger et al. (2015). We used Cronbach's alpha reliability test to evaluate the internal consistency of the data gathering tools. For consistency, we determined that a coefficient

between 0.7 and 1.0 was acceptable. The higher the Cronbach's alpha, the greater the consistency and reliability (Creswell & Plano Clark, 2018).

Table 3.4

Reliability Statistics

Variables	Cronbach's Alpha	Number of Items
Quality of Life Domains	0.807	35
Distress Prevalence and Severity	0.721	13
Clinical and Socio Demographics	0.931	7
Treatment Side Effects	0.875	19
Body Image	0.781	14
Social Support	0.935	9

Pretest reliability was over 0.70 Cronbach's alpha. Thus, we assumed the four objectives' data gathering instruments were internally consistent and reliable.

3.10 Data Analysis

The data analysis was conducted in two phases. The study used a six-step inductive thematic analysis process to analyse qualitative data from individual interviews and focus group discussions. The process began with data familiarisation, followed by coding, detecting overarching patterns, categorising them into subthemes, and grouping them into overarching themes. We identified statements that aligned with the study's objectives and emerging themes, and we triangulated themes from individual interviews and focus group discussions.

The study used SPSS version 23 for quantitative analysis, involving four steps: descriptive statistics, multinomial, and binary logistics analysis. In stage 1, descriptive data was presented in proportions and percentages, organised into tables and graphs. The second stage identified psychosocial distress predictors among breast cancer patients in Nairobi County. The third stage investigated how psychosocial distress influenced their quality of life. The fourth stage entailed establishing the moderating role of social support in the relationship between psychosocial distress and quality of life. To do this, two empirical models were used. First,

multinomial logistic regression was performed to identify predictors of psychosocial distress among breast cancer patients in Nairobi County. Multinomial logistic regression is used when the outcome variable has more than two unordered groups. This study classified psychosocial distress into three unordered categories: normal, clinical, and severely distressed. An individual chosen at random fell into only one of these three categories.

3.10.1 *Measuring Mediated Effect*

The multinomial logistic regression is mathematically expressed as,

.....Eqn 1

This equation was used to model the probability of an observation falling into each category (k) given the predictor variables $X_1, X_2, \dots, X_k$

The exponentials in the numerator and denominator ensure probabilities are between 0 and 1

The coefficients $\beta_0, \beta_1, \dots, \beta_K$, represent the impact of predictor variable on the log-odds of belonging to category (k). The category with the highest probability is the predicted outcome.

Second, a binary logistic regression model was used to determine the influence of psychosocial distress on the quality of life of breast cancer patients in Nairobi County. A binary logistic regression model is used when the outcome variable has two mutually exclusive outcomes. In this study, all domains measuring quality of life had two possible outcomes: "poor" or "good." In this investigation, the hypothesised empirical relationship can be illustrated as follows:

$$P(Y_i) = \frac{1}{1 + e^{-(b_0 + b_1 X_{i1} + b_2 X_{i2} + \dots + b_k X_{ik})}} \dots \dots \dots \text{Eqn 2}$$

Where:

1. $P(Y_i)$ is the projected odds that Y is true for case i

e is a mathematical constant approximated as 2.72

b_o is a constant estimate from the data

$b_1, b_2, \dots, b_k$ is a b-coefficient estimated from the predictor 1, 2, 3..... k .

$X_{1i}, X_{2i}, \dots, X_{ki}$ is the observed score on predictors $X_1, X_2, \dots, X_k$ for case i

Equation 2 was used to model both the direct effect and the moderated effect.

3.10.2 Measuring direct effect

To measure the direct effect in the model specified in equations 1 and 2, all the four independent variables were input into SPSS version 23 and regressed against the respective dependent variable;

The steps were as follows:

- i. Computing the variables using the compute function. The attitudinal items corresponding to each variable were condensed into the binary responses to yield the respective variables.
- ii. Inputting the data into multinomial logistic regression and binary logistic regression model.
- iii. Specifying the reference categories
- iv. Generating the output

The logistic regression that was applicable to this investigation produced odds ratios as its output.

3.10.3 Moderated effect

To determine the moderated effect of social support, the binary logistic regression model was run with all the independent variables plus the moderator. Quality of life was taken as

dependent variable while social support was taken as the moderator. The variations in the odds ratios were used to gauge which model was parsimonious. The steps were:

- i. Computing the variables using the compute function. The likert scaled items corresponding to each variable were condensed into the binary responses to yield the respective variables.
- ii. Inputting the data into binary logistic regression model.
- iii. Specifying the reference categories
- iv. Generating the output

Likewise, the logistic regression used at this level generated odds ratios as its output.

3.10.4 Mixing of Data

Creswell and Plano Clark (2018) suggest that blending qualitative and quantitative data can occur at any stage of data collection, analysis, or interpretation. This study maintains data separation while integrating it to clarify the underlying dimensions of the quantitative findings, demonstrating the researcher's ability to integrate qualitative and quantitative data on one end or combine them in the middle.

3.11 Ethical Considerations and Approval

We acquired an introduction letter from the Kenya Methodist University Postgraduate Directorate. The KNH-UoN ethical review committee approved the study based on the four guiding ethical principles of beneficence, nonmaleficence, justice, and autonomy. Other approvals came from the KNH Department of Research, Head of Oncology, and Records Department. Further clearance from NACOSTI, the HCGCCK administration, and Faraja Cancer Support's director of psychosocial services was obtained. Formal consent was obtained from the subjects following informed consent, which included their right to privacy, confidentiality, study methodology, ethical concerns, and the right to decline participation.

Numbers were utilised to safeguard the privacy of both individual respondents and FGD participants.

Additionally, they were guaranteed that the researcher and assistants would maintain the confidentiality of the data, and that the recordings would be disposed of once the transcription and analysis of themes had been completed. For privacy, questionnaires were blind. Patients with breast cancer are susceptible. Some were going through rigorous treatment. Thus, interviews were conducted with the participants prior to their treatment. Inquiring about patients' experiences evoked latent emotions or distressing recollections. In such circumstances, investigators paused the interview to administer psychological first aid and later directed women in need to proper resources.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.3 Introduction

The study sought to establish psychosocial distress predictors and their influence on the quality of life of women with breast cancer in Nairobi County. It used exploratory sequential mixed-methods, which comprised two phases. The first phase was phenomenological in nature, with the goal of honouring the voices of women diagnosed with breast cancer by documenting their lived experiences with the disease. An inductive thematic analysis covered emerging themes and study variables such as treatment side effects, body image, social support, breast cancer coping, post-cancer wellbeing, and quality of life.

The second phase of the inquiry includes descriptive statistics, which were an important first step in data analysis, offering the tools needed to comprehend, summarise, and convey our dataset's primary conclusions. We also employed inferential statistics to establish an empirical link between the variables. It was guided by five study objectives, which included:

- i. To determine the prevalence of psychosocial distress experienced by women diagnosed with breast cancer in Nairobi County.
- ii. To establish the influence of clinical and socio-demographic characteristics on the quality of life in women with breast cancer in Nairobi County.
- iii. To determine the influence of treatment-related side effects on the quality of life in women with breast cancer in Nairobi County
- iv. To establish the influence of body image on the quality of life in women with breast cancer in Nairobi County.
- v. To ascertain the influence of social support on the quality of life in women with breast cancer in Nairobi County.

Phase 1: Presentation and Discussion of Qualitative Data

4.2 Response Rate

We conducted individual interviews with 20 BC patients, 4 nurses, 1 lay navigator, and 3 oncologists, as well as two 6-person focus group discussions with breast cancer patients.

4.3 Clinical and Socio-demographic Findings

The clinical and demographic characteristics of the participants were important because they affected the women's economic, medical, prognostic, and social well-being in substantial ways.

The study covered characteristics such as age, level of education, employment, income, stage at diagnosis and mode of treatment as shown on Table 4.1:

Table 4.1***Clinical and Sociodemographic Characteristics of Participants***

Participants (individual interviews) n = 20				
2 FGDs of 6 participants each n =12				
Total n = 32		n	%	
Age	32-39	8	25	
	40-49	10	31	
	50-59	7	22	
	60-69	7	22	
Marital status	Single	6	19	
	Separated	4	13	
	Divorced	1	3	
	<u>Married</u>	<u>21</u>	<u>66</u>	
Education level	Informal	3	9	
	Primary	7	22	
	Secondary	14	44	
	College	8	25	
No. of children	0	4	13	
	1	7	22	
	2	9	28	
	3	6	19	
	4 or more	6	19	
Income	No income	13	41	
	<10,000	4	12	
	10,000-30,000	6	19	
	30,000-50,000	5	16	
	>50,0000	4	13	
Stage of diagnosis	1	1	3	
	2	8	25	
	3	13	41	
	4	10	31	
Sugery	Lumpectomy	5	16	
	Mastectomy	14	44	
	Yet to undergo	4	13	
	Breast reconstruction	2	6	
	Metastatic disease	7	22	
Treatment type	Chemotherapy	7	22	
	Both chemo & Radio	9	28	
	Chemo/radio/hormonal	12	38	
	chemo/radio/antigen	1	3	
	Treatment planning stage	3	9	
<u>Lyphedema</u>		9	28	

The youngest participant was 32 and the eldest was 69. Over half of the participants were below age 48. This supports Bidoli et al. (2019) findings showing that young women in low- and

middle-income nations had a greater breast cancer rate than those in high-income countries. Younger women, according to participant testimonies, had additional psychosocial difficulties, such as adjusting to their diagnosis and possible implications to their professions, body image, social and family life, and fertility. Younger women had higher physical functioning but more emotional turmoil, which harmed their emotional and social QOL. Older women, on the other hand, reported decreased physical functioning but better emotional and social QOL. These findings support Surbhi et al.'s (2022) observation that younger BC patients had lower QOL in all but the physical domain than older women.

Because of treatment-related absenteeism, thirteen participants experienced unemployment or business failure. Psychosocial distress results from dependence induced by the loss of income, occupations, and means of subsistence. This result aligns with previous findings by (Muzzatti et al. (2020), who established that young Italian women with breast cancer faced prejudice in the workplace, such as reduced job opportunities or termination. The levels of education ranged from informal education to college. Majority, 21 out of 32 had primary and secondary education. According to the clinicians who participated in this study, education level was associated with psychosocial distress: *Educated women have more information, and they seem to be more triggered and distressed than women with little or no education.* (C1-Doctor, Oncology Resident) This result contradicts the findings of Huang et al. (2017), who found that patients with a higher education level had a higher affective quality of life.

Most participants (21) were married with one to six children. Depending on age and family cohesiveness, the number of children may increase social support or cause distress due to incapacity to provide. Five women's spouses left after diagnosis. Rejection damaged women's femininity and self-esteem, causing emotional distress. This confirms Nmoh (2019), who found that Kenyan husbands rarely provided emotional support after a BC diagnosis, while unfavourable judgements of women's femininity and desirability caused substantial self- and

social stigma. Additionally, six interviewees were single. Married women had two NHIF insurance coverage, reducing treatment costs. Unfortunately, the unmarried only receive one card, making treatment more expensive and leading to financial distress and sometimes non-adherence. This supports Singh et al. (2017)'s finding that marriage reduces treatment-related financial stress.

Most (23) participants had stage 3 or 4 diagnoses. Later-diagnosed young women reported higher psychosocial distress, including fear of death, anxiety about their children, cancer pain, and impaired role-playing: *I have fear of dying and leaving my baby girl to suffer like I did.* (T2). Late diagnosis and fungating wounds often caused rejection, shame, stigmatisation, social withdrawal, and poor global quality of life. This conclusion is consistent with Fernández-De-Larrea et al. (2018) and Twahir et al. (2021), who found substantial psychosocial distress and mortality rates in late-diagnosed breast cancer patients.

Participants reported that denial, difficulties obtaining specialised care, and financial factors may contribute to late diagnosis:

I Felt a lump in 2021 but ignored it. In May 2022, I woke up feeling unwell then went to a local dispensary; I was told it is a lymph node. I Went to Naivasha level four in July, they said they need to do a biopsy, I feared to have it done there. I came to KNH, did the first scan, did a biopsy that showed nothing, did a mammogram, then another biopsy that did not bring clear results, then I was told to go for MRI. By this time, I had developed a wound. (D2)

Personal and systemic issues, such as treatment inaccessibility and lengthy diagnosis and treatment planning procedures, may cause late diagnosis. Bandura's socio-cognitive theory suggests that breast cancer patients' risk and protective variables for distress, treatment outcomes, and quality of life (QOL) are linked to both patients and the social institutions that shape their lives. This data echoes Prabandari et al.'s (2022) conclusion that Indonesian BC cancer patients had extensive referral processes before treatment. Transportation, consultation costs, housing, and pre-treatment tests, scans, and other procedures may dissuade patients from getting treatment, even though the NHIF covers some therapies. This study also supports Link

and Phelan's (1995) Fundamental Cause Theory in explaining financial constraints as a fundamental cause of treatment accessibility, affordability, timeliness, compliance, and prognostic outcomes.

BC treatment included chemotherapy, radiation, hormone therapy, and Herceptin-targeted therapy. Nine late-detected women did not have mastectomy, but 14 did. Doctors said stage four diagnosis required palliative care:

Metastatic illness in stage 4 may involve the bones, lungs, liver, or brain. Our goal is to limit progression and reduce metastatic disease symptoms to improve the patient's QOL. C1-clinical and radiation oncologist

Four women were undergoing chemotherapy to shrink their tumours before mastectomy. Five patients had lumpectomy or breast reconstruction. Women who had mastectomy felt self-conscious owing to asymmetry and felt incomplete, unlike those who had breast reconstruction and felt better about their looks: *God works in mysterious ways; the disease has given me the small breasts I always desired; I am more satisfied with my appearance now than I was before; I feel more attractive these days*. Self-consciousness causes isolation, sexual insecurity, emotional upheaval, and poor emotional and social quality of life. This supports Aamir et al. (2022)'s conclusion that breast cancer therapy severely affects women's' psyche and self-confidence, leading to self-consciousness and inability to accept their altered appearance.

4.4 Emergent Themes

The thematic analysis revealed five themes. Four themes associated with the study's variables were quality of life, psychological distress, treatment-related side effects, body image, and social support. One primary theme, unmet needs, and two subthemes, post-treatment traumatic stress symptoms and breast meaning, emerged from the participants' testimonies.

Table 4 2***Emergent Themes***

Emergent Themes	
Theme 1: Changes in BC Patient's Wellbeing and QOL	
Sub-theme	Journey Interwoven with Losses and Unexpected Gains
Sub-theme	Quality of Life after Breast Cancer
Sub-theme	Most challenging change in wellbeing
Theme 2: Living with Breast Cancer	
Sub-theme	Psychosocial distress
Sub-theme	Treatment Side Effects
Theme 3: Body Image and Sexuality	
Sub-theme	Altered Appearance
Sub-theme	Meaning of the Breast
Sub-theme	Poor Self-concept and low Self-esteem
Sub-theme	Sexuality after Breast Cancer
Theme 4: Social Support	
Sub-theme	Emotional and Instrumental Support
Sub-theme	Informational Support
Sub-theme	Rejection and Abandonment
Sub-theme	Societal reactions to BC
Theme 5: Unmet Needs and Message	
Sub-theme	Financial Resources and Treatment Delays
Sub-theme	Health Insurance coverage and benefit gaps
Sub-theme	Counselling interventions
Sub-theme	Message to policy makers and Hospitals

Table 4.3 shows the codes used to identify the participants based on where they fell on the breast cancer continuum:

Table 4.3***Participant Codes***

Code	Participant
D	Patient at diagnosis and treatment planning stage
T	Patient undergoing treatment
F	Patient on follow-up (survivor)
H	Patient undergoing treatment at HCGCCK
FG	Focus group discussion participant
LN	Lay navigator
N	Nurse
C1	Oncology radio oncologist
C2	Dr-oncology resident
C3	Palliative care Dr

4.5 Changes on Breast Cancer Patient's Mental Health and QOL

Three subthemes emerged from participants' BC-related mental health and quality of life narratives:

4.5.1 Sub-theme 1 – A Journey Interwoven with Numerous Losses and Unexpected Gains

The participant's experiences were riddled with loss. Women lost their careers, businesses, breasts, symmetry, attractiveness, relationships, libido, completeness, fertility, roles, independence, and way of life. Here is what some participants said about their gains and losses:

There are many bad changes in my life, but there are also good changes. In fact, I think the good changes outweigh the bad. BC diagnosis has affected my marriage, it has depleted family resources, it has robbed me the ability to play my roles (not able to wash cloths, do farm work – I now have to depend on people and it needs resources to do so). I lost my breast in all honesty. However, I have acquired a forgiving heart, the depth of my spirituality and relationship with my God has really improved (I had a superficial relationship with God, now it has depth. I am thriving spiritually). I have become more sensitive and compassionate to people's suffering; I do not take things for granted (life, health, relationships). I have developed emotional resiliency – I am a much stronger person emotionally than when I was first diagnosed or have ever been. Overall, I have become a better human being. (FG3 – patient undergoing treatment).

Another participant said:

My life has changed; I now live with pain in my chest and my swollen hand (lymphedema). I do not function as I used to because of the hand; I have become needy, I now need people to do many things for me, including giving me money. I no longer participate in social activities like chamas (women's groups) like I used to because of a lack of money and stigma. My feelings of femininity have been affected by my inability to kujirembesha (apply make-up) and dress in a way that made me feel good about myself (asymmetry, one breast is smaller after treatment). On average, my quality of life and wellbeing have changed; in some aspects, it is worse, but in some aspects, it is better. For example, I have learned selflessness, which has improved my relationship with other people; I have become immersed in praying and helping other people, which removes focus from myself. (FG11 - survivor)

Some participants recounted loss after loss with no foreseeable gain in site:

I feel unimportant, I feel bad; I feel useless, I feel I am a burden to my husband and children. If my husband did not love me, if I was in another homestead, most likely I would have been abandoned by now. (T10 – patient undergoing second line of treatment)

Further, this participant's narrative exemplifies the direness of some of the breast cancer patient's circumstances:

My life has been affected in terms of ability to work and sustain myself. I have been abandoned, rejected and isolated. I am struggling with pain, a wound that is not healing and fear of the disease getting worse. Many times, I do not have food to eat and if I am ill and my one friend is not near, then I have nobody to help me. (FG5 – participant with metastatic disease)

Although all participants suffered physical, emotional, social, and material losses, there were also unexpected gains. Some participants' encounters with spouses, family members, colleagues, fellow patients, and healthcare professionals caused them to reassess their life goals and take on new roles. These findings support Moschopoulou et al (2021) concept of QOL as positive and negative cancer experiences. Even though some participants lost a lot, they judged that the gains outweighed the losses. Finding meaning in helping other cancer patients, becoming more sensitive to others' pain, learning forgiveness, becoming emotionally resilient, and growing closer to God were their biggest gains. This finding echoes Fearon et al. (2020) who found that Arab women with breast cancer lost a lot yet gained new responsibilities that gave their life meaning.

For some, life after BC was a series of losses. Severe psychosocial distress and poor emotional, social, role, and global QOL were impaired in these individuals. Our findings affirm Aamir et al.'s (2022) claim that breast cancer patients need emotional and psychological care throughout the disease trajectory. Inability to work and provide for themselves, dependence, and rejection were overwhelming for some participants. These women felt worthless and a burden. Their physical, cognitive, emotional, and social QOL domains had all suffered.

The current study aligns with previous research by Carlson et al. (2019), which found that a breast cancer diagnosis, treatment, and environment significantly influence a patient's psychosocial distress and quality of life. These findings suggest that distress screening, management, and other unmet needs require active mitigation and a holistic approach to care that address both psychosocial and medical issues. Current study also supports Bandura's self-reflection idea, which presupposes the ability of some BC patients to evaluate their experiences,

values, and life goals, leading to better understanding and coping with distress and realising a better quality of life.

4.5.2 Sub-theme 2 – Quality of Life after Breast Cancer

The narratives revealed that participants' lives and wellbeing had significantly changed due to breast cancer and its treatment, with them relying on others for survival, care, and material support:

I am unable to work because my right hand has lost its functionality. My financial situation is extremely distressing as I have no source of income and must rely on well-wishers. I am unable to fulfil my roles; I cannot cook or wash clothes unless I use my legs, I cannot hang the clothes, and it is challenging to clean myself. (D1-participant with metastatic disease)

Another participant said:

My quality of life has been affected in terms of my ability to work and sustain myself. I feel like I have lost purpose and usefulness. I am struggling with treatment side effects like insomnia and fatigue. I have lost my sexual feelings, and this affects how I feel as a woman. I am not able to socialise as well as before my diagnosis because many social activities require money and I am rather self-conscious. However, I have become more appreciative of life and a kinder human being. (FG4 – participant at the treatment stage).

This participant's narrative indicates anger, existential crisis, inability to do basic things, affected relationships:

I lost my well-paying business; I have become a beggar. I used to be the one helping and caring for people, but all those people have abandoned me. I am not able to play my role, not even something as basic as lifting my child. I feel angry with people close to me who discouraged me from seeking treatment; I am angry with myself that I listened to them, and now the cancer has spread. I am disappointed with God, the church, and church-going people. I worry and fear that I will die and leave my children. My husband and all my family members on both sides have abandoned me. My relationship with God is distorted; I am angry and disappointed with God on the one hand, but at times things happen and I am unable to discount God. (T2 – participant undergoing palliative treatment).

Women are instinctively caregivers. Many of the participants were distressed by their inability to care and provide for their families, as they perceived this as a personal failure:

I used to cook for my husband, do all my house chores, take care of the animals, but now I am not able to do these things, I do not have children to justify my presence in that homestead, so of what use am I? (T10 – patient on 2nd line of treatment)

Another participant added:

I feel so inadequate and ashamed. Imagine a mother who is not able to provide for her children. The other day, while I was here for treatment, my son called to say he had no money for food. I had no money to send him; it was so painful. (Crying), (T4-participant with metastatic disease)

The health care professionals echoed these sentiments, highlighting the loss of meaning and purpose in life, feelings of worthlessness, and low self-esteem, as women struggled to transition from the role of care provider to care recipient:

Women are natural carers; the disease and treatment hinder their ability to fulfil their responsibilities as mothers, wives, workers, and in other social contexts. As a result, many women feel their worth has diminished, and they struggle to adapt to their new roles as care recipients. (N2 – Palliative care nurse)

This participant's narrative showcase emotional and mental suffering during the diagnosis and treatment planning phases:

I fear and I worry, I Pity myself - why me? How come other plus size women get conditions like diabetes and BP? (D4 – participant in the diagnosis and treatment planning stage).

Among young mothers with metastatic disease, feelings of anxiety, fear, and worry persisted throughout all phases of treatment:

I live with fear, I am really fearful, I worry and I am anxious about the future of my children, nasikia vibaya, nahofu kwa sababu watoto wangu ni wadogo (I feel bad, I live with fear because my children are still so young) - (D3 - participant in the diagnosis and treatment planning stage).

Another young mother at treatment stage expressed her life of worry and fear since diagnosis:

I worry and I fear the future. To die and leave my children to go through what I went through after my mother passed away is something, I fear. (T2-participant on palliative treatment).

Many participants said pain impaired their quality of life. This is how participants described their pain:

For me, it is like life has become a constant pain, I am not sure of the source of pain, whether it is the wound, the chest or the back (FG5-participant with advanced disease and fungating wound).

Another participant at the treatment stage said:

For me lymphedema is distressing because of the pain and stiffness that feels suffocating. Also, inability to work and do the things I use to do like carrying things or washing clothes. (FG -11 - survivor).

Another participant shared:

My quality of life has been affected because I now live with persistent pain and discomfort. (T5-participant with metastatic disease-second line of treatment)

The clinician's narratives validated the patient's sentiments on pain and gave a clinical perspective to the different sources of pain among BC patients:

Late-stage diagnosis is painful because the disease has spread to other organs, large tumours affect the lymph nodes, and the cancer might have spread to the bones, liver, and lungs. If the cancer has advanced to the bones, the patient will experience back pain and lower leg pain; if the disease has moved to the liver, the patient will experience abdomen pain. (C1-clinical and radiation oncologist)

Breast cancer treatment adversely influenced QOL, according to participants:

I am unable to sleep well because of pain, I have no energy, and I am unable to do things I used to do like wash cloths, wash myself properly, tend to house chores or go to the farm. (T5-participant on second line of treatment).

Another participant shared:

I am struggling with treatment side effects like insomnia and fatigue. I have lost my sexual feelings and this affects how I feel as a woman. (FG 4 – participant undergoing treatment).

Doctors agreed with participants but linked physical symptoms to psychosocial distress, saying:

Some have pain, others have had surgery and complications of surgery, and yet others have treatment side effects so severe that they are unable to perform their jobs at work or at home, contributing to their distress. Having more symptoms that are physical is a reliable indicator of psychosocial distress. (C3-palliative care Dr.)

Breast cancer and its invasive treatments and surgeries cause fungating wounds, hair and eyelash loss, skin discoloration, and irreversible losses including breast, symmetry, and fertility, which profoundly affect body image:

I am dissatisfied with my lack of balance, but the loss of hair disturbed me; while it has grown back, it is not the same. I used to have long, beautiful hair; now I feel less attractive, but I have to accept myself because it is what it is. (T8-survivor).

This is the testimony of a participant with a fungating wound:

I am self-conscious; I self-isolate because of mobility challenges and the leaky, smelly wound. Even coming to the hospital is stressful and challenging. Often, when I get into a matatu, the other passengers step out. I feel ashamed and stigmatised. Sometime I feel so hopeless and thoughts of ending it all cloud my mind. (D1- participant with a late diagnosis).

Clinicians validated patient's feelings about femininity and sexuality, emphasizing the need for integrating sexuality issues into treatment, and highlighting the disparities faced by younger and elderly women:

Mastectomy and other physical changes have an effect on body image. Many women experience half-woman syndrome, loss of sensuality, and a lack of affirmation from their spouses, which leads to greater self-consciousness, low self-esteem, and isolating behaviour. The torment of repeatedly explaining their body changes is particularly difficult for the young women. In fact, emotional suffering might be worse than physical pain. (C2- Physician/Oncology Resident)

Cancer diagnosis and treatment significantly impair a woman's physical, cognitive, emotional, social, and spiritual well-being, according to health care specialists:

If a patient is not eating or sleeping due to the disease or distress, her QOL is affected. On the other hand, pain affects a BC patient's QOL because she is not able to play her roles. Body image disturbance, labelling, and stigma lead to isolation or social withdrawal. Human beings are social beings, and talking is therapy, so when a person does not have the warmth of people around them, their quality of life is negatively affected. Such a patient is likely to become depressed. (N4 – Palliative Nurse).

Some women's spirituality improved, but others said a breast cancer diagnosis had shaken their faith and affected their view of God:

My spirituality has been affected – I feel like God has abandoned me, I feel let down, I question God's faithfulness if he could abandon me in spite of the way I served him selflessly and trusted in him, I ask myself, why is he not having mercy on me? (T10- participant on second line of treatment).

According to this participant, she felt like God was punishing her:

I too felt like God was punishing me; remember I did not have a child after more than 15 years of marriage, now a cancer diagnosis, it felt like a double punishment. (FG7 - survivor)

This participant's story loops between disappointment, God reaffirmation, and disillusionment:

I always prayed telling God to never give I a girl, least I die early like my mother and my daughter suffers like I suffered, that thought is really traumatizing. I just feel aii! God, you gave me a girl, a last-born and she really needs me, if I die, the way I suffered, is still the same way my girl will suffer. When I look at my daughter, I feel really bad. I feel like God let me down. I am also disappointed with the church; my husband abandoned us but the church did not rebuke him. Some of my husband's church friends contributed to our separation. My husband is a strong believer; I see him as a role model in church. That God who is in his heart, I expect him to tell him he was doing wrong. When I went to speak with the pastor, the way he responded told me that this is something that had been discussed and a decision made. (T2- young mother with metastatic disease)

When asked to share about her source of fortitude, this is what participant (T2) said;

There is something I have come to realize I have been very biased, what I can say, from when I was young, I have been trusting God, because I have seen Him in many things, I have been in a position to go through school even though my father refused to educate me. All my life, I have seen things going through, but not through the people I know, but I have seen things going well, I have seen things working, but not through relatives or people I know, I have seen strangers come through for me, even having money and helping other people, you see, you see things working. It is only because of God. There is a time I said, if there is a spiritual thing making things to happen the way they happen, whether it is God or Satan or nature the way it is, let them happen, let them take me where it will take me.

QOL relates to how women with breast cancer perceive and respond to their diagnosis, treatment, and other elements of their lives. Participants in this study frequently reported psychosocial distress and adverse consequences across all QOL domains. The disparities in QOL domains affected and the level of impairment were strongly influenced by age, socioeconomic status, personal history, and circumstances.

This study found that breast cancer patients experience financial hardship, dependency, and loss of autonomy. Loss of ability to work and fulfil roles causes financial and care-dependence. This is consistent with Fernández-De-Larrea et al.'s (2018) conclusion that breast cancer and its treatment have varying effects on women's quality of life. Dependence, loss of identity, anxiety, fears, and impairments in physical and social functions are examples. Inability to fulfil responsibilities negatively affected role-function domain of quality of life for most participants. Similar results were observed among women diagnosed with breast cancer in Pakistan, according to Kanwal et al. (2022), who discovered that their increased reliance on others and incapability to perform daily tasks frequently precipitated existential crises.

The study found that psychosocial distress throughout the diagnosis and treatment-planning phases had considerable consequences for breast cancer patients' well-being and quality of life. Financial stress, fear of the unknown, heightened worry, and difficulties adjusting to the diagnosis were among the symptoms. Patients receiving chemotherapy and radiation therapy experienced fatigue, nausea, loss of appetite, sleep disturbance, hot flashes, loss of libido, vaginal dryness, depression, anxiety, memory loss, concentration, and appearance

dissatisfaction, according to the study. Rarely encountered in isolation, these symptoms had an adverse influence on every domain of QOL. Consequently, multiple treatment-related side effects had a significant aggregate influence on breast cancer patients' psychosocial distress and compromised physical, emotional, social and sexual aspects of QOL. The current investigation confirms the conclusions drawn by Mandelblatt et al. (2020) and Bubis et al. (2018) that treatment side effect symptoms often appear in tandem and amplify one another.

Importantly, the current study found that certain participants, particularly young mothers experienced anxiety, fear, and worry throughout the disease trajectory. This supports Aitken and Hossan (2022), who found that psychosocial distress is ongoing for many BC patients, particularly during diagnosis, treatment, and survivorship. Together, these findings support distress monitoring and psychotherapy interventions across the disease continuum. Additionally, participants in this study experienced pain frequently. Nonetheless, pain severity varied by illness stage and other symptoms caused by the disease or treatment. Advanced illness patients experienced chronic pain. Sleep difficulties, fatigue, and depression often accompanied pain reports. These finding echoes Cleeland's (2007) assertion that disease and symptom load contribute to psychosocial distress, and Costa et al. (2017) claim that cancer pain affects 60–90% of advanced BC patients, compromising their physical, emotional, social, and global QOL.

Breast cancer diagnosis and treatment cause several bodily changes. How breast cancer patients view their altered bodies influences their quality of life. This study found that altered appearance affected women's sense of femininity, sexuality, and attractiveness. Many women felt inadequate and less feminine, which led to self-consciousness, social anxiety, and solitude, all of which harmed their social and global QOL. These results align with those of Kocan and Gursoy (2016), who observed that women who underwent mastectomy experienced a sense of deprivation of womanhood and identity, as well as an inability to fulfil their societal

responsibilities and sexual roles. Consequently, these women felt inadequate and devoid of purpose.

In contrast, this study found that reactions of significant others and society lessened or increased psychosocial distress after an appearance change. Emotional support from husbands boosted women's self-esteem, confidence, and well-being. This discovery supports Bandura's social cognitive theory of health promotion, whose reciprocal determinism concept explains how significant others' reactions to altered appearance might reduce or aggravate psychosocial distress. Additionally, this study revealed an unprecedented discovery about women with fungating wounds who experienced humiliation, shame, and rejection, which negatively affected their self-esteem and emotional and social quality of life. Contextual differences, such as delayed diagnosis, disparities in the management of fungating wounds, and the socioeconomic constraints faced by the majority of breast cancer patients in Kenya who depend on public transport, may account for the lack of prior publication concerning this discovery in the scientific literature.

Disenfranchised from family and social duties, most participants felt a loss of meaning and purpose, which worsened psychosocial distress. These women's reactions demonstrate their quest to find meaning in their breast cancer diagnosis, treatment, and new existence. This discovery supports the findings of Jewett et al. (2022), which demonstrated that breast cancer affects an individual's existential well-being and exposes their inevitable mortality, often shattering their fundamental convictions regarding their purpose in life. Consistent with the research by Jewett et al. (2022), the present findings underscore the importance of psychosocial-spiritual therapies in assisting women with BC find purpose and meaning, as well as to manage the existential crisis.

4.5.3 Sub-theme 3 - Most Difficult Challenge

Breast cancer caused significant obstacles for each of the women interviewed. The women recounted their most difficult experiences. Financial worries were the biggest obstacle for women. Here are some participant sentiments:

Money is the second name for cancer. I have stress due to lack of money. I am unable to run my charcoal business; I depend on people's generosity; I have lost independence and the ability to plan for myself; I have to rely on others for paying rent, NHIF, buying food, transport, consultation, tests, and treatment. As a result, my debts are piling; I do not know how to repay; how can I not be stressed? (T7-participant on second line chemo).

Another participant had this to say about money:

I used to run a small grocery store before I fell sick, but since then, my small business has collapsed, and now I have to depend on well-wisher's support for meals, transportation, and treatment. I was lucky I got funding for radiotherapy from Faraja, but after that, I have not been able to go for follow-up due to lack of money; the wound is getting worse; I am childless; my family abandoned me; I have no money to pay NHIF – nimekwama hivyo (I really am stuck). (Crying). (FG5)

Another participant attributed many cancer-related deaths to lack of money:

For example, lack of finances affects every aspect of a cancer patient – tests, timely treatment, affording food and transport, paying consultation fee, yet these difficulties are not considered, I believe many cancer patients die sooner due to lack of money. (D4-participant at the diagnosis and treatment planning stage)

The second-hardest part of existence after BC was inability to execute roles and dependence.

Some participants said:

Not only have I lost the ability to generate income, but also the ability to play my other roles, including taking care of myself, as a result of the loss of function in my right hand; now I must rely on my husband and children for everything; this is really difficult. (Crying). (T5-participant undergoing chemo)

Another participant said:

Imagine my young boy has had to grow up to take care of a family before his time. I feel like I have robbed him his years of youth. (HF1- participant receiving palliative treatment)

Another participant said:

I used to cook for my husband, do all my house chores, take care of the animals, but now I am not able to do these things. I do not have children to justify my presence in that homestead, so of what use am I? I used to do things and please my husband, now I am not able to do those things, he now has to take care of me, like now when I get home, I will find he has cooked for me. (T10 – participant on second line of chemo - cried all the time).

Lifestyle changes were the third hardest challenge for women. This participant described her life change:

I used to operate a small restaurant that provided for daily needs, while my husband's salary covered expenses such as school fees and development. When I was diagnosed with cancer, however, I lost my business due to my treatment-related absence, and my husband lost his employment because he took time off to bring me to the hospital. My children's lifestyle has changed drastically because of both of us being without income. The other day, my son who is in the university called and said he did not have money for food; I was at the doctor's office, and I had no money to send him. (Crying). (T3-patient with metastatic disease).

For, this participant, she went from having a well-paying job to being without an income:

Imagine going from having a well-paying job to being unemployed for a year and relying on friends and family, not only for treatment but also to provide for my children and my basic needs. This change of lifestyle has affected me a lot. (F2 – survivor)

The participant's (F2) narrative reveals that the public hospital treatment process was not only arduous but also traumatising:

BC and its treatment are rigorous in every way. During the diagnosis stage, you are referred from one hospital to another to conduct various tests, and even if you are fortunate enough to run all tests at the KNH, there is still a lot of moving around. Once treatment begins, the process of performing tests before coming to clinics, queuing for hours at a time, seeing doctors, and then going through various approval processes at NHIF. Even in the follow-up stage, there are numerous tests to conduct before coming in for review, as well as equal stops to the NHIF office to check the insurance is operational.

Health care providers validated this experience by describing the hospital's layout and how patients move between service points:

You know KNH is massive, and one has to crisscross the hospital a lot. For a woman who is accompanied, the caregiver will be able to run errands for the patient like going to NHIF, picking test results, coming back to the doctor, going to the pharmacy while the patient is resting. A woman who is unaccompanied will have to run all this errands, they get tired and frustrated, they become angry, they complain to us saying we are getting so stressed, you make us run around running tests, or looking for one thing or the other. May be this patient had not even taken breakfast; they really have no energy to move around. (N4 – Palliative Care Nurse)

Pain topped the list of the most difficult things to live with for a sizable percentage of women, particularly older patients and those with metastatic disease:

My life is difficult, I worry about many things, but pain is the hardest thing I am dealing with right now. I have this wound that is not healing; it is leaky and smelly; and I have a lot of pain in many parts of my body. (D3-participant at diagnosis stage with metastatic disease)

Another patient said:

For me lymphedema is distressing because of the pain and stiffness that feels suffocating and inability to work and play roles like carrying things or washing clothes. In addition, it comes with stigma because people see like I am sick. For example, my children have a hard time accepting that I am well, I feel smothered by their continuing concern and being treated like an invalid. (FG11- survivor)

Yet another patient said:

Pain makes sleeping difficult; I feel exhausted, depressed, and cannot seem to focus on anything. (D3-participant with metastatic disease)

Participants described their breast cancer journey as a constant battle against the disease, financial difficulties, functional limitations, dependency, lifestyle changes, and stigma. Money was the biggest source of distress for most. Cancer is expensive and chronic, thus the study established high financial distress. The study found that cancer patients in Nairobi faced financial distress due to the high cost of treatment, insurance gaps that result in numerous out-of-pocket expenditures, and inability to make monthly NHIF contributions. Loss of income and employment further exacerbated the financial distress. Patients travelling outside Nairobi County faced additional costs for accommodation and travel, further straining their finances and treatment adherence. Additionally, cancer patients must consume a healthy diet, which can be expensive. These factors contributed to psychosocial distress, poor prognostic outcomes, and poor emotional and global quality of life. This discovery aligns with the conclusions drawn by Chi (2019) and Zafar and Abernethy (2013), which suggest that financial distress can induce detrimental consequences comparable to those of chemotherapy and other cancer treatments. Furthermore, they discovered that elevated levels of financial distress negatively influence the emotional and global domains of quality of life.

Loss of income, inability to fulfil tasks, and secondary conditions such as lymphedema and dependence, which caused grief and damaged all areas of QOL, were the second-most upsetting difficulties for the majority. Women with metastatic cancer recognised pain as an unpleasant phenomenon that significantly affected their physical, emotional, and general quality of life.

This finding supports Kanwal et al.'s (2022) claim that breast cancer patients suffered an identity, purpose, and meaning crisis that impaired their mental health and overall QOL.

All participants found the extensive, repetitive, and complex breast cancer treatment process to be tiring and upsetting. Many individuals reported feeling anxious when going to doctor's appointments. This conclusion is supported by Prabandari et al. (2022), who discovered that the BC treatment procedure in Indonesia was time-consuming, complicated, and distressing.

4.6 Living with breast cancer

4.6.1 Sub-theme 1 - Distress along the Disease Continuum

Distress is the emotional anguish caused by challenges and strains that surpass an individual's capacity for coping, such as receiving a cancer diagnosis. Participants recounted their diagnosis reactions:

I Felt a lump in 2021 but ignored it. In May 2022, I woke up feeling unwell then went to a local dispensary; I was told it is a lymph node. I Went to Naivasha level four in July, they said they need to do a biopsy, I feared to have it done there. I came to KNH, did the first scan, did a biopsy that showed nothing, did a mammogram, then another biopsy that did not bring clear results, then I was told to go for MRI. By this time, I had developed a wound. I got tired and I was giving up (crying). Then I was referred to Agha Khan Hospital for another biopsy. That is when I was told I had breast cancer stage 4. I have finished the NHIF and other monies but there is no way forward on treatment yet. (D1 – participant at the treatment-planning phase).

Although still in diagnosis and treatment planning, this participant was financially distressed because she had exhausted her NHIF and was worried about treatment affordability.

The healthcare providers validated the patients' sentiments by stating:

Financial distress is a constant for many; distress affects wellbeing, while lack of resources affects diet, timely treatment, consistency, and compliance. (C2-Dr. Oncology Resident Student)

This participant could not handle the diagnosis:

When the doctor pronounced breast cancer my brain was unable to process the news, I fainted. (F1- participant at the follow-up stage).

Another participant had this to share:

I felt a lump in my breast, I went to hospital, did many tests then I was diagnosed with breast cancer Stage 2 and the doctor referred me to a surgeon. I was in shock; I panicked because at that point, I did not know anything about cancer except that I was going to

die, because the other name for a cancer diagnosis is death. (FD4 – participant on follow-up)

Majority of the women were shocked to find they had breast cancer. Cancer meant death to them. They felt that death was inevitable, which caused them perpetual fear and anxiety.

This participant's, fear and distress related to rejection:

I feared rejection, so my thoughts were that I should not disclose to anybody, I felt nobody would understand me, honestly, I felt that I would be rejected, those were my feelings and for real, I did not share. Honestly, my fear extended beyond the diagnosis to include the fear of rejection, stigma, and placing an undue burden on my children. (FD2-participant at follow-up stage)

This clinician's account confirmed the patient's fear of rejection:

My experience with patients' fears of rejection is real because it is informed by the quality of the relationship before diagnosis. (Dr. C3-palliative care specialist).

Relationships, not the illness, worried some participants. Evidence that the quality of relationships before a cancer diagnosis affected the women's emotional responses when diagnosed, setting the tone for their cancer journey.

The young mothers interviewed had a fear of dying and leaving their children. This participant shared her story in tears:

I have fear of dying and leaving my baby girl to suffer like I did. When I think of that, it makes me feel so bad; I always prayed, telling God to never give me a girl child, lest I die early like my mother did and my daughter suffer like I suffered, and that thought is really traumatising. I just feel, Aii, God, you gave me a girl, a last born, and she really needs me; if I die, the way I suffered is still the same way my girl will suffer. When I look at my daughter, I feel really bad. (T2- participant with metastatic disease)

This participant's experiences capture the unique stressors experienced by young mothers as opposed to older women with mature children.

Among women on follow-up (survivorship), fear of recurrence was also prevalent:

Although I have completed treatment, I live in constant worry and fear of a recurrence; any pain spot or change in my body triggers fear. (T8-survivor).

Women who have experienced a recurrence face genuine concern and fear of metastasis:

Mental health is real; imagine that even in remission, one struggles with recurrence fears and the stigma of people counting days for you. (F1-participant at the follow-up stage).

The study shows distress is experienced at every stage of BC, emphasising the necessity to screen all BC patients for distress.

Moreover, worry was a common expression among the participants: Here are some of the experiences of the participants:

Nilikuwa na wasiwasi, sikulala, kwa sababu mungu alijua niko na stress, aliniongelesha mwenyewe ankaniambia, (I was worried and stressed out, but because God knew I was stressed, he spoke to me) fear thee not for I am with you, do not be dismayed, for I am your God. After two weeks of wrestling with fear and worry, I accepted diagnosis, my stress levels resolved completely. Fear and worry were replaced by hope and I have been taking one day at a time, trusting God. (F2-participant at the follow-up stage)

Another participant gave this testimony:

I am always worrying about one thing or the other. Now I am stressed out by money issues. Debts are just piling and I have no source of income. I do not know how I will cater for the next dose of Herceptin now that my NHIF card has reached its limit. (T7-patient undergoing treatment)

This participant's sentiments show that worry was a constant amongst majority of BC patients.

Some participants expressed self-pity, rage, and disillusionment with God:

When I was first diagnosed, I pitied myself a lot, but meeting other cancer patients helped. However, when the tumor metastasized, to the right breast, I questioned God, I wallowed in self-pity until I was admitted in hospital for two weeks after the second mastectomy, time in hospital exposed me to other people's suffering, and I repented self-pity. (F1-participant in the follow-up the follow-up stage)

Disillusionment with God contributed to spiritual crisis and heightened emotional distress.

Several women expressed denial:

Ati wanasema ni stage four, nikama sijaamini (they are saying I have a stage four diagnosis; I am yet to believe.). (D2-participant at the diagnosis and treatment stage).

For this participant her denial went on for over four years:

I felt a lump in 2008 but denied it until the swelling burst in December 2012; I went to the hospital and was given a stage 3 diagnosis at that time. (T10-second line of treatment)

One of the factors cited for the late diagnosis was denial. Late diagnosis contributes to poor prognostic outcomes. Even though denial is an adaptive response to a threat, but women who experienced it seemed more distressed and had a harder time adjusting to the diagnosis.

Some women saw breast cancer as a two-fold punishment from God, adding to their suffering:

I felt like God was punishing me; remember I did not have a child after more than 10 years of marriage; now, with a cancer diagnosis, it felt like a triple punishment. The doctor told me it would be six months before I could go back to work, and that really sucked. FD5 reflected, I wondered; I had already endured rejection from my husband's family because of my childlessness; imagine lying in bed for six months having to depend on my spouse; I saw triple punishment; I felt that God was finished with me. (FG5-follow-up stage)

Depressive symptoms were observed in some participants:

Just when I have started to pick, seeing that God is taking me far, I look at my grandchildren, and I am hoping to enjoy them, now I get a stage 4 breast cancer diagnosis. This makes me sad, and I self-isolate because I have no energy to engage with people. (D4 – participant at treatment-planning stage)

Another participant said:

I keep asking why me? Even though I am on follow-up, I am still struggling to accept my diagnosis. Often, I feel sad and hopeless I struggle with suicidal thoughts. (F2-participant at the follow-up stage)

Some participant's mental and emotional pain was evident:

I feel like I have no purpose; I am unable to do the things I used to do or care for my husband; I feel sad and hopeless, and sometimes I want to end it all. Before accepting the disease, suicidal thoughts are possible. (T10 – cried through the interview)

Throughout the entire interview, ten of the participants were visibly depressed and wept. Three of them had persistent suicidal thoughts. Interviewed health care professionals affirmed that some patients struggle with depression, hopelessness, and despair.

We observe hopelessness and depressive symptoms. The treatment process and affordability issues make some patients give up. Others diseases and treatment side effects rob them of the ability to play roles, and they suffer identity crises and worthlessness. Others begin well, but along the way, support wanes. Without financial and emotional support, they lose hope and despair. (N3-oncology nurse)

A number of patients indicated symptoms of post-traumatic stress (PTS), such as intrusive memories pertaining to their negative treatment experiences and emotional distress:

When I enter the hospital gate, I have flashbacks of my chemo treatment experiences. (F5-participant at the follow up stage)

Another patient felt overwhelmed by the mere back-and-forth of seeking treatment:

The process of treatment is draining—coming to clinics, staying for many hours, seeing the doctors, going to NHIF, and going through many approval procedures so that you receive an invoice for the next day's chemo; if you do not have the invoice, you cannot receive the medication. Coming to the hospital the following day, undergoing chemotherapy by myself, and returning home was a monthly procedure that required mastery and that I repeated every 21 days. These are the thoughts I experience upon entering that gate. I lack the mental fortitude to endure similar circumstances if the disease recurs. (F4-survivor)

This study found that distress ranges from occasional self-pity, worry, fear, anger, denial, helplessness, or sadness to severe depression, anxiety, and suicidal ideation that impair all domains of quality of life. This supports previous research by Aitken and Hossan (2022), Carlson et al. (2019), and Kagee et al. (2018), which linked depression, including a lack of motivation to face daily challenges and a persistent sense of hopelessness, to breast cancer diagnosis.

This study found that distress exists at all stages of breast cancer, from diagnosis to survivorship. Symptoms ranged from self-pity, denial, worry, and fear to clinical conditions like depression, anxiety, and suicide ideation. The findings of Aitken and Hossan (2022), Carlson et al. (2019), and Kagee et al. (2018) align with this current research, which indicates that individuals diagnosed with breast cancer undergo a range of emotional states, such as despair, hopelessness, anger, and a fatalistic mind-set. Distress had a considerable adverse influence on the women's quality of life. The study, however, contradicts the findings of Iddrisu et al. (2020), who discovered that young women with breast cancer experienced more severe depression compared to older women. Both demographics in our study had depressive symptoms, but younger women had higher anxiety, denial, and cognitive distortions, as evidenced by the minimization of diagnostic implications.

Nineteen of twenty in-depth interviewees and ten of twelve focus group participants acknowledged financial difficulties. Cancer diagnosis cost most participants their jobs or businesses. The study by Twahir et al. (2021) that found that financial constraints increased

distress and treatment delays lends support to this conclusion. Although many of the participants obtained NHIF funding, the majority still worried about their capacity to pay for treatment due to the high out-of-pocket costs.

The presence of PTSD symptoms was an unexpected discovery. Symptoms included intrusive memories of smells and sensations, detachment, and flashbacks to traumatic hospital experiences. PTSD symptoms increase distress, sleep disturbance, and exhaustion, which can impair a patient's ability to work, participate in social activities, and execute everyday duties, resulting in a decrease in overall quality of life. This research supports the findings of Ndeti et al. (2018), who discovered that PTSD is the most frequent mental disorder among cancer patients at KNH.

4.6.2 Sub-theme 2 - Treatment side effects and symptom burden

Symptom loads and side effects experienced by women undergoing BC treatment varied, according to the study. All participants experienced pain, possibly due to disease or treatment side effects.

A participant, who suffered from acute lymphedema, described excruciating pain in her hand and chest; she was visibly in pain throughout the interview. She narrated:

My hand is swollen, and I am in so much pain; in the present, my attention is on pain relief. Due to the pain and swelling, I am unable to do many tasks for myself and must rely on others. (T1-participant on chemo treatment).

A participant with late diagnosis narrated:

I am feeling quite ill; I have lost weight; I have severe chest pains and weakness; and I have bouts of bloody coughing and nosebleeds. I am hoping that I would be given medication to first alleviate the pain because I am unable to sleep. (D3-you mother at the diagnosis and treatment stage)

The above patient's account serves as a vivid example of the emotional and physical suffering experienced by women with metastatic breast cancer due to a significant load of symptoms.

Likewise, twelve participants reported peripheral neuropathy:

I experienced many treatment side effects, but the worst are muscle pull, numbness and fatigue (F3-participant on follow-up).

A participant at the survival phase, narrated about enduring muscle pain on a nightly basis:

I cannot sleep through the night because the pain and discomfort from the muscle pull wakes me up and forces me to get out of bed to stretch. I am exhausted during the day; I could do dishes all day. (F5-participant at follow-up stage)

Neuropathy is long-lasting, affecting patients for many years after treatment and thereby reducing quality of life even in survivorship.

Clusters of treatment-related side effects constitute a symptom burden. Here is what some of the participants said about symptom burden:

Pain makes sleeping difficult; I feel exhausted, depressed, and cannot seem to focus on anything. (D3-participant at treatment-planning stage)

Some women reported that hot flushes impede their ability to stay asleep.

I had mild hot flashes before treatment, but after treatment, they worsened. I used to be able to sleep through the night without interruption, but now I wake up with a choking feeling, sweat profusely, and have a hard time falling back to sleep. I am also irritable. (FGD 2-participant on hormonal therapy).

Cumulatively, nausea, vomiting, and loss of appetite impaired some participant's ability to tolerate the next dose of treatment:

I have had to postpone treatment several times because the doctor said I was too anaemic and weak to withstand the next chemo dose. (T5-participant on chemotherapy).

Notably, hair loss was a prevalent side effect of treatment among the women interviewed:

I used to adore my hair; I do not know why, but that was the first question I asked my doctor, and he assured me that my hair would fall out. But I adore hair; my hair was long and beautiful; imagine breast loss did not bother me since I disclosed to everyone; I had no fear that they would discuss my loss of symmetry, but hair loss is difficult to endure. (FG6 participant at the survivorship phase)

For this participant it was not the hair loss itself, but the stigma that accompanied it:

My hair fell after the first session of chemotherapy; thereafter, I had to wear a headscarf or a Marvin (a woolen cap) even in the house to conceal my baldhead from my children. However, one morning my headscarf fell off and my youngest child saw my baldhead and yelled to the others, come and see, mum is starting to look like my grandmother. (FG5-participant undergoing chemo).

Other women chose to preempt hair loss by shaving their heads prior to chemotherapy; however, self-consciousness persisted:

I am still self-conscious about my balding head, even though I shaved it clean in anticipation of hair loss due to chemotherapy. Now I must deal with donning hats; I cannot wear wigs because I dislike them. (FG2- participant who just started chemo)

Even at the stage of treatment planning, patients are concerned about hair loss, as demonstrated by a participant who was yet to start chemotherapy: *I am anxious about hair loss; I have a small head; how will I look if I lose my hair?* (FG1- participant at the treatment planning stage).

Similarly, the women's lived experiences revealed variable degrees of skin colour change after chemotherapy. For some women, their skin colour completely changed, triggering myriad negative emotions:

I was once a beautiful light-skinned woman, but looking at me now, you would never guess that I was ever light-skinned. (T10)

Another participant said:

My skin tone changed so much that when my mother arrived to visit me after chemo, she found me in the kitchen cooking. My kitchen is open to the living room, so she could see me from there. As I turned to embrace her, she exclaimed, Ah! It is you; I thought it was my son-in-law in the kitchen today. (FG 15-participant undergoing radiotherapy)

Changes in skin colour, nail, and tongue colour caused disturbances in feelings of attractiveness, body image, and the women's emotional quality of life.

Surgical procedures can remove the entire breast (mastectomy) or a component of the breast (partial mastectomy). In either case, breast cancer surgery is mutilating because it results in disfigurement and loss of breast and symmetry. The emotional struggles women face because of mastectomy unfold in (T10's) story:

Kukosa balance inaumiza sana, mtu anakosa balance kabisa, ile kitu ya kuvaa kama matiti ni muhimu. (Lack of symmetry is very oppressive; one lacks balance; breast prosthesis is critical) For me, lack of body balance is a constant reminder of my loss, and it makes me feel very sad.

The study revealed that women receiving multimodal treatment for breast cancer, including surgery, radiotherapy, chemotherapy, endocrine therapy, and targeted therapy, experienced varying degrees of physical and psychological side effects. Pain was a common experience, with most women reporting some form of pain because of the disease or treatment side effects.

Neuropathic pain, caused by chemotherapy or advanced tumor progression, is a common complaint among participants. Symptoms include stabbing pain, paralysis, muscle weakness, burning sensations, and hypersensitivity to skin temperature or pressure. Chronic pain can lead to emotional distress and functional impairment, limiting a woman's ability to perform roles and impairing all quality of life domains. Current finding backs up the findings of Kamgar et al. (2021), who discovered that neuropathy was common in breast cancer patients at any stage of the disease. Furthermore, in agreement with Bubis et al. (2018), this study found that lone treatment-related symptoms are infrequent. The current study observed a tendency for symptoms to aggregate and interweave with one another. Consequently, women experiencing pain reported fatigue and difficulty sleeping. The additive effects collectively had a negative influence on psychosocial distress and every aspect of the participants' quality of life. The clusters of symptoms reported by the participants in this study are also corroborated with Mandelblatt et al. (2020), who discovered a cluster of symptoms in their investigation, including neuropathy, depression, anxiety, fatigue, cognitive impairments, pain, and sleep disorders.

Moreover, hair loss and skin discoloration caused insecurity among participants, leading to increased self-consciousness and a negative influence on their emotional and social quality of life. This is consistent with a Ghanaian study by Iddrisu et al. (2020), which linked changes in skin color and hair loss to disturbances in women's attractiveness, body image, and quality of life. The current study also found that mastectomy, which led to loss of breast, disfigurement, and asymmetry, negatively affected participants' emotional, social as well as sexual quality of life.

4.7 Body Image and Sexuality

In breast cancer, body image is explained through three constructs: affective sentiments (feeling feminine, attractive and desirable), behavioural changes (avoiding people due to one's

appearance or smelly wound), and cognitive changes (satisfaction or dissatisfaction with appearance or with a scar). These three components affect the emotional, social and sexual domains of quality of life (Morales-Sánchez et al., 2021). Thematic analysis unveiled four sub-themes: altered appearance, self-esteem, meaning of the breast and sexuality.

4.7.1 Sub-theme 1 - Altered Appearance

This study found that due to the physical changes that happened because of disease or treatment, many of the women interviewed had body image concerns. Twenty-six of the thirty-two women interviewed were dissatisfied and self-conscious about their appearance. Self-consciousness is a precursor to self-isolation, as evidenced by the participants' accounts:

I am self-conscious; I self-isolate as a result of mobility challenges and the leaky, smelly wound. Even coming to the hospital is stressful and challenging. Often, when I get into a matatu, the other passengers step out. I feel ashamed and stigmatised. (D1 – participant with fungating wound, at the diagnosis and treatment stage).

Another participant shared:

I am too self-conscious about how I look; going before people has become difficult. (T8)

Healthcare professionals echoed this sentiment:

Other than mastectomy, some patients with advanced breast disease have wounds, fungating wounds that stink; these patients endure a great deal of shame, isolation, and rejection; they must use public transportation when travelling to the hospital for treatment; when they enter a matatu, everyone leaves because of the smell. By the time they arrive, it is approximately 11 o'clock. Where have you been? They begin to sob. (N1- palliative nurse).

On her appearance, this participant said:

My appearance has changed; I lack symmetry because of breast loss; I do not look good; I must choose my dress carefully, but I still do not look good. (tone of voice changed). (T5 – participant on treatment)

For some women, the physical changes were still unreal:

I am self-conscious; I am unable to relax around people, and sometimes I question if this is my body. (T8-34 years – participant on treatment).

For this participant, her altered appearance is the hardest thing she is dealing with. Even though she still feels beautiful, she is struggling with feeling feminine:

I still feel beautiful, but I am self-conscious as a result of mastectomy and asymmetry; I cannot mingle with people without covering myself; I cover myself a lot; I feel like every time I meet people, they look at my chest. I also feel like they are left talking about me; I struggle with a lack of balance, and the loss of my breast is testing my femininity. (T9-participant on treatment)

For this participant, seeing the asymmetry of another patient heightened her self-consciousness:

When I went for chemotherapy this time, I observed a mama who was not wearing a prosthesis; she lacked symmetry; she leaned to one side. Since then, I have been overly self-conscious. Even in my own home, I cannot be without my prosthesis; the fear of appearing stooped has compelled me to wear it around my spouse and all other adults. Even though I dislike bras and find them extremely uncomfortable, the thought of depicting the asymmetry I observed with the woman at the clinic compels me to endure the discomfort. (FG7 – participant on follow-up stage).

Although hair loss is not a permanent loss, some women's dissatisfaction with their appearance stems from hair loss rather than loss of breast:

Hair loss really, really troubled me! (The tone of her voice is loaded.) I could not walk out the door without a head covering; if I forgot and got to the door without it, I rushed back to the house to get it. The hair has grown a little bit, but I still lack confidence. (FG8).

The health care professionals echoed these sentiments:

Mastectomy, skin discolouration and hair loss disturb their satisfaction with their appearance, which manifests through covering their affected parts, i.e. wearing trousers to hide their legs or long-sleeved garments to cover their hands, wigs, headscarf and caps to cover their heads or scarfs to hide their chests. The patients volunteer information on how treatment side effects are affecting their body image, given a chance; they share a lot on what is distressing them. (N1- palliative Nurse).

When asked collectively about their contentment with their appearance in relation to hair loss, breast loss, and skin discoloration, the majority of women sighed and stated:

There is no reversal with breast loss; it will never grow back! (Tone of voices sad). Moreover, when a woman has lost her breasts, every person she meets appears to be staring at her. (FGD1- survivor).

According to the findings, mastectomy and other physical alterations led to diminished self-esteem, self-worth, and feelings of loss. Body changes and cancer experiences caused considerable psychosocial distress among women. Post-traumatic stress disorder, anxiety, and depression were typical symptoms. Enhanced self-consciousness was a factor in social isolation and had a detrimental effect on sexual relationships. This finding validates Brandão et al. (2017) assertion that women with a better sense of their body image cope better with

breast cancer while poor body image perceptions negatively influenced self-esteem, sexuality and overall quality of life.

4.7.3 Sub-theme 2: Low Self-esteem

For a number of women, altered appearance had affected their self-esteem negatively:

Loss of breast and hair and other changes in my appearance have really affected me. I feel so bad, and I ask God, why did you allow me to lose my breast? If I had my breast, I would not need to be looking for the prosthesis, which seems to be misplaced every time I want to step out and I have to spend time looking for it. If I do not find it, I have to look for some cloth and use it as a substitute, yet the piece of cloth does not fit well and I become even more self-conscious, least it moves and creates a visible imbalance. During treatment, I once looked at myself in the mirror and I looked so ugly; I looked older than my grandmother. I hated myself so now I never look at myself in the mirror when I am undergoing treatment, but now that my skin has improved and some hair has grown, I look at myself in the mirror as I comb my hair. (T10 – participant on second line chemo).

A participant (FJ1) described her experience with diminished self-esteem: *I do not like myself.*

My appearance has changed due to change in skin colour, hair loss, and weight loss. Even worse, the wound makes me self-conscious and humiliated in social settings. (F9 – participant with metastatic disease)

Health care professionals echoed this sentiment:

Ulcerating (fungating) wounds are a threat to body image, the women's self-esteem and relationships; from home, you hear stories of rejection and abandonment by spouses; my husband moved away, or he has married another woman, he has no breasts to touch or I smell all the time. (N3 - oncology nurse).

Self-consciousness and the insensitivity of others exacerbate the shame and low self-esteem of a number of participants who also experience stigmatisation:

Mimi kukosa balance ni kero sana, (I struggle with asymmetry); I do not look good, and I am troubled and discouraged by queries such as, where did the flesh on the left side of your chest go? Or why are you stooping on one side? (F3).

Another participant gave this account on her experience with insensitive comments from people:

I did not have surgery; as I continue treatment and the tumour continues to shrink, the affected breast has shrunk relative to the healthy breast. Some individuals inquire, your breasts are not the same size; were you born with one and the other is just now developing? Most of the time, I endure the pain of people's insensitivity in silence, but these questions can provoke anger. (FG9)

Some women were accepting of their changed appearance:

My appearance has changed greatly; I lack symmetry, and my hair has just begun to grow back, but I am unconcerned. I do not mind not having breasts; I have children; from the bottom of my heart, I chose life over beauty. My appearance has changed completely, but I am not bothered, I have shifted my focus to God and getting well; however, I wouldn't mind to have prostheses so clothes can be given shape; I am not self-conscious, I still participate in social activities and do things with other women. (F1)

Some women's body image and self-esteem improved. According to a participant who had undergone breast reconstruction surgery, surgery came with benefits:

From my perspective, surgery has been beneficial. Before surgery, I did not like my breasts; I had even considered undergoing cosmetic surgery to reduce the size; but you know what, God works in mysterious ways; the disease has given me the small breasts I always desired; I am more satisfied with my appearance now than I was before; I feel more attractive these days; I am slaying. (F3-follow-up stage)

Some women were at peace with their altered appearance. *I do not have one breast now, but that has not changed how I feel about myself. I feel confident, attractive and desirable.* (F4).

Healthcare professionals interviewed validated these sentiments:

For these women, usually they have a disturbed body image and low self-esteem. These women are labelled; they are given names by the community: Fulani ule alikatwa matiti (Fulani, whose one breast was cut). The women isolate themselves; they stop going to meet other people because of the labelling and stigmatisation. They feel focused on it; they even stop going to church. (N4 - Palliative care nurse).

The study discovered that women who had undergone mastectomy had negative feelings about their appearance, using words like "stooped," "unbalanced," "one does not look good," and "shameful." Furthermore, the most prevalent description of their look by mastectomy women was that they felt incomplete and half since they did not have a breast or breasts. As a result, breast loss and other physical appearance changes were distressing and had an adverse influence on some women's self-esteem and worth, affecting their emotional, social, and overall quality of life.

This study's findings are consistent with a number of earlier studies that found poor body image, low self-esteem, and low self-worth among women with breast cancer to be common. According to Aitken and Hossan (2022) and Morales-Sánchez et al. (2021), distorted body

image and low self-esteem reduce emotional, sexual, and social elements of quality of life. Furthermore, in support of Iddrisu et al.'s (2020) findings, several women in the current study felt unable to accept hair loss, even though it was temporary. Consistent with Guedes et al. (2018), this study discovered that emotional and affectionate support improved body image, self-esteem, and sexual disturbance. This finding contrasts the findings of Álvarez-Pardo et al. (2023), who found that older women had higher body image satisfaction. According to the current study, dissatisfaction with altered appearance and low self-esteem was common across all age groups.

4.7.3 Sub-theme 3: Meaning of the breast

For many of the women interviewed, the breast represented femininity, beauty, attractiveness, desirability and motherhood an organ that completed them as women. The participants' statements demonstrated that the breast is not only an organ but also a symbol with numerous meanings and with many stakeholders:

Loss of breast has affected my confidence as a woman and my feelings of being a complete woman who is desirable, you know breasts are the organs that please men, I do not know why, so I really feel terrible that I lost my breast. (T10).

The sentimental value that various stakeholders place on the breast was apparent when several women discussed the effects that breast loss had on their children:

My five-year-old daughter often checks my scar and asks mama, nyonyo itamea tena? (Mama, will the breast grow again?) (FG10-survivor).

Another participant shared that her young son keeps asking:

Mum, nyonyo yako itamea lini? - Mum, when will your breast grow back? (FG11-follow-up stage)

Another participant shared of her 13-year-old son's reactions.

My 13-year-old son, was so distressed and kept asking me sasa mami utakaa hivyo, sasa unaenda mbele ya watu hivyo – mum now you will just stay like that, or when stepping out, he would ask, now you are going before people like that? (FG12-survivor).

Some participants' spouses left them because, in their view, the breast characterises a woman and they could not accept living with a woman without a breast:

The father told me he has no use for a woman without a breast and abandoned us. (FG12-survivor)

Some women attributed usual spouse disagreements to their transformed physique:

When I get a challenge in the house and my husband takes off, I feel it is because of my loss of breast and symmetry that my husband does not find me as shapely as other women, which bothers me a lot. (FG 8 – survivor)

Many women shared that their husbands had never looked at the scar, which they construed as rejection, and it affected their self-esteem:

My husband has never looked at that part of my body. Initially, I felt rejected and my self-esteem went down. But after getting a prosthesis, I regained my confidence and self-esteem, I am now so confident, in fact, I have no problem showing my scars to people. (FG 3 – patient on follow-up stage).

Healthcare professionals confirmed that the breast is both a functional and symbolic organ, stating that some BC patients exhibit symptoms of half-woman syndrome:

Many of them feel like half women; however, when they join support groups and talk to one another, they are able to give each other encouragement. If a woman is discouraged, when they meet others who have accepted their losses, they come to accept their losses and lives, and they are able to move on. (N4 - palliative nurse)

A social worker had this to say:

I get the impression that woman who have undergone mastectomy feel like they are less of women because they have a feminine organ missing. The half-woman syndrome comes up repeatedly during the support group talks. However, from my observation and opinion, even though the prosthesis is a good first step, it is not enough. Wholesome support should include moral support, prosthesis and psychological interventions to mitigate the feelings. (LN - Lay Navigator)

The clinician's observations revealed that age plays a role in the significance of the breast:

For instance, a young woman in a 20s or 30s is usually more apprehensive about what diagnosis means, treatment decisions like mastectomy or breast conserving surgery. BC diagnosis is loaded with concerns in relation to not only body image but also other issues like fertility, dating and choices of partner and other developmental milestones linked to this stage. (C1-Clinical Radio-oncologist).

The psychosocial consequences of breast loss were significant for many women, influencing their feminine identity, self-esteem, confidence, and social interactions. These experiences negatively affected all domains of quality of life (QOL). This finding aligns with previous research by Álvarez-Pardo et al. (2023), who highlighted the significance of the breast as an organ and symbol with multiple stakeholders. Furthermore, our findings back up Nmoh's

(2019) assertion that some breast cancer patients lost their husbands because they believed they lacked femininity, whilst some men were unable to accept the deformity and refused to look at the scar. However, this study made a novel discovery regarding the grief that children feel after losing their mother's breast and the subsequent desire to get it back.

4.7.4 Sub-theme 4: Sexuality after Breast Cancer

Breast cancer treatment causes breast loss and other distressing. Some women may suffer enduring feelings of loss, self-doubt, and body image issues, which can affect their confidence as sexual partners. Furthermore, negative reactions from spouses and emotional and social variables such as stigma, worry, fear, and grief can impair a woman's capacity to engage in intimate relationships.

Here are some of the participant sentiments on their sexuality after breast cancer:

I lost desire due to pain and stress; my relationship with my husband went bad because he used to think I was pretending to be unwell as a disguise for rejecting him. (D2).

Another participant shared:

My husband withdrew; he lost all interest in me as a woman even though I was desirous. This disease has affected intimacy with my husband, all those years since I was diagnosed with breast cancer; he lost interest in me as a woman. (A demeanour reflective of pain). (T10).

Despite mastectomy, the libido of a few participants improved following chemotherapy:

I still have desire for sex, but our sex life has been affected; my husband has withdrawn. I wonder why he no longer has interest in me as a woman. I think today I will ask his reasons for withdrawing. (T11)

This participant's libido increased:

Mimi ilinifanyikia different na wamama wengine – (my experience was different from other participants); my sexual desire shot up my body was burning with desire, but my husband, could not touch me. Up to day, our sexual relationship has been affected, my husband still avoids me. (FG2).

Another participant said:

Me too, chemotherapy did not affect my libido; I was still experiencing my menses. Problem is I was not in a relationship, and even when I started dating somebody, when I disclose that I have BC they would be incited by friends and relatives about the wisdom of dating a woman with breast cancer and immersing themselves in a financial bottomless pit. (FG2)

Health care professionals (HCP) validated these sentiments:

Fears of the husband hurting the wife, the woman's fear of becoming pregnant, or the myth of disease transmission may all have an impact on sexual intimacy after breast cancer. Our interaction with patients indicates that for many, their sexuality is affected by low libido, pain when they engage, or husbands relating to them in a non-sexual manner, which affects the women's feelings of femininity and desirability, and they perceive rejection. (N4-Palliative Nurse)

Another health care professional offered another viewpoint: *Treatment affects their sexual desire, but rejection and emotional pain also affect their sexual feelings and desirability.* (N3-clinical navigator)

Mastectomy and other bodily changes had a profound influence on body image and self-esteem. The majority of women felt less confident as sexual partners because of breast loss, altered self-perception, and worries about their beauty and femininity. In women, whose breasts defined their identity and sexual experience as an erogenous zone, breast loss reduced sexual responsiveness and desire. Most women were hesitant to express their needs, and their spouses were unsure how to respond. Furthermore, the emotional and physical toll of breast cancer and its treatments resulted in changes in libido, vaginal dryness, fatigue, hormonal imbalance, and psychological distress in the majority of participants, affecting the women's sexual wellness and quality of life.

Subsequently, this study found that disease, medication adverse effects, stigma, fear of conceiving, and ulcerating wounds affected sexuality more than body dissatisfaction. Some women's sexual desire rose, but their sexuality and sexual function worsened owing to spouse stigma and rejection. This verifies Hoyle et al. (2022)'s findings that sexuality is linked to negative body image and that body image is not the only factor that affected breast cancer patients' sexual quality of life.

4.8 Social Support

For all the participants interviewed, breast cancer diagnosis, treatment, and recovery presented significant physical and emotional challenges, making a robust social support system crucial

to their mental and physical well-being. Thematic analysis unveiled four sub-themes emotional and instrumental support; rejection and abandonment; informational support and societal reactions to breast cancer.

4.8.1 Sub-theme 1: Emotional and Instrumental Support

A breast cancer diagnosis marks the beginning of a journey. The majority of participants described how support was readily available at the outset of the journey but diminished as it progressed.

This participant described comprehensive support during the treatment-planning phase:

I receive support from both sides of the family (financial, emotional, somebody to bring me to hospital, help with chores when I am unable to). My friends are also supportive and I feel supported and listened to by KNH healthcare providers (imekuwa sawa (it has been okay), every time). Also, interacting with other patients gives me courage and hope. (D3-participant at the diagnosis and treatment-planning phase).

A healthcare professional reaffirmed at the onset of the BC journey; social support was evident:

During the first days, the entire clan escorts patients, but as the treatment process progresses, support wanes. (N3 - oncology nurse)

Some women had extraordinary support from their spouses. This participant's account exemplifies the emotional state of a woman who enjoys strong affectionate support:

My husband is supportive—during treatment, he accompanied me to the hospital every time, if I let him, even today he would have accompanied me (laughs). He takes care of me, I feel loved, cherished, supported, and understood. My extended family is supportive, the church community is supportive, and the pastor has identified a team of prayer warriors to be praying for me. In KNH, I feel supported; I have never encountered a rude nurse or insensitive doctor. I feel equipped with information about the disease. (F4-participant the follow-up stage)

Another participant shared of her experiences with support from family and her church:

I feel supported by my parents, siblings, and my husband's side of the family; they have walked with me on this cancer journey in terms of emotional support. Nevertheless, my husband has carried the burden of treatment. I feel cherished, understood, and shielded by my family members; they do not go discuss my illness with other people. I did not disclose my diagnosis to my pastor and church members. I regret that we did not disclose to church members, yet I would have received support for house chores and taking care of children when going for treatment. (F5-participant on follow-up).

The healthcare professionals interviewed endorsed this participant's experience:

There is a great difference between a woman who is loved and supported by the spouse and the woman who is experiencing rejection. Supported women are particular about their appearance they are confident and optimistic. Social support affects prognostic outcomes because a woman who suffers rejection is distressed, also, others lack financial support and this affects compliance and timely treatment. (N4-palliative care nurse)

This participant described negative support and its consequences on health-seeking behaviours and prognosis:

I was feeling unwell, and I had a lump that was growing in my breast, but people around me, including the healthcare providers, minimised my concerns. I was discouraged to think along cancer lines. I regret not listening to my inner voice and pursuing treatment aggressively. (T2-participant with metastatic disease (crying))

This participant's narratives indicate that in the majority of cases, employer support is lacking or stretched thin:

We also lose jobs after diagnosis this makes life so difficult. When I was undergoing treatment, my boss told me that I would be given unpaid leave because my absentia was affecting students. I needed the money for treatment, yet now I had been sent on unpaid leave. Imagine I had worked with them for over a decade, but in my hardest period, instead of supporting my, they sent me on unpaid leave. (FG7-survivor)

The reciprocal determinism of Bandura's socio-cognitive theory explains how social support influences breast cancer patients' experiences, showing the bidirectional influence of personal variables, behaviour, and environment. Participants reported an abundance of instrumental and emotional support at the outset of their cancer journey, which reduced over time. Cancer is time and resource-intensive, so family and friends' support dwindled. Lack of social support worsened feelings of abandonment, causing anxiety, depression and hopelessness and lowering quality of life. This finding is consistent with the findings of Fong et al. (2017), who discovered that a decrease in social support strongly predicted an increase in negative emotional outcomes such as stress, anxiety, depression, and impaired quality of life.

Several participants' stories showed how negative support hurts health-seeking behaviour and prognosis. According to the findings, negative support was socially restricting and unproductive. Participants who experienced negative social support felt emotionally alienated

and alone due to a lack of companionship and counsel, which affected their health-seeking behaviour. They delayed seeking medical help and obtained a delayed diagnosis, which caused resentment and depression, lowering their quality of life. This confirms Ginter and Braun's (2019) thesis that interpersonal interactions are two-way since social situations can be positive or negative. A stressful social environment harmed emotional and social functioning and quality of life, whereas positive social support boosted these.

Women with adequate emotional support from their partners were less self-conscious, had higher self-esteem, were less distressed, and had a better quality of life. This supports Kocan and Gursoy (2016)'s result that emotional and loving assistance reduces emotional distress more than instrumental help. Similar to Jadidi and Ameri (2022), this study found that emotional and affectionate support gives patients purpose and meaning, improving their quality of life. This confirms Adam and Koranteng (2020) findings that emotional and affectionate support significantly reduced psychosocial distress caused by a BC diagnosis and improved the emotional domain of quality of life.

Other barriers to social assistance included disclosure fear, especially for younger, under-40, and older women in precarious relationships. However, disclosure enhances quality of life by reducing negative feelings and assisting BC patients in adapting to stressors. This study also found stigma contributed to non-disclosure. Besides, a number of women hid their diagnoses for fear of stigma. This discovery supports the conclusions drawn by Tang et al.'s (2023), which demonstrated a connection between stigma, self-disclosure, social support, emotional distress and quality of life.

Due to the chronic nature of the disease and treatment, breast cancer patients frequently miss work. Thus, such women need significant workplace help to stay employed. According to participant narratives, employer support was scarce. After breast cancer, many became

unemployed and dependent on others. A lack of meaning and purpose in life caused psychological pain for some participants, whereas dependency caused severe distress for most. This is consistent with the study's socio-demographic findings that most individuals lost their jobs after diagnosis. This finding, however, contradicts the findings of a study conducted by Ginter & Braun (2017), which concluded that the women in the studies received positive support from their supervisors and coworkers.

4.8.2 Sub-theme 2: Rejection and Abandonment

Neglect, rejection, and abandonment were all common occurrences. Some participants felt rejected by all family members; for others, their spouses were physically there but did not provide emotional or practical support, which was interpreted as rejection. Some spouses left, forsaking the patients:

My family has neglected me; for example, in December, there was a family gathering adjacent to my home; you would expect that they would have invited my children to the party, but nobody thought of my children. I wondered, - even just saying hi, nobody did; I could only see kids peeping at our gate, and I think their parents told them to keep away. My husband and his people have deserted me. Even my own family members, everybody is egocentric; they do not understand that you are sick unless you are bed ridden. My dad has never called me even a single day, and neither has my stepmother. Even my beloved brother, there is a brother I really like; he visited me in April 2022, and he went back and quarreled with my other siblings. They came to visit, and then they said that I was playing with them because I was not bedridden. (T2-participant receiving palliative treatment)

Another participant in the FGD raised the issue of family members being the first people to reject a person:

Family, eh! Family hapana (no!), (followed by a sigh). In this cancer journey, for some, the first people to reject a person are the family members. People should understand the cancer journey. First, family members should not do to cancer patients the things they do to us (others chime in -- of a truth!). Family ndio wa kwanza kwambia mtu vitu hateful (members of the family are the first to tell somebody hateful things.) (FG 6-survivor)

Other participants strongly agreed with this sentiment. This demonstrates that rejection and abandonment were common experiences among breast cancer patients. Participants who had suffered rejection, abandonment, or a lack of validation displayed depressed

symptoms (cried throughout the interview); some were enraged; and still others displayed hopelessness and suicide thoughts.

For some abandoned participants, emotional and instrumental support came from strange quarters:

Virtual friends I met on Facebook have become my social support. For example, a friend of mine who lives in Kajiado wrote on her social media that if she had money, she would sponsor me to attend a Christmas get-together for cancer survivors. A woman from Meru offered to pay the contribution for me. I went to that get-together, I met and interacted with people and from that get-together, a woman called me and did Christmas shopping for over Ksh. 20,000, which we are still using even now. (T2 – participant receiving palliative treatment)

Breast cancer patients need family and friends for support, according to doctors. Their point was that poverty might be misconstrued for neglect because many patients go to the hospital alone because they cannot afford to pay transport for a companion:

Robust social support or a lack of it matters a lot. Support from a spouse, children, siblings, and friends matters a lot. If I give information about treatment side effects, my biggest fear is that if I have a patient who is unaccompanied, they are unlikely to remember all the information, and when they start experiencing side effects, they panic that their condition is worsening. But if they were accompanied, the person who came with them is likely to remind them that the doctor said this is likely to happen. However, finances, rather than a lack of will, may limit this type of support. (C1- clinical radio-oncologist)

Another healthcare provider explained that instrumental support is useful for mitigating treatment delays caused by financial constraints or other factors such as the need for blood donations from family members:

Prognostic outcomes for patients with good social support are much better. Those with good financial support are able to do their tests on time, if they need to transfuse, they can maneuver around in record time, they can buy drugs when they are out of stock in the hospital, they buy and bring and treatment is received timely. Good psychosocial support = to good compliance, better outcomes and quality of life. (N3-oncology nurse)

The current study found that rejection, abandonment, or lack of validation caused considerable distress, including depressive symptoms (crying throughout the interview), anger, hopelessness, and suicide ideation. Missing or unfavourable social support was often more crucial than the breast cancer diagnosis. This confirms Nmoh (2019)'s finding that Kenyan BC patients were abandoned, notably by their husbands.

These findings complement Adam and Koranteng (2020), who found that social support affected emotional health, compliance, and financial support.

The role of technology in enabling some women to find social support from unexpected sources, such as acquaintances on social media platforms who have since become their emotional and instrumental support, was a fascinating find. Nonetheless, this result is consistent with the study by Ginter and Braun (2019), which found that the participant's expected support decreased, but strangers became their support system.

4.8.3 Sub-theme 3: Informational Support

On average, KNH patients felt that the healthcare providers gave informational support, and patients felt heard:

Healthcare providers at KNH are supportive; the first time I came to Linac Clinic, I found a health care professional who even prayed for the patients. She talked to me and I felt listened to, and it felt like they genuinely shared my struggle. In KNH, I feel listened to and supported with information, and my daughter and I are always included in treatment decisions. The KNH team is great! (T10-participant on second line of chemo)

Another participant said:

Healthcare workers at KNH support me well with all the information I need. They give information about the disease, what to expect once treatment begins, and advice for NHIF is done very well here. (T7-participant undergoing treatment)

A participant from a HCCGK equally confirmed provision with information saying:

The doctors listen; other healthcare workers are caring. (H2- participant at the follow-up stage).

At the public hospital however, they have a more elaborate system of equipping patients with information. Through the navigator's programme, patients receive support at four levels. This is how the lead navigator explained the system:

First contact with the patient is a clinical navigator who gives information about cancer, its causes, risk factors, and prevention. They give information about the diagnosis; some of them are in denial. We really help them understand what cancer is and how it comes about. We tell them about the treatment; they get to understand the cost, the side effects, and how we can manage them. If the distress screening indicates psychosocial problems, we refer the patient to a lay navigator (social worker) to give the patient

information about NHIF or link them with institutions that collaborate with the hospital to give cancer patients different kinds of support. (N3-oncology nurse)

While generally patients alluded to good informational support, some felt that clinicians should be more sensitive when disclosing the diagnosis and attending to patients' concerns:

The healthcare team at KNH give good services, but doctors should be more sensitive when disclosing diagnosis. In my case, I also have a confusing diagnosis. (D4-patient at the diagnosis and treatment planning stage).

Another participant said:

I feel like the doctor and I do not talk about pain control in the same way. I do not feel like I am being heard or cared about. I talk about the pain, and the doctor talks about the disease, but my pain is not being taken care of. (T4 – participant with metastatic disease)

This participant's sentiments depict a doctor caught between his clinical understanding of prognostic consequences and his anxiety of delivering the information in an insensitive manner, resulting in communication at odds.

KNH patients averagely felt heard, cared for, and informed by their healthcare personnel. HCGCCK also has a large social worker network that provides information and assistance. The hospital also works with a nearby non-profit, Faraja Cancer Support. Faraja provides financial aid, counselling, nutrition, yoga, reiki, and other treatments to manage treatment side effects and improve quality of life. This supports Ojewole et al.'s (2018) finding that informational support reduces anxiety and increases emotional QOL.

While the majority of patients expressed satisfaction with the information provided, a minority felt that clinicians ought to demonstrate greater empathy when conveying the news of a cancer diagnosis and attending to patient concerns. Some doctors' apparent lack of empathy when delivering devastating news about a cancer diagnosis highlights a gap in cancer care and the need for psycho-oncology-trained therapists to assist the patients to cope with the disease, treatment, and ensuing psychosocial challenges. Essentially, the doctors are time-pressed and

untrained to intervene in psychosocial distress; their goal is to provide a clinical diagnosis, develop treatment plans, and choose the best course of action.

4.8.4 Sub-theme 4: Societal Reactions to Breast Cancer

Participants' accounts of societal responses to breast cancer indicate that they face stigma and myth-fueled labelling. A participant on remission shared:

Although I am a survivor, there are other challenges like living with stigma of people seeing me like a dying person. (F1-survivor).

Another participant shared how she feels like society has numbered her days and how this puts pressure on her and instills fear:

The community has stigmatised me; they talk about my illness; it is as if they are counting my days and waiting for me to die. When I was admitted with Covid, they talked saying I was finally going to die. I feel stigmatised; the community also gives me a lot of pressure and fear. (T10-second line of chemo).

Another participant shared about stigmatisation because of asymmetry:

One feel stigmatized, “mtu anakuliza, kwani nyama ya upande hii ilienda wapi, ama kwani unakaa aje?” (A person may ask where did flesh on this side of your chest go, or why are you stooped?) (F3)

Another participant chipped in that she endures hearing things like:

Kumbe (so) breasts ni (‘are) that important? You look funny, lakini uko sawa (but you are okay.) (FG 9-survivor).

However, some participants had developed resilience despite the fact that stigma and labelling were prevalent experiences:

I suffered self and societal stigma. Now I am sure people label me, but I do not really care. (FG2-participant at the follow-up stage).

Self and societal stigma is endemic to breast cancer, according to healthcare professionals:

Stigmatisation comes with isolation; some of the women have stopped going to women groups, to church, when you ask the response is how do you go before people with one breast? Self-stigma, leads to self-isolation due to self-consciousness – until they get breast prosthesis, they are too self-conscious to go before people, they feel everybody is looking at me. (N1-palliative care nurse).

Another healthcare professional said:

Labelling and stigma lead to isolation or social withdrawal – human beings are social being, talking is therapy, so when a person does not have the warmth of people around them – their QOL is negatively affected. This kind of patient is likely to become depressed.

Moreover, the accounts of the participants indicated the importance of support from other breast cancer patients as well as the relevance of support groups: *Interacting with other patients gives me courage and hope.* (D3-diagnosis and treatment planning stage).

Another participant said:

Support groups are the lifeline of a patient's struggle. I was initially treated at a private hospital, all that time; I never spoke or talked with a single cancer patient. I had continued receiving treatment there, I think I would have died already from distress. But when I went to KNH, I encountered other patients who gave me hope and the will to persevere. Other participant chipped in ukweli (of a truth). (FG5-survivor)

This is what the participants said about organisations that offer social support forums:

We are grateful to Faraja for assisting us and providing us with a place to call home. Coming here and uniting with other BC patients is meaningful; it gives us the strength to persevere. (Participants FGDs)

Participants' accounts of societal responses to breast cancer indicate that they faced stigma and myth-fueled labelling. The study findings identified both enacted and internalised stigma among the participants. Participants experienced stigma because of societal perceptions and responses to their breast cancer diagnosis and subsequent changes in appearance and lifestyle. Enacted stigma resulted in self-consciousness, anxiety, and social withdrawal. On the other hand, internalised stigma contributed to the participant's cognitive preoccupation with self-devaluation, which induced negative attitudes regarding self-efficacy and body image, thereby contributing to shame and low self-esteem and poor emotional and social quality of life according to (Tang et al., 2023). Current findings contradict Tang et al.'s (2023) claim that stigma influences all aspects of social support except instrumental support. Participants' narratives revealed that stigma affected instrumental support equally since many family members and society view cancer as a death sentence and see little use in investing resources on a futile cause.

Furthermore, participants in the study considered support groups as a lifeline. Patients' quality of life improved because of support group encounters that reduced anxiety, depression, and

other forms of emotional disturbance. Similarly, participants in this study expressed gratitude to the hospitals and organisations that collaborate to create support group forums. A slew of studies, including one conducted in Indonesia by Haris et al. (2019), show that support groups can help in both emotional and informational realms.

4.9 Breast Cancer Patients' Unmet Needs and Message

Inadequate insurance coverage, financial deficits, counselling, and other forms of emotional or informational support were identified as unmet needs in this study.

4.9.1 Sub-theme 1: Financial Resources and Treatment Delays

Narratives from all the women interviewed, the nurses, physicians and lay navigator voiced financial stress and inadequate health care coverage and benefit gaps that make it difficult for the patients to obtain necessary follow-up, diagnostic procedures, treatments, and medications:

Money is a great struggle for majority of cancer patients, some are not able to afford food, leave alone treatment. Even for those that afford treatment, money goes to treatment leaving them with nothing for other needs. Cancer patients need to eat well – diet is part of treatment, but how do you eat well, when you have no money? (T9-participant undergoing treatment)

Some participants thought that the complexities of breast cancer treatment were underappreciated and were not given the attention they deserved:

My question is, are cancer patients' children of a lesser God? How come the HIV/AIDS and TB patients receive free treatment, yet cancer patients have to pay for their drugs? I live with two other conditions, BP and diabetes. Like now last week as a result of financial stress, my BP and sugar levels went up to scary levels, these other underlying conditions are also expensive to treat. (T10 – participant on second line of treatment after Metastasis)

Participants believed that a lack of financial resources contributed more to the mortality of breast cancer patients than the disease itself:

I believe most cancer patients die as a result of lack of money and mental stress. If you tell a person who does not even make 20 shillings a day that a dose of the drug, they need to take is 100,000, the person just gives up. We found a woman who was sleeping at the emergency room because she could not afford to go home and come for treatment the next day. Imagine sleeping at the emergency room with no food to eat and no place to clean herself. It is a wonder that cancer patients do not commit suicide en masse. Mam', cancer patients have problems; let nobody minimise their suffering. (T5-participant with metastatic disease)

The interviewees noted that breast cancer diagnosis causes many women to lose their jobs at a time when they desperately need money for treatment, yet no mitigation exists:

Cancer is a disease that undermines a person's ability to make a living and yet it asks for money on all fronts and life does not stop, one needs to provide for children, eat well, yet sometimes even affording basic foodstuff is a problem. (FG1)

Some of the participant accounts disclosed the dire circumstances of some cancer patients.

I have cried many times over patients I meet during radiotherapy or chemotherapy who have not eaten, have not slept, and have no idea how they will get home after treatment because they have no transportation. I made sure to have extra food with me in case I ran into someone who had nothing to eat, and we often pool our money to pay for someone's transport. (F1)

The medical staff confirmed the patient's financial difficulties and implication on treatment and prognostic outcomes and quality of life.

Financial distress is extremely common; after diagnosis, many patients are unable to work, and some are the sole breadwinners. When the commonly used drug is out of stock, they must use NHIF in other facilities. However, when they bring the drug to this facility, they are charged Sh. 5,000 for the preparation, which is costly and many of them may not have. For these patients, we connect them with the social worker so they can receive credit to reduce treatment delays. (N2 - Palliative Nurse).

Cancer treatment is a procedure mediated by money; for patients without money, their treatment options are limited to KNH; consequently, treatment delays are common. This is what the participants had to say concerning treatment delays:

There are too many delays between the time one comes to KNH and the time when one starts treatment – for example, it took five months before I started treatment and the disease had progressed. If a person does not have money, it means, that treatment will delay until one gets money or dies. (T1- participant at the treatment stage).

This participant's account was presented as an earnest plea:

(Wajaribu kuharakishia mtu, at least mtu anaanza treatment mapema juu pain ya cancer ni nyingi, ni nyingi sana, at least wanaharakishia mtu kiasi – the hospital should try to hasten treatment, so that one can start treatment soon after diagnosis because cancer pain is a lot, a lot, they should at least hasten treatment. (D3)

The health care providers at the public hospital confirmed the experiences of the participants regarding treatment delays:

Due to the high number of patients at the hospital and the few machines, if a patient is booked for a CT scan, the queue is long, and they might have to wait for months, in which case they opt to seek the service in private facilities, which are expensive and

outside the bracket of NHIF. There are other services that they need but cannot afford; for such patients, they will have to wait until they raise the funds; if they cannot raise the funds, they go without treatment. (N1- palliative care nurse)

Results show that insufficient financing and long wait times at public hospitals cause treatment delays. Participants' testimonies show that financial hardship and treatment delay adversely influenced their physical, emotional, and social QOL. This finding supports Peters et al. (2020) that breast cancer patients endure psychosocial distress due to the disease, symptoms load, and unfulfilled needs.

This study highlights the complexity of breast cancer treatment, making it unaffordable and timely for many participants. National Health Insurance Fund (NHIF) coverage is crucial for accessing costly treatment, but the numerous tests, scans, hospital visits, and treatment levels strain insurance coverage. Unmarried women's eligibility for NHIF benefits is limited, while married women can access more healthcare insurance advantages using their spouse's card. Some women's financial situations are so precarious that they cannot afford out of pocket tests, appointments or consultation fees, leading to treatment delays and noncompliance. NHIF does not cover all doses in some instances including Herceptin-targeted therapy, where they only pay for six of the eighteen doses for single women and twelve doses for married women. This finding supports Zafar and Abernethy's (2015) argument that expensive cancer treatments and high out-of-pocket expenses cause emotional suffering similar to chemotherapy toxicity, influencing prognostic outcomes and affecting breast cancer patients' quality of life.

Similarly, the high costs of private facilities would strain the NHIF's coverage and impede the majority of patients from receiving care elsewhere than at KNH, thereby causing treatment delays. This result is consistent with the findings of Saina et al. (2021), who determined that the cost of one week of radiotherapy at a private facility could cover 90 percent of the entire radiotherapy regimen at a public hospital. Unmet needs, whether material, emotional, or informational, influence psychosocial distress and influence BC patients' quality of life, which

is consistent with previous research by Ojewole et al. (2018) and Twahir et al. (2021) that found increased distress and treatment delays due to financial constraints. Similarly, the current research underlined BC patient's frustration that society does not comprehend the complexities of BC treatment or recognise their predicament.

4.9.2 Sub-theme 2: Health Insurance Coverage and Benefit Gaps

Participants were appreciative of the role of NHIF in alleviating the burden of treatment.

Nonetheless, participants highlighted benefit gaps that still exist:

Kuna kitu kinatupea challenge, mimi ninaendanga Kenyatta (there is something that gives us challenge, I go to Kenyatta), when I go for a chemo session sometimes, I am told that I have exhausted my NHIF, yet one session of chemotherapy costs between Ksh.110,000-1500,000, I have to forgo treatment until my card is activated after some interventions. (FG7)

The story of this participant is a prime example of NHIF benefit gaps:

I have exhausted the NHIF card and other monies but there is no way forward on treatment. I have developed a second wound. I have no family members to help me, my brother died, my mother is old, my son is an alcoholic, and my daughter is married, but has no financial strength. I feel so helpless and many times, I wish death. (D1)

These results suggest that the NHIF has partially reduced the cost of breast cancer treatment; however, breast cancer patients experiencing financial hardship continue to have difficulty gaining access to NHIF benefits. Out-of-pocket expenses like as diagnostic tests and consultation fees, for example, may prevent a patient from progressing to the next level of therapy, which is paid for by NHIF. Furthermore, it has an influence on the promptness of treatment, compliance, prognostic results, and overall well-being. This result is consistent with the findings of Ayyala (2020), who observed that financial distress continues to be a substantial obstacle in cancer treatment.

4.9.3 Sub-theme 3: Breast Prosthesis and Counselling Interventions

According to discussions with mastectomy patients, medical professionals, and social workers, body image is a major concern. However, body image issues are not considered when providing care, as this narrative shows:

A significant number of women with breast cancer who undergo mastectomy experience stigma because of their appearance. When we started organising support groups and talking, we could see that this was a big issue. We coordinated with KENCO to provide prosthesis; the women came in droves to pick their fit. This is when we found out that body image was a major issue. (LN1-lay navigator)

This participant shared her experience coping with asymmetry and her one prosthesis that mysteriously vanished at the worst possible times:

My one prosthesis seems to be misplaced every time I want to step out and I have to spend time looking for it. (T10).

A breast prosthesis may seem like a luxury to someone who is struggling to pay for transportation and consultation fees. Nevertheless, since quality of life is an important treatment outcome in breast cancer, a breast prosthesis is considered interventional due to its ability to improve body image and mitigate self-consciousness and enhance self-esteem, which can contribute to isolating behaviours according to (Guedes et al., 2018).

Many participants expressed stress, emotional and mental pain and proposed need for mental healthcare.

Hospitals that provide cancer services should strongly consider offering counselling services and support groups. At the first private hospital I visited, I felt isolated; I did not see any other cancer patients; the doctor's manner of delivering the diagnosis was insensitive; and I was not provided with information on treatment planning or guided into accepting the emotional and social effects of mastectomy. (FG7)

Participants' narratives show that body shame, low self-esteem, and isolating behaviours adversely influenced their emotional and social quality of life. Management of psychosocial distress related to poor body image with counselling intervention improves emotional and social QOL (Sebri & Pravettoni, 2023). This finding is consistent with the findings of Morales-Sánchez et al. (2021) who discovered that higher levels of satisfaction with appearance and body image are predictive of a higher quality of life in breast cancer patients.

According to the participants' experiences, individualised therapy, group counselling, and support groups are important. Support groups provide a social environment for BC patients and survivors to share their experiences, thereby reducing feelings of isolation and stigma. This

findings validates Carlson et al. (2019; Fernández-De-Larrea et al., 2018; Muliira, 2017; Muzzatti, 2020) recommendation for psychosocial interventions to reduce distress and improve quality of life.

4.9.4 Sub-theme 4: Message to Policy Makers and Hospitals

Participants in the study felt that there needed to be changes in the way cancer was managed on a number of fronts. Consequently, they had messages for national and county policymakers, NHIF, hospitals, well-wishers, and society as a whole:

The referral system and running tests in different facilities contribute to treatment delays – for example, my biopsy was done in Kenyatta, but I had to take the sample to Aga Khan, the test was 15,000. I did not have the money to pay immediately; I had to delay the test as I looked for money. My initial diagnosis was stage two, but by the time I started treatment, it had progressed to stage 3. The combination of referrals to private facilities for tests, which are expensive and have to be paid for in cash and lack of money really cause treatment delays. (T11)

Another message to the Ministry of health and Governors was to ensure that subscription to NHIF translated into access to all cancer services:

Cancer treatment should be free after paying NHIF subscription; it should take care of everything. Imagine I have realized that many people die because of treatment affordability. A patient is told to go run tests before they can see a doctor. Without money, they become stressed, the disease spreads as they look for money to run tests and they ultimately die. I am still working and I am struggling with treatment affordability, what about people who are incomeless? Imagine a person who travelled from Muranga and has no coin to buy food while in Nairobi? Majority of cancer patients die because of inability to afford treatment. (F1).

Participants voiced the need for social protection for cancer patients. They also proposed involvement of county governments to ensure that needy cancer patients are on boarded on NHIF:

One of the policies the government can develop is one for social protection of cancer patients to ensure that they do not lose their jobs. (FG8 – other participants chimed eeh, ukweli (yes, true).

Another participant said:

Cancer is a disease that undermines a person's ability to make a living and yet it asks for money on all fronts and life does not stop, one needs to provide for children, eat well, yet sometimes even affording basic foodstuff is a problem. For desperate cases, who cannot pay for NHIF, struggle to get basic things like food, there is need to develop

a proper verification process maybe by making impromptu visits to their homes. Once verified, their needs should be addressed on a person-to-person basis. (FG7).

To the county governments:

County governments should ensure cancer patients who cannot afford NHIF are paid for, because these patients struggle with the extra burden of long-distance transport and transport within Nairobi, accommodation and food. (F2).

Participants praised NHIF's cancer treatment improvements but suggested improvements:

NHIF has been paying for a number of things; it helps, but when running tests or some imaging tests, lazima mtu arudi kwa mfuko. (One has to dig into the pocket). Without money, it slows the process of accessing treatment. (D3).

Healthcare providers and lay navigator validated this sentiment:

NHIF has been very resourceful; a significant amount of treatment funding comes from there. When we talk about staging, before treatment plan can be arrived at, staging has to be done a computerized technography, magnetic MRIs, for people who have active NHIF, it is able to cater for these initial tests and treatment; chemotherapy, radiotherapy, surgery, admission etc. Nevertheless, there is a downside because NHIF does not fully cover for these services, we encourage the patient if they are married to ask the spouse to be registered so that the patient can have two covers and double access to services – that way, and they have access to array of services. (LN1-lay navigator)

The participants had the following to say about the public-private partnership because of the unique obstacles that deprived breast cancer patients of opportunities to generate income:

Since cancer patients lose jobs and livelihoods, it would be good if the government and the well-wishers can come together to establish enterprises that can accommodate cancer patients with the understanding of their challenges like loss of hand functionality, low energy to mention a few. (FG7-).

The participants had a message for healthcare institutions as well:

The hospitals should be sensitive to patient's financial constraints. Like this day, when I went to KNH, I was told I needed to take my booster medication home; the medication has to be put in a cooler box. I did not have one, and they insisted I go buy a cooler box. They said without it, they would not give the booster. I did not even have money for transportation back home, let alone money to buy a cooler box. I wish hospitals could come up with more creative ways to make life easier for people with cancer (FG7).

This narrative is a cry to the hospitals to recognise the financial limitations of many breast cancer patients and become imaginative and flexible in some of the rules they enforce, most of which require money.

Because of being stigmatised and labelled, the participants had a message to the society this participant's account stands out as an example of stigmatisation and labelling in action:

I have been labelled. My own mother introduces me to people as “huyu ndio ule msichana wangu aliye katua titi” (this is my daughter whose breast was cut). (FG11)

The anecdotes show how breast cancer difficulties like treatment-related absenteeism, which causes job loss, are not widely understood. Disease or treatment side effects like lymphedema reduce hand mobility. Low energy impairs function hence social protection is needed. The findings also emphasise the need for a patient-centered, interdisciplinary cancer treatment approach that identifies each patient's specific challenges.

Participants unanimously acknowledged NHIF's enhancement of cancer treatment. However, they voiced concern over coverage gaps and requested that the NHIF expand their coverage to include consultation fees, diagnostics, and complete treatment. Participants felt that society labelled, stigmatised, and viewed them as the only candidates for death; therefore, their unified message to society was ‘please do not label and stigmatise us. God is the owner of the calendar; do not designate our days on the calendar for us’.

Phase Two: Presentation and Discussion of Quantitative Findings

4.10 Response Rate

In this phase, 256 women diagnosed with breast cancer participated. The response rate was 100%. This high response rate was a result of the exceptional support provided by the research team leaders and nurses at the two data collection sites.

4.11 Quality of Life in Women with Breast Cancer

The relationship between physical and mental health is bidirectional. Receiving a breast cancer diagnosis instigates a cycle of chronic stressors that precipitate psychosocial distress, which subsequently influences one's quality of life. We conducted an analysis on five dimensions of quality of life: physical, emotional, social, familial, and functional wellbeing, along with supplementary considerations pertaining to breast cancer, as shown in Table 4.4:

Table 4.4:

Physical Domain of Quality of Life

Question	Response	(n=256)	(%)
I have a lack of energy	Normal energy levels	47	18
	Low energy	209	82
Nausea makes me feel unwell	No Nausea	119	46
	Some Nausea	137	54
Because of my physical condition, I have trouble meeting the needs of my family	No trouble meeting needs	67	26
	Trouble meeting needs	189	74
I have pain	No pain	106	41
	Pain	150	59
I am bothered by a number of side effects of treatment	Not bothered	118	46
	Bothered	138	54
I feel ill	Not ill	131	51
	Feel ill	125	49
I am forced to spend time in bed	Does not spend time in bed	142	55
	Spends time in bed	114	45

After diagnosis and breast cancer treatment, a large number of respondents, 209 (82%), reported experiencing low energy all the time, while only 47 (18%) said they had normal energy levels. Nausea was reported by 137 (54%) of the respondents, while 19 (46%) reported no nausea. A substantial 189 (74%) expressed difficulty meeting the needs of their family due to their physical state. In addition, a substantial number of participants—150 (59%)—reported experiencing pain, whereas 106 (41%) did not. A significant 138 (54%) reported experiencing treatment side effects; however, 118 (46%) indicated the side effects did not bother them. A sizable 131 (51%) of those interviewed reported not feeling ill, while 125 (49%) reported feeling ill. In addition, nearly half (45%) of respondents said they have to spend time in bed because of a medical condition, while more than half (55%) said they rarely or never do so.

A large percentage of respondents 209 (82%) reported feeling fatigued. Cancer treatment causes pain, exhaustion, and biological rhythm abnormalities (Imanian et al., 2019). The qualitative data corroborate this statistic, indicating that breast cancer patients typically experienced diminished energy levels, impeding their ability to fulfil familial and other responsibilities. The change from being a caretaker to becoming a recipient of care led to feelings of worthlessness, low self-esteem, and a sense of purposelessness (pp. 73:FG4, T2, T10, and N2). This finding supports Fernández-De-Larrea et al.'s (2018) claim that breast cancer patients experience changes in autonomy and independence because of treatment, resulting in existential crises and a loss of identity. This finding is critical because it emphasises the relevance of quality of life as a treatment outcome, as well as the need for comprehensive approaches that consider the consequences of cancer treatment on survivorship, work, and other responsibilities.

Chemotherapy and other cancer treatments produce nausea. Nausea affected over half of the respondents. Nausea inhibits appetite and eating abilities and causes illness and discomfort,

which may severely influence a person's quality of life (ElMokhallalati et al., 2022). This supports Suwankhong and Liamputtong (2018), who found that nausea induced weakness and weight loss but was not treated. Physical symptoms coexist and can exacerbate each other, leading to challenges like low energy, feeling ill, and an inability to perform roles (Mandelblatt et al., 2020). Managing side effects is important since they affect medication adherence and mental health. The majority (59%) of respondents expressed pain, indicating a significant physical strain. The qualitative investigation found that sleep disruption, fatigue, and low mood were frequently associated with pain, highlighting the pervasive nature of pain in cancer patients (pp. 78: FG11, T5, C1). This supports Garcia et al. (2015), who found that 60–90% of advanced BC patients experience cancer pain, impairing their physical, emotional, social, and global QOL.

Moreover, 74% reported having problems taking care of their families and other tasks due to their state of health. The qualitative results of this study (reference T4, T10, FG4; pp. 76) demonstrate the importance of this finding because failing to fulfil familial obligations can lead to a decline in identity, purpose, and well-being, which may lead to depressive symptoms. It also confirms Prabandari et al.'s (2022) claim that breast cancer treatments and their aftermath can impair a person's ability to fulfil family duties and daily chores, lowering their emotional QOL. Since women became care receivers after receiving a breast cancer diagnosis, the qualitative results (N2; pp.77) indicated that they experienced identity and existential crises. More than half (54%) of the respondents reported that side effects of their treatment disturbed them. The findings align with the literature; according to Prabandari et al.'s (2022), cancer therapies can cause breast and hair loss, skin discolouration, weight loss, hormonal imbalance, and emotional distress. These adverse effects can significantly influence a woman's sense of self (Kocan & Gursay, 2016).

Almost half of the respondents (49%) said they felt ill. Breast cancer, particularly metastatic disease, is likely to make a person feel ill; treatment side effects can cause an array of symptoms that interact with one another, exacerbating the illness. Feeling unwell can add to general physical discomfort, a low mood, and a lower quality of life (Mandelblatt et al., 2020). The fact that 45% of respondents spent time in bed, which denotes limitations in physical activities and daily functioning, emphasises the influence of breast cancer on daily functioning. This supports Safar and Mazanec (2023), who found that physical restrictions might cause dependence, existential crises, and psychological distress. They concluded that psychological symptom burden predicted QOL better than physical symptom burden, confirming the mind-body connection. Finally, these findings underscore the continuous physical obstacles that women diagnosed with breast cancer experience throughout the disease's progression, including the survivor stage.

The other QOL domain that was tested was Social and family well-being. The findings were as presented in Table 4.5:

Table 4.5***Social and Family Domain of Quality of life***

Question	Response	(n=256)	(%)
I feel close to my friends	Not close	45	18
	Close	211	82
I get sufficient emotional support from my family	Insufficient	10	4
	Sufficient	246	96
I get sufficient support from my friends	Insufficient	39	15
	Sufficient	217	85
My family has accepted my illness	Not accepted	10	4
	Accepted	246	96
I am satisfied with family communication about my illness	Not satisfied	12	5
	Satisfied	244	95
I feel close to my partner (or the person who is my main support)	Not close	71	28
	Close	185	72

Most respondents, 211 (82%), felt close to their friends, but a minority, 45 (18%) did not, showing a positive social support network and a lack of social connection in certain cases. While 217 (85%) respondents reported obtaining appropriate friend support, 39 (15%) reported receiving insufficient support, demonstrating that friends help in some cases but not all. On family support, 246 (96%) of respondents said they received adequate emotional support from their family, while 4% said they did not, indicating that most respondents had a strong family support system but a few did not.

Interestingly, 246 (96%) of respondents reported that their families had accepted their illness, while 10 (4%) did not, indicating a high level of acceptance and understanding for the majority but a struggle for acceptance for a few, which could cause family distress or conflict.

Many 244 (95%) respondents were satisfied with family communication regarding their condition, whereas 12 (5%) were dissatisfied, indicating open and effective communication for most and room for improvement for a few. Majority 185 (72%) respondents stated they felt

close to their partner or main support person, while 71 (28%) did not, revealing that most had closeness and support in their relationships, with a few reporting intimacy concerns.

The findings show a favourable social and familial landscape, with 82% reporting close relationships. A large 96% of respondents were satisfied with their families' emotional support, demonstrating strong family support. Acceptance of the condition among family members was common, with 96% of participants indicating familial acceptance. Additionally, 95% were satisfied with family illness communication. These findings complement Nmoh (2019), who found good social support for Kenyan BC women.

However, the qualitative findings (pp. 107-T2) offered insight for the small number of respondents who reported a lack of social support. The qualitative findings revealed that a few patients had been abandoned. The study also discovered that 28% of respondents did not feel close to their significant other. This finding is crucial since Jadidi and Ameri (2022) discovered that emotional and affectionate support gives patients purpose and meaning, which improves their quality of life. The plight of the minority patients who lacked social support emphasises the significance of a "person-centred" approach to breast cancer care. Person-centered strategies are required to identify and provide psychosocial support to a few women who may require social support to improve their social and emotional QOL.

The participants were asked to respond to their experience of sexual well-being and their responses were as captured in Table 4.6:

Table 4.6***Sex Life after Breast Cancer***

Question	Responses	(n=256)	(%)
I am satisfied with my sex life	Not at all	154	60
	Satisfied	102	40
	Total	256	100

Out of the 256 participants, 154 (60%) expressed dissatisfaction with their sexual lives, whereas 102 (40%) reported being content. This shows many breast cancer patients have sexual difficulties after breast cancer diagnosis and treatment. Sexual issues after breast cancer may result from a fungating wound, body image concerns, emotional and psychological issues influencing relationship dynamics. Pain, nausea, and exhaustion can also affect sexual desire Momeni et al. (2023). According to the qualitative findings of the current study (pp. 105, respondents: D2, T10, T11, and FG2), cancer stigma and beliefs may cause husbands and sexual partners to treat women non-sexually or reject them. As Brajkovic et al. (2021) found, breast cancer patients' sexual function was one of their most diminished aspects of quality of life. However, a review of the literature found that sexual function in breast cancer is understudied and overlooked in Kenya's cancer treatment strategy (Nmoh, 2019).

The emotional and cognitive well-being of BC patients was another QOL domain. Participants answered questions on their emotional and cognitive well-being. Table 4.7 shows their responses:

Table 4.7***Emotional and Cognitive Domain of Quality of Life***

Question	Responses	(n=256)	(%)
I feel sad	Not sad	97	38
	Sad	159	62
I am satisfied with how I am coping with my illness	Not satisfied	14	5
	Satisfied	242	95
I am losing hope in the fight against my illness	Not losing hope	188	73
	Losing hope	68	27
I have memory and concentration issues	No issues	119	46
	Have issues	137	54
I worry about dying	No worries	183	71
	Worries	73	29
I worry about my condition getting worse	No worries	176	69
	Worries	80	31

Sadness affected 159 (62%), but 97 (38%) did not. Sadness is an indication of a low mood, which may affect the emotional quality of life. The vast majority of respondents (95%) were pleased with their coping, while 14 (5%) were dissatisfied. Most participants were confident in their coping abilities, which could increase their emotional well-being (Celik et al., 2021). The majority were hopeful, 188 (73%); however, a critical 68 (27%) said they were losing hope in their struggle against the sickness. This shows that a large proportion of respondents felt hopeless, indicating impaired emotional wellbeing. According to Saina et al. (2021), hopelessness is common, especially among patients with metastatic disease. Further, 137 (54%) reported memory as well as concentration issues, while 119 (46%) did not.

This study identified considerable physical and psychologic treatment side effects, which may explain why so many women had memory and attention issues. Many respondents (73, 29%) worried about dying, while 183 (71%) did not. Moreover, 80 (31%) of respondents worried about their condition worsening, whereas 176 (69%) did not. Several participants worried about the disease progressing, which, like anxiety about dying, may negatively influence emotional

well-being, according to Fernández-De-Larrea et al. (2018). These findings support previous research by Aitken and Hossan (2022), Carlson et al. (2019), and Kagee et al. (2018), which linked depression, including a lack of motivation to face daily challenges and a persistent sense of hopelessness, to breast cancer. Clinically significant depression and anxiety may explain the hopelessness of the 27% who were losing hope and the others who had poor emotional domains of QOL. This supports Culbertson's (2020) finding that breast cancer patients at various stages suffered anxiety, depression, and hopelessness. This study contradicts Iddrisu et al. (2020), who found that young breast cancer patients are more depressed than older ones. Younger and older participants had similar depressed symptoms in this study. Contrary to the literature, most participants coped well with cancer diagnosis and treatment in our study. Social support may explain this variation, according to (Wondimagegnehu et al., 2019). These findings are also consistent with those of Javan Biparva et al. (2022), who discovered that memory loss, concentration, decision-making, and subthreshold and clinically significant distress persist after treatment.

Functional well-being was the fourth domain of QOL investigated in this study. Participants responded to questions about their functional and overall well-being. Table 4.8 summarizes their responses:

Table 4.8***Functional Domain of Quality of Life***

Questions	Responses	(n=256)	(%)
I am able to work (include work at home)	Work affected	205	80
	Work not affected	51	20
My work (include work at home) is fulfilling	Not fulfilling	198	77
	Fulfilling	58	23
I am able to enjoy life	Not as always	204	80
	As always	52	20
I have accepted my illness	Not accepted	6	2
	Accepted	250	98
I am sleeping well	Sleep affected	123	48
	Sleep not affected	133	52
I am enjoying the things I usually do for fun	Not enjoying	57	22
	Some enjoyment	199	78
I am content with the quality of my life right now	Not content	48	19
	Content	208	81

A large 205 (80%) of respondents reported reduced functional abilities, with the remaining 20% stating that they could still work. This suggests that breast cancer had a substantial influence on the participants' ability to work. According to Surbhi et al. (2022), inability to work is a threat to financial stability, career growth, and quality of life. Most respondents, 198 (77%), were unfulfilled in work, including at home. Interestingly, 58 (23%) were happy. This suggests breast cancer may lower job satisfaction. In the first phase of this study (pp. 74: FG5 and FG3), some participants reported decreased job satisfaction and engagement owing to performance difficulties or job loss. Majority 204 (80%) of the respondents reported that they were unable to enjoy life as they did before breast cancer; nevertheless, 52 (20%) said they still did. According to Javan Biparva et al. (2022), physical, emotional, and social concerns during and after treatment may lower life satisfaction. Most respondents, 250 (98%), accepted their diagnosis, while six (2%) did not. This shows that most women accepted their diagnoses and adjusted to their situation. According to Saina et al. (20121), acceptance is a crucial

psychological element that influences well-being and quality of life after breast cancer. Some 123 (48%) of respondents said the condition affected their sleep. According to Safar and Mazanec (2023), sleep disruptions are widespread among BC patients and can have a significant influence on both physical and mental health. In addition, 199 (78%), expressed just some enjoyment in their normal leisure activities, while 57 (22%) reported they no longer did. This supports Javan et al.'s (2022) finding that breast cancer may impair a woman's recreational enjoyment.

An additional 208 (81%) respondents were satisfied with their functional QOL, while 48 (19%) were dissatisfied. The qualitative findings (p. 74: FG3 and FG4) revealed that, despite breast cancer, several participants felt purpose, meaning, and fulfilment in their new roles. Fearon et al. (2020) say this displays resilience and adaptability to difficult situations. Further, the current study's qualitative findings (pp. 74–FG5) revealed underlying variables that may explain why 19% of participants were dissatisfied with their functional QOL. The data showed harsh conditions such as unemployment, desertion, inability to afford food, treatment, and other needs, and physical and emotional pain. The results indicate that breast cancer has the potential to affect work performance, leisure activities, contentment, and enjoyment. Women have high familial status; therefore, QOL after breast cancer affects both the patient and their family. Despite these challenges, people can find meaning in their lives. Psychosocial distress may quadruple physical symptoms, according to research; collectively, they lower women's functional or global quality of life (Javan Biparva et al., 2022). This study found low ratings in the physical and emotional dimensions, like Javan Biparva et al. (2022), but not in the functional domain of quality of life. The functional/global domain scored well in this investigation. Our study's premise, that social support moderates psychosocial distress and QOL, suggests that a high functional quality of life could be associated with high social and family wellbeing ratings.

This section examined how breast cancer patients' additional concerns affect their global quality of life. Table 4.9 outlines their responses:

Table 4.9

Additional Concerns

Question	Responses	(n=256)	(%)
I am bothered by inability to have children	Not bothered	208	81
	Bothered	48	19
One or both of my arms are swollen or tender	Not Swollen	134	52
	Swollen	122	48
Have problems raising my arm or moving it sideways	No problem	133	52
	Problem	123	48
I worry that other members of my family might someday get the same illness I have	No worry	137	54
	Worry	119	46
I worry about the effect of stress on my illness	No worry	114	45
	Worry	142	55

Only 48 (19%) of respondents expressed concern about their inability to have children, while 208 (81%) stated it made no difference. A large percentage of breast cancer patients in the examined group did not consider this concern a serious source of distress. This may be because they have children or the diagnosis came first. Arm swelling was reported by 122 (48%), but not by 134 (52%). Disease or surgery that impedes lymphatic drainage often causes arm swelling (lymphedema). Similarly, 122 (48%), like 134 (52%), had trouble raising or moving their arm laterally. This implies that many breast cancer patients have arm mobility difficulties after treatment. Apart from being uncomfortable, arm mobility issues impede functionality and role-playing, causing a loss of purpose and meaning that lowers emotional well-being (Jørgensen, et al., 2021)..

In addition, 137 (54%), were not concerned about other family members developing breast cancer, while 119 (46%) were. This shows that hereditary vulnerability may explain the high percentage of responder's concern about their family members' health and their chance of having the same disease. More than half of those interviewed, 142 (55%), expressed concern

about the influence of stress on their disease, while 114 (45%) indicated no concern. That shows that many breast cancer patients believe stress could worsen their prognosis and quality of life.

Infertility can result from chemotherapy (Jäkel, et al., 2023). Interestingly, most survey participants reported no fertility concerns. It shows that reproduction and reproductive difficulties may not be the main distress for many participants. It is also possible that diagnostic concerns outweighed fertility concerns. Furthermore, the qualitative findings (pp. 106–N4) revealed that some participants were concerned about becoming pregnant, despite the fact that their fertility remained unchanged. It was anticipated that a significant number of respondents would have arm swelling and pain (lymphedema), as well as mobility difficulties. Disease and treatment, especially surgery and radiation, often cause these symptoms. Swelling may be long lasting if the tumour blocks lymphatic drainage, lymph node excision, or treatment-related damage. Surgical procedures and scar tissue can potentially impair arm mobility. These physical limits may affect a patient's everyday activities, body image, emotional health, and quality of life, according to Hoyle et al. (2022).

This finding is congruent with the findings of Hoyle et al. (2022), who ascertained that body image and sexuality problems were common, acute, and disturbing in women with lymphedema. Furthermore, Bowman et al. (2020) meta-analysis discovered that longitudinal studies showed a decline in quality of life and psychosocial functioning among breast cancer patients as time passed following treatment. The respondents' concerns about family members getting breast cancer and stress's effects on prognosis and QOL were rational and prevalent. Family history of breast cancer may raise concerns about their loved ones' hereditary and environmental risk. This concern may be caused by a wish to protect loved ones from the same illness and suffering. Participants were also concerned about stress having a consequence on

treatment response and disease progression. This supports Ercolano et al. (2019)'s finding that untreated distress can increase morbidity and death and worsen other symptoms in the treatment sequela.

In summary, these findings established that breast cancer patients' physical, sexual, emotional, cognitive, and additional concerns domains were the most affected. Social and familial quality of life was high in this study. This supports Isaiah's (2019) finding that KNH breast cancer patients' relatives provided good social support. In contrast to Isaiah's 2019, this study established substantial friend support. However, stigma and myth-fuelled labelling negatively influenced women's emotional well-being and fostered social withdrawal, according to qualitative findings (pp. 106–N4).

Current quality of life findings supports Mokhatri-Hesari and Montazeri's (2020) definition of QOL as the positive and negative occurrences the breast cancer experience brings. Qualitative findings showed unanticipated gains despite losses defining breast cancer experiences and quality of life (pp. 74–FG3). Post-diagnosis interactions with spouses, family members, colleagues, fellow patients, and healthcare professionals had caused some women to reassess their life goals and take on new roles. The qualitative findings revealed that financial stress, reliance, and loss of autonomy were the most common underlying aspects that influenced participants' physical and emotional domains (pp. 74–FG4, FG5, and T10). Many women were financially and care-dependent on others due to the difficulty of making a living and fulfilling duties. According to Fernández-De-Larrea et al. (2018), breast cancer and its treatment can affect women's quality of life in numerous ways, including reliance, identity loss, anxiety, worries, and physical and social impairment. Inability to fulfil duties negatively influenced the role function domain of quality of life, according to Kanwal et al. (2022).

In multiple domains, the respondents had diminished health and quality of life. Like Bubis et al. (2018), the current study confirmed that BC patients experienced financial stress, fear of the unknown, heightened anxiety and sadness, and trouble adjusting to the diagnosis during diagnostic and treatment planning. Patients experienced fatigue, nausea, loss of appetite, sleep disturbance, hot flashes, loss of libido, vaginal dryness, depression, anxiety, concentration and memory issues, and dissatisfaction with appearance during treatment. According to Mandelblatt et al. (2020), these symptoms rarely occur alone. These symptoms sometimes occur simultaneously and increase, causing psychological distress and reduced physical, emotional, and sexual QOL in breast cancer patients.

Moreover, for some respondents, especially young mothers, worry, dread, and concern persisted throughout the disease trajectory. This supports Aitken and Hossan (2022), who found that psychosocial distress continues for some cancer patients throughout their lifetimes, especially throughout diagnosis, treatment, and survivorship. Current findings contradict prior research suggesting psychosocial distress decreases over time. Additionally, pain was common among the study participants. However, pain severity varied by illness stage and other symptoms caused by the disease or treatment. Advanced illness patients experienced chronic pain. Depression, fatigue, and sleep disturbance often accompanied pain reports. This corroborated Cleeland's (2007) claim that cancer and symptom burden build up to psychosocial distress and affect all QOL domains. This supports Garcia et al. (2015), who found that 60–90% of advanced BC patients experienced cancer pain, impairing their physical, emotional, social, and global QOL.

Breast cancer diagnosis and treatment cause several bodily changes. Breast cancer patients' perceptions of their changed bodies affect their quality of life (Sebri & Pravettoni, 2023). Perceptions of attractiveness, femininity, and sexuality changed as women's appearance changed, according to this study. Many felt insufficient and less feminine, causing self-

consciousness, social anxiety, and isolation which affected their emotional and social QOL. This supports Kocan and Gursoy (2016), who found that mastectomy deprived women of womanhood, identity, and role performance, leaving them feeling empty and inadequate.

Finally, the qualitative result on a lack of meaning and purpose (pp. 74-T10) corroborates the descriptive findings on low emotional and cognitive QOL scores. This shows that purpose and meaning may benefit both cognition and emotional well-being in BC patients. This validates Jewett et al.'s (2022) conclusions that breast cancer is a physical, emotional, and existential crisis that reveals one's inevitable death often shatters one's worldview.

4.12 Clinical and Demographic Findings

Age, education, marital status, employment status, income, stage at diagnosis, surgical intervention, and treatment type were among the clinical and sociodemographic characteristics evaluated. The clinical and demographic findings were as shown in Table 4.10:

Table 4.10***Clinical and Socio-demographic Findings***

Question	Response	(n=256)	(%)
Age in Cohorts	<34	18	7
	35-44	80	31
	45-54	93	36
	55-64	55	21
	>65	10	4
What is the highest level of education you have completed?	None At All	10	4
	Primary School	110	43
	Secondary School	90	35
	Informal Training	1	0
	College/University	45	18
What is your marital status?	Divorced	1	0
	Married	129	50
	Separated	31	12
	Single	66	26
	Widowed	29	11
What is your current employment status?	Business	61	24
	Employed	20	8
	Casual	16	6
	Unemployed	159	62

The average age of the 256 women in this study was 47. In fact, 18 (7%) were under 34 years old, the bulk of respondents, 173 (68%), were aged 35 to 54. Notably, 55 (21%) were between the ages of 55 and 64, and 10 (4%) were above 65. Youngest respondent was 25, oldest 70. This finding matches qualitative findings with a median age of 48 (pp. 69). Younger women may face psychosocial distress due to career, body image, social and family life, and fertility threats, according to Surbhi et al. (2022). Western research shows a median breast cancer diagnostic age of 59–62. Current findings support Bidoli et al.'s (2019) finding that young women in low- and middle-income countries have a greater breast cancer risk. However, Aitken and Hossan (2022) found a greater prevalence of breast cancer in women under 50 in Australia, indicating that high-income countries are diagnosing younger women.

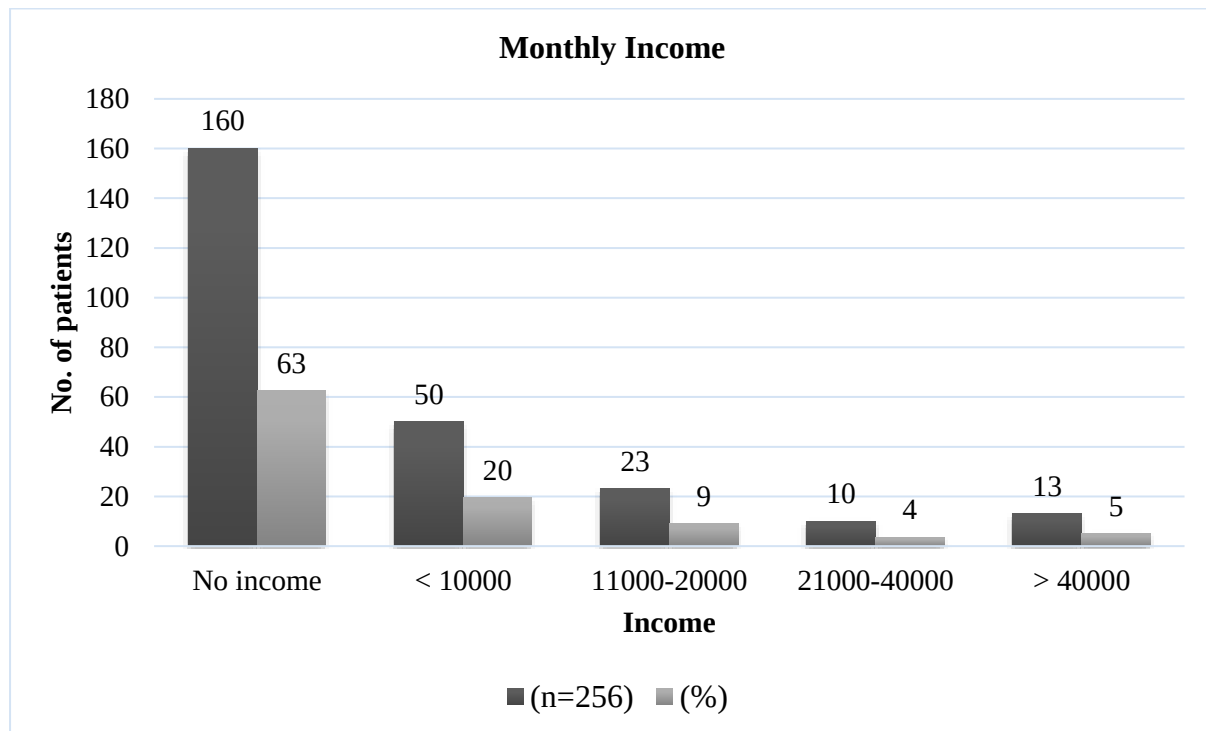
The participants' educational backgrounds were diverse, with 110 (43%) successfully completing primary school, 90 (35%) completing secondary school, and 45 (18%) obtaining a collegiate or university education. A few, 11 (4%) acknowledged no formal education. The majority of participants came from a public hospital, where care is less expensive for low-income women, which could explain why few had college degrees. The participants' marital statuses were 129 (50%) married, 66 (26%) single, 31 (12%) separated, 29 (11%) widowed, and one (0.4%) divorced. The study's qualitative findings (pp. 88–D1) found that married women received more NHIF services due to their spouse's coverage. Since they only had one NHIF card, unmarried women experienced financial hardship, despair, poor treatment adherence, and poor physical and emotional wellbeing.

Most of respondents, 159 (62%), were unemployed, with 61 (24%) in business, 20 (8%) in official work, and 16 (6%) as casual workers. This is significant since employment influences income, treatment costs, and other personal and family needs. According to this study's qualitative findings (pp. 108-FG7), many breast cancer patients lose their jobs or businesses owing to BC-related absenteeism. Furthermore, because casual labourers can only earn when they are able to work, the women were unable to earn a living while undergoing treatment or being ill.

In order to understand the financial issues cancer patients may encounter, their income distribution was investigated. Figure 4.1 shows their responses:

Figure 4 1:

Monthly Income

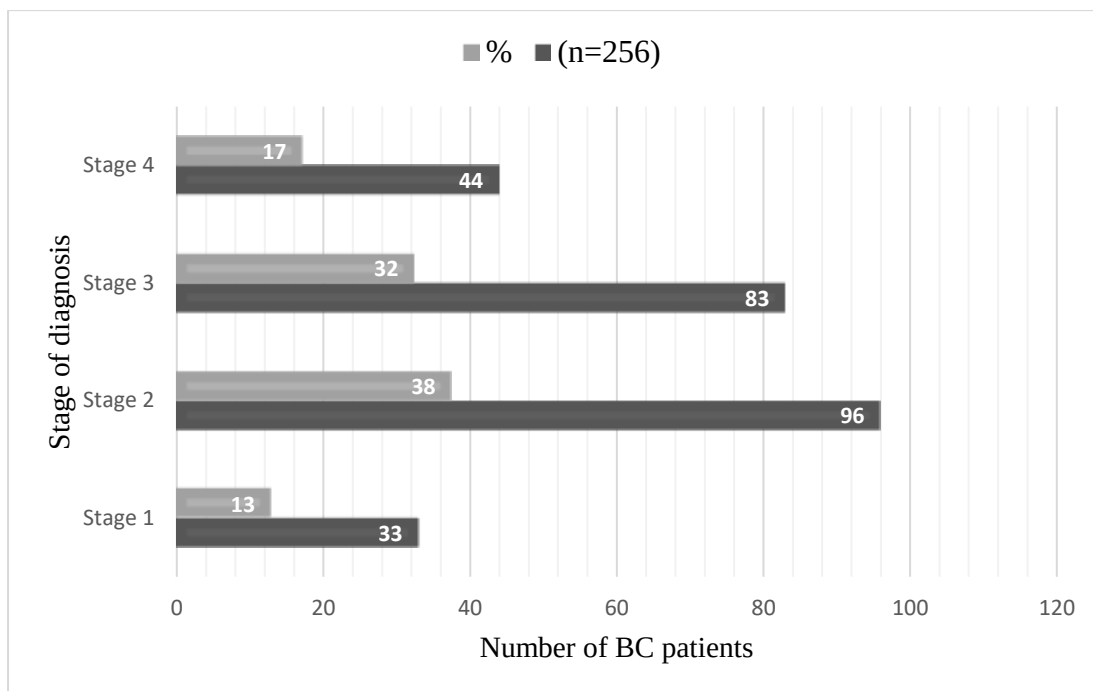


The findings show a considerable financial gap between breast cancer patients. A large number 160 (63%) reported no income, indicating monetary fragility in this cohort. Further breakdown of income categories shows that 50 (20%) had monthly salaries below Ksh. 10,000, 23 (9%) between 11,000 and 20,000, 10 (4) % between 21,000 and 40,000, and 13 (5%) above 40,000. The dismal economic situation of breast cancer patients is illustrated by the fact that more than half of the participants had no source of income and an additional 20% earned less than Ksh 10,000 per month. Breast cancer is capital-intensive; thus, this finding is significant. Poor prognosis, distress, and mortality were linked to money shortages in the qualitative findings (pp.T5 and T10). This data supports Ayyala 's (2020) finding that US breast cancer patients experience financial difficulties and poor quality of life.

The findings below represent the distribution of cancer patients across different disease stages (Stage 1, Stage 2, Stage 3, and Stage 4). The findings are as shown in Figure 4.2:

Figure 4.2:

Stage at Diagnosis

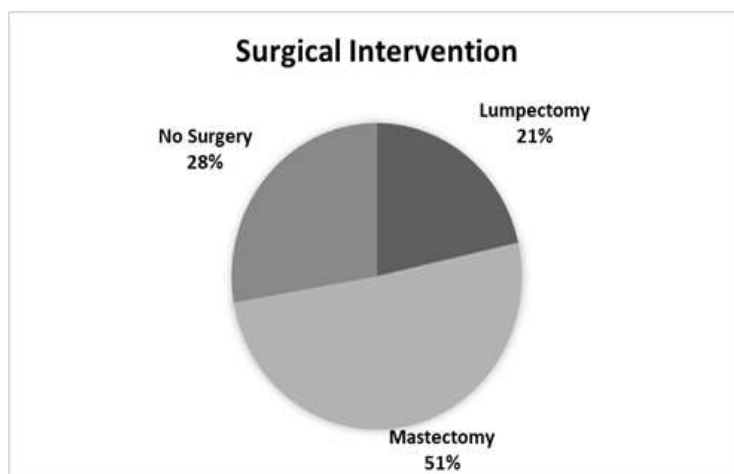


Half of the respondents (51%) were diagnosed early, with 33 (13%) in the first stage and 96 (38%) in the second stage. Those diagnosed at stage three, 83 (32%), and stage four, 44 (17%), were considered to have received a late diagnosis. This suggests that almost half of the respondents (49%) were diagnosed late. In the qualitative study (pp. 89–T2 and D2), younger women with late diagnoses reported more psychosocial distress, including fear of death, anxiety over their children, cancer pain, and impaired role-playing. Some were in denial while others had existential crises. In addition, many late diagnoses were accompanied by fungating wounds, which caused rejection, shame, stigma, and social withdrawing (pp.99–N1). Like Fernández-De-Larrea et al. (2018) and Twahir et al. (2021), this study found poor emotional QOL in late-diagnosed women.

Surgery is essential for breast cancer treatment. It involves mastectomy, the removal of one or both breasts, and lumpectomy, the removal of malignant and surrounding tissues. Figure 4.3 shows surgical intervention findings:

Figure 4 3:

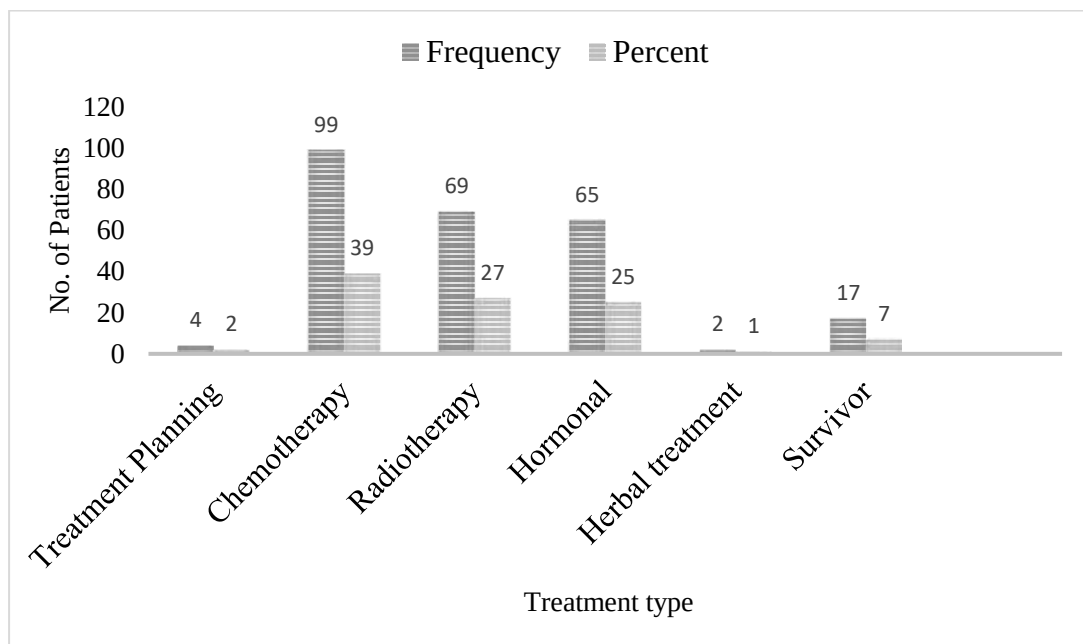
Surgical Intervention



A significant 130 (51%) of respondents had a mastectomy. Another 71 (28%) had a lumpectomy, while 55 (21%) did not. Those who had not undergone surgery may have had a late diagnosis or were receiving neoadjuvant chemotherapy to reduce the tumour before surgery, while others were receiving palliative care. Surgery for breast cancer causes scars, disfigurement, breast loss, and asymmetry. Qualitative data (pp. 102–F3) showed that some breast reconstruction patients thought the procedure improved their appearance, but mastectomy patients reported negative body image and self-consciousness due to asymmetry and feelings of incompleteness (pp. 102–N4). This supports Kocan and Gursoy (2016) and Thakur et al. (2022) results that mastectomy patients had half-woman syndrome, which was distressing and impaired their emotional, social, and sexual well-being.

The participant's treatment included chemotherapy, radiation, hormonal therapy, and Herceptin-targeted therapy. The results were as shown in Figure 4.4:

Figure 4.4:
Treatment Type



A significant number 99 (39%) was receiving chemotherapy, another 69 (27%) were receiving radiotherapy, another 65 (25%) were on hormonal treatment. A small number 2 (1%) were on herbal treatment and 17 (7%) had finished treatment, hence, had come to hospital for review. Hair loss, nausea, and fatigue are frequent chemotherapy side effects. These adverse effects may contribute psychosocial distress and poor quality of life, according to Safar and Mazanec (2023). The protracted radiation treatment may produce skin changes, fatigue, and emotional distress, depending on the area being treated. Hormonal treatment can produce hot flashes, mood changes, and joint pain, lowering quality of life. The qualitative findings (pp. 89-T8 and F1) show that finishing treatment is a milestone, but recurrence, body image, and life adjustment may cause psychosocial distress.

4.13 Psychosocial Distress Prevalence

According to Chirico et al. (2017) breast cancer patients have a higher prevalence of psychological distress than the general population, which raises their chance of developing

clinically severe anxiety, depression, or both. Distress was measured using the distress thermometer whereby a score of <4 is considered as normal, a score of >4 is considered clinically significant, indicating that the individual requires additional care or referral for psychosocial support. A score of >7 indicates severe distress requiring immediate intervention. The findings are as shown on Table 4.11:

Table 4.11

Prevalence of Psychosocial Distress

Distress Severity	(n=256)	(%)
Normal	37	14
Clinically Significant	59	23
Severely Distressed	160	63

The results show that majority 160 (63%) of the participants were severely distressed, 59 (23%) had clinically significant distress while 37 (14%) of the participants had subthreshold distress. The findings suggest that more than half of the 160 participants (63%) were severely distressed, 59 (23%) had clinically significant distress, and 37 (14%) experienced subthreshold distress.

The qualitative findings show that cancer patients struggle with psychosocial distress (pp. 85-D4, T3, and F2). At baseline, the distress thermometer and checklist showed clinically severe psychosocial suffering in over 86% of individuals. Financial issues affect psychosocial distress and quality of life, as 91% of respondents (table 5.8) cited finances as a main source of distress. Psychological distress in cancer patients is linked to reduced quality of life and poor survival, according to Almigbal et al. (2019). The current findings support Carlson et al. (2019), Goerling et al. (2020), and Lo-Fo-Wong et al. (2016) findings showing 25% to 50% of breast cancer patients feel substantial distress. This finding also echoes Macharia et al. (2019), which demonstrated that Kenyan cancer treatment is disease-focused and does not diagnose, track, or mainstream psychological distress.

In addition to the distress thermometer, a problem inventory was administered. The inventory's objective was to determine the sources of the patient's distress; the findings were as reported in Table 4.12:

Table 4.12

Problem Checklist

Problem	(n=256)	%
Finances	232	91
Anxiety	96	38
Fear	83	32
Enough food	78	30
Pain	77	30
Relationships	35	14
Treatment decisions	17	7
Meaning and purpose	11	4
Roles	6	2
Humiliation	3	1
Chemo trauma	1	0

Most respondents—232 (91%), were struggling financially. A large 96 (38%) had worry, 83 (32%) fear, 77 (30%) hunger, and 78 (30%) pain. 35 (14%) had interpersonal issues, 17 (7%) had treatment-related distress, and 11 (4%) struggled to find meaning. Six (2%) had role-playing concerns, three (1%) struggled with shame, and one felt relief from chemotherapy-related trauma. This supports the qualitative findings (pp. 84–86; T7, FG5, and D3) that financial hardship was the most stressful concern for participants.

Notably, 30% of respondents were food insecure due to financial constraints. Cancer patients, on the other hand, need to consume healthful foods in order to boost immunity and fortify their bodies against chemotherapy. Financial distress is linked to poor prognosis and quality of life, according to Ayyala (2020) and Ngan et al. (2023). This finding backs up Zafar and Abernethy's (2015) claim that the enormous financial burden imposed on patients and their

families has long-term effects for prognosis, psychosocial distress, and quality of life, similar to the toxicity of chemotherapy.

4.12.1 Emotional Distress

The respondents were assessed for clinically significant anxiety and depression using the Hospital Anxiety and Depression Scale. The assessment consists of fourteen questions, with seven questions focusing on anxiety and the remaining seven questions focusing on depression. The scores ranged from 0 to 21, with each subscale score of 0–7 being within the normal range, 8–10 being classified as borderline, and values over 11 being classified as indicative of clinical caseness. Together, the anxiety and depression scores result in a 42 score, which represents emotional distress; a score of ≥ 15 denotes moderate to severe distress. The results were as shown in Table 4.13:

Table 4.13

Hospital Anxiety and Depression Scale Scores

Anxiety Scores		
Score	(n=256)	%
Normal	70	27
Border Line	84	33
Clinical Caseness	102	40

Depression Scores		
Score	(n=256)	%
Normal	64	25
Border Line	99	39
Clinical Caseness	93	36

Combining the anxiety and depression scores result in a 42 score, which represents emotional distress; a score of ≥ 15 denotes borderline to severe distress. The results were as shown in Table 4.14:

Table 4.14***Emotional Distress***

Emotional Distress		
Scores	(n=256)	(%)
Normal	64	25
Borderline-Clinical Caseness	192	75

Emotional distress is defined as the co-existence of anxiety and depression. The results show that 40% of subjects had clinically significant anxiety. Another 33% showed borderline anxiety symptoms, while 27% reported normal scores. Similarly, 36% of subjects exhibited clinical depression symptoms, 39% had borderline depression symptoms, and 25% were normal. Further, the findings indicate that 75% of subjects reported borderline to severe emotional distress, while 25% experienced normal emotional distress.

The data show a high level of emotional distress; Ebob-Anyah and Bassah (2022) link high levels of emotional distress to poor quality of life in all domains. The high levels identified in the current study necessitate further investigation to determine who could benefit from psychotherapy and pharmacological therapies. Further, current study confirms Ebob-Anyah and Bassah's (2022), claim that distress ranges from subthreshold emotional vulnerabilities like worry, fear, and sadness to clinically severe disorders like anxiety and depression.

Nearer home, this study confirms Isaiah's (2019) finding that over half of KNUH breast cancer patients suffered severe anxiety and depression. Three years later, the hospital screens for distress during diagnosis and treatment planning. However, our qualitative investigation found that clinically significant mental disorders like depression, anxiety, and PTSD are not screened afterward (pp. 92–111). Clinically significant disorders remain undiagnosed and untreated due to the lack of screening at later stages of the disease continuum. This finding is consistent with the findings of Aitken and Hossain (2022), Carlson et al. (2019), and Kagee et al. (2018), who discovered that depression, including a lack of motivation to deal with everyday challenges

and a persistent sense of hopelessness, is associated with a breast cancer diagnosis. This study contradicts Iddrisu et al. (2020), who found that young breast cancer patients experience more severe depression than older women. Current study found depression in both demographics. In contrast, the younger women who were interviewed demonstrated significantly greater levels of fear, denial, and cognitive distortions, as indicated by their minimisation of diagnostic implications and heightened anxiety-related emotions (pp.99-T8 and F2).

4.14 The Influence of Treatment Side Effects on Quality of Life

The physical treatment side effects experienced by the BC patients studied. The responses were collapsed into two categories "Not at all" and "Moderate-severe" for various symptoms, and the frequency and percentage of responses for each symptom are provided on Table 4.15:

Table 4 15***Treatment Side Effects (Physical Symptoms)***

Question	Reponses	n=256	%
Pain	None	78	31
	Moderate-Severe	178	69
Constipation	None	118	46
	Moderate-Severe	138	54
Nausea/Vomiting	None	85	33
	Moderate-Severe	171	67
Diarrhea	None	144	56
	Moderate-Severe	112	44
Appetite	None	53	21
	Moderate-Severe	203	79
Lack of energy	None	51	20
	Moderate-Severe	205	80
Sleep disturbance	None	74	29
	Moderate-Severe	182	71
Swollen arm or hand	None	125	49
	Moderate-Severe	131	51
Hot flashes	None	43	17
	Moderate-Severe	213	83
Changes in skin colour	None	43	17
	Moderate-Severe	213	83
Memory/concentration	None	81	32
	Moderate-Severe	175	68
Mouth sores	None	154	60
	Moderate-Severe	102	40
Sexual difficulties	None	113	44
	Moderate-Severe	143	56
Hair loss	None	25	10
	Moderate-Severe	231	90
Gained/lost weight	None	33	13
	Moderate-Severe	223	87

The findings show that 178 (69%), reported varying degrees of pain, while 30% reported no pain. Surgical, radiation, chemotherapy, and disease-related breast cancer treatments often cause pain (Bubis et al., 2018). Just over half of the subjects, 138 (54%), reported constipation, while 118 (46%) did not. Constipation can result from painkillers, chemotherapy, and cancer treatment diet modifications. Additionally, a large number 171 (67%) reported suffering from

nausea and vomiting, only 85 (33%) did not. Nausea and vomiting can induce physical, nutritional, and metabolic abnormalities, increasing anxiety and lowering quality of life, according to Yeo et al. (2021). Some 122 (44%) respondents reported diarrhea, whereas 144 (56%) did not. According to Safar and Mazanec (2023), untreated chemotherapy-induced diarrhea might cause dehydration and electrolyte abnormalities.

Most respondents (203, 79%) reported moderate to severe appetite loss, whereas 53 (21%) did not. Cancer treatment can diminish appetite, resulting in weight loss and malnutrition (Safar & Mazanec, 2023). The majority of 205 (80%) participants lacked energy, whereas 51 (20%) did not. Cancer treatment, pain, and sleep deprivation can result in fatigue. Fatigue can be incapacitating, limiting a BC patient's role function (Bubis et al., 2018). The majority of participants, 182 (71%), reported moderate to severe sleep issues, whereas 74 (29%) did not. According to Mandelblatt et al. (2020), insomnia is associated to psychosocial distress and low quality of life. In addition, 131 (51%) of participants reported moderate-to-severe arm or hand oedema, while 49% of participants did not. Lymphedema, or swelling in the arm or hand, can occur as a result of the cancer or following lymph node removal or radiation therapy (Jørgensen et al., 2021). According to Hoyle et al. (2022), women with lymphedema have poor functional and emotional quality of life.

Most respondents, 213 (83%), reported moderate-to-severe hot flushes, while 43 (17%) did not. Hot flashes from chemotherapy and hormonal treatments for breast cancer can worsen anxiety and lower quality of life due to fertility and discomfort, according to Hamer et al. (2017). Another 213 (83%) respondents reported moderate to severe skin colour changes, but 43 (17%) did not. Skin changes can be caused by chemotherapy, radiation, or targeted therapies. Skin discolouration is linked to body image issues and consequent social withdrawal (Guedes et al., 2018). Among the participants, 175 (68%) had moderate-to-severe memory and attention issues, while 81 (32%) did not. According to ElMokhallalati et al. (2022), "chemo

brain," or cognitive impairment, can affect memory, focus, and processing speed during and after cancer treatment. Further, Yang and Hendricks (2018) suggest that treatment and psychological distress may cause cognitive impairment, compromising emotional, cognitive, interpersonal, and social quality of life.

A substantial proportion of women 154 (60%) did not experience mouth sores while 102 (40%) experienced moderate to severe mouth sores. Mouth sores can occur due to the effects of chemotherapy or radiation therapy on the oral mucosa (Safar & Mazanec, 2023). Moreover, mouth sores affect ability to eat, contributing to nutritional deficits, weight loss and overall poor quality of life. More than half of the participants 143 (56%) reported moderate to severe sexual difficulties, while 113 (44%) did not experience this symptom. Breast cancer treatment can influence sexual function and lead to changes in desire, arousal, and physical discomfort during sexual activity, leading to diminished sexual wellbeing (Momeni et al., 2023).

The majority of women 231 (90%) experienced moderate to severe hair loss, while 25 (10%) did not. Hair loss is a well-known side effect of chemotherapy and can have significant emotional and psychological negative effect on patients (An et al., 2022). A significant majority 223 (87%) of the participants reported moderate to severe weight changes, while 33 (13%) did not experience this symptom. According to Ahn and Suh (2023), cancer treatment, including chemotherapy and hormonal therapies, can cause weight gain or weight loss in some individuals, but in the current study, majority of participant experienced weight loss. The qualitative findings of this study (pp. 86-D3 and FG11) showed that physical symptoms of treatment were distressing and adversely influenced all quality of life domains.

The current study, like Bubis et al. (2018) and Mandelblatt et al. (2020), discovered that hair loss was the most common physical symptom, followed by weight loss, hot flashes, skin

discolouration, fatigue, loss of appetite, and sleep disturbance. Still, discomfort, memory, attention, nausea, vomiting, sexual dysfunction, constipation, and lymphedema were prevalent.

4.13.1 The Influence of Psychological Side Effects of Treatment on Quality of Life

Table 4.16 shows breast cancer patients' treatment-related psychological symptoms, including sadness, worry, irritability, and nervousness:

Table 4 16

Psychological Symptoms

Question	Reponses	n=256	%
Feeling sad	Mild	145	57
	Severe	111	43
Worry	Mild	146	57
	Severe	110	43
Feeling irritable	Mild	154	60
	Severe	102	40
Feeling nervous	Rarely	181	71
	Frequently	75	29

Over half, 145 (57%) experienced mild sadness, while 111 (43%) reported severe sadness. This discovery stresses the emotional issues that breast cancer patients endure because of treatment and emphasises the importance of sufficient psychological assistance during treatment. An equal number, 145 (57%) of the participants reported experiencing mild worry, while 111 (43%) reported experiencing severe worry. The frequency of mild irritability was relatively high 154 (60%), while severe irritability responses were comparatively lower 102 (40%). A significant 181 (71%) reported mild nervousness while 75 (29%) reported experiencing severe nervousness. This suggests that the psychological influence of breast cancer treatment extend beyond sadness and encompasses other anxiety-related symptoms, which may require targeted interventions.

Psychologic symptoms were prevalent in the study. Mild symptoms varied from 57% to 71%, and severe symptoms ranged from 29% to 43%. The qualitative findings of the current

investigation showed that these symptoms clustered and intensified, causing insomnia and fatigue (pp. 78–79, FG4 and T5). These cumulative effects negatively affect all QOL domains. This conclusion is consistent with studies by Hamer et al. (2017) and Mandelblatt et al. (2020), which discovered a significant occurrence of symptom clusters such as pain, sleep disruption, and depression in women diagnosed with breast cancer, affecting all QOL domains.

4.15 The Influence of Body Image on Quality of Life

Breast cancer patients' cognitive sense of their physical self, viewpoint on physical appearance and well-being, and sexual functionality make up their body image. Thus, the findings include breast cancer patients' emotional evaluations of femininity, contentment with physical changes, and sexual functioning before and after diagnosis. The data was divided into two categories: patients who were dissatisfied with their body image and those who expressed some level satisfaction before and after breast cancer. The effects on sexual functioning were classified into three categories: decreased, no effect, and increased desire; sexual relationships; frequency of initiating sexual contact; and satisfaction with sex, which were categorised as deteriorated, no effect, or improved. Table 4.17 shows the results:

Table 4.17***Body Image and Sexuality Prior and After Breast Cancer***

Questions	Responses	(n=256)	(%)
Body Image before Breast Cancer	Negative	4	2
	Positive	252	98
Body Image after breast cancer	Negative	157	61
	Positive	99	39
Prior to having breast cancer, how satisfied were you with your sex life?	Not Satisfied	19	7
	Satisfied	237	93
Prior to having breast cancer, how confident did you feel about yourself as a sexual partner?	Not Confident	17	7
	Confident	239	93
How has having breast cancer affected your desire for sexual contact?	Decreased	185	72
	No Effect	57	22
	Increased	14	5
How has having breast cancer affected your sexual relationship(s)?	Worsened	155	61
	No Effect	85	33
	Improved	16	6
How has having breast cancer affected the frequency with which you initiate sexual contact?	Worsened	157	61
	No Effect	85	33
	Improved	14	5
How has having breast cancer affected your sexual satisfaction when you have sex?	Worsened	155	61
	No Effect	88	34
	Improved	13	5
How important are your breasts to your sexual experience?	Not important	8	3
	Important	248	97
How important are your breasts to your Identity as a woman	Not important	3	1
	Important	253	99

Prior to breast cancer, the vast majority of respondents, 252 (98%) had a favourable opinion of their bodies. In comparison, only four (2%) respondents reported having a negative body image. This is a positive finding in the grand scheme of things, as it indicates that the majority of participants felt confident and satisfied with their appearance prior to their diagnosis.

Following a breast cancer diagnosis, the distribution of responses changed dramatically, with 157 (61%) having a negative body image and 99 (39%) expressing a favourable one. The significant increase in respondents with a negative body image following breast cancer implies that the diagnosis changes a woman's perspective of herself. Breast cancer and its treatment can cause hair loss, skin discoloration, breast loss, or a foul-smelling wound, which might lower body image. In the qualitative study (pp. 101–F3, FG9, and N3), mastectomy patients described themselves as stooping, unbalanced, shameful and unattractive. This supports Thakur et al.'s (2022) assertion that surgery and treatment side effects affect body image and Alvarez-Pardo et al.'s (2023) argument that breast cancer diagnosis and treatment adversely influence women's body image.

Before breast cancer diagnosis, 237 (93%) respondents were satisfied with their sexual activities, whereas 19 (7%) were not. The majority (237, 93%) of respondents felt secure as sexual partners before breast cancer diagnosis, and only 19 (7%) were not. Again, after breast cancer, 185 (72%) respondents reported a decrease in sexual desire, 57 (22%) reported no effect, and 15 (5%) reported an increase. 167 (65%) of respondents reported worsened sexual relationships after breast cancer diagnosis, while 73 (29%) reported no effect and 16 (6%) improved. Breast cancer decreased sexual contact frequency for 157 (61%) of respondents, had no effect on 85 (33%), and improved for 13 (5%). After breast cancer, 157 (61%) reported less sexual pleasure, 88 (34%) reported no change, and 13 (5%) reported an increase. Most respondents, 248 (97%), said their breasts were important to the sexual experience 8 (3%) disagreed. Overall, 99% of women said their breasts were important to their femininity.

This result suggests a decline in sexual health, relationships, and emotions of femininity and identity following breast cancer. The reported decline in sexual function after breast cancer is attributable to various factors, such as physical and emotional changes, fatigue, anxiety, and fear of pain or discomfort during sexual activity, but also social stigma (Aitken & Hossan,

2022). This finding is significant because the Kenyan breast cancer treatment paradigm does not take into account sexuality concerns. This finding endorses current study's qualitative findings (pp. 105–T10, T11, FG2, and N4) and Brajkovic et al.'s (2021) conclusion that breast cancer and its treatment compromised sexual quality of life, body image, self-esteem, and mood. Additionally, qualitative findings (pp. 102–N4) established that the diagnosis and treatment of breast cancer could put a strain on relationships, leading to emotional distress, communication barriers and changes in physical intimacy.

Most significantly, 99% of respondents believed breasts were essential to femininity and sexuality. This highlights the significance of breasts in body image, femininity, and sexual identity. Losing one or both breasts to breast cancer can damage a woman's identity and emotional, sexual, and social well-being (Thakur et al., 2022). The current study confirms the findings of An et al. (2022) and Morales-Sánchez et al. (2021), who found that many breast cancer survivors were dissatisfied with their appearance, which harmed their emotional and social wellbeing. Consistent with the findings of Iddrisu et al. (2020) that hair loss was distressing for many BC patients; a subset of this study's participants was unable to cope with the transient hair loss. The participants in both phases of this study invalidated the stereotype that discussing sexuality is taboo in an African environment by talking openly about their own sexual desires, experiences, and rebuffs. Furthermore, it is essential to note that in the literature, sexual satisfaction and self-esteem are crucial components of overall quality of life of a woman after BC (An et al., 2022).

Sexual dysfunction can be attributed to a negative body image and treatment adverse effects, according to the findings of Hoyle et al. (2022). However, the qualitative findings (pp. 101–N3) unveiled that stigma, anxiety of conceiving, and ulcerating wounds affected sexual function beyond body image and treatment side effects. Even when their desire increased, partners' rejection affected some women's sexuality and function (pp. 106, T11, and FG2).

4.16 The Influence of Social Support on Quality of Life

Social support may help breast cancer patients cope with the emotional toll. Table 4.18 shows frequency and proportion-weighted participant responses:

Table 4.18

Availability and Adequacy of Social Support

If you needed support, how often is someone available:

Questions	Responses	(n=256)	(%)
To help you if you were confined to bed?	Inadequate	37	14
	Adequate	219	86
To take you to the doctor if you need it?	Inadequate	38	15
	Adequate	218	85
To prepare your meals if you are unable to do it yourself?	Inadequate	32	13
	Adequate	224	88
To help with daily chores if you were sick?	Inadequate	38	15
	Adequate	218	85
To have a good time with?	Inadequate	41	16
	Adequate	215	84
To turn to for suggestions about how to deal with a personal problem?	Inadequate	44	17
	Adequate	212	83
Who understands your problems?	Inadequate	42	16
	Adequate	214	84
To love and make you feel wanted	Inadequate	23	9
	Adequate	233	91
To give you information to help you understand a situation with regards to cancer or its treatment.	Inadequate	40	16
	Adequate	216	84

If they were bedridden, 14% reported insufficient support, whereas 86% reported adequate support. Furthermore, 218 (85%) of respondents reported having someone take them to the doctor, with 15% stating that this was insufficient. A significant 224 (88%) of respondents had adequate help with meal preparation if they were unable, whereas 32 (12%) did not. Similarly, 218 (85%) of respondents had someone assist them with tasks when they were ill, but 38 (15%) lacked adequate support. Instrumental support, including tangible assistance, was commonly available, with rates ranging from 85 to 88%. Nonetheless, the current study's qualitative

findings (pp. 108–N4) revealed that monetary aid was an important sort of tangible assistance that eventually declined, possibly due to the time and resource demands associated with breast cancer. Furthermore, the study found that those who lacked social support reported higher levels of emotional distress and lower quality of life (pp. 111–O1). These findings are congruent with those of Fong et al. (2017), who observed that a decrease in the quantity and quality of social support was linked to an increase in negative emotional outcomes such as stress, anxiety, and depression.

Another significant 215 (84%) of respondents reported appropriate support in terms of individuals to socialise with, whilst 41 (16%) did not. Moreover, 212 (83%) of respondents had enough people to ask for personal counsel, whereas 44 (17%) did not. Another 215 (84%) had enough people who understood their concerns, whereas 41 (16%) did not. A significant 233 (91%) reported they had people that loved and made them feel wanted, whereas 23 (9%) said they did not. A considerable 215 (84) reported adequate informational support, while 41 (15) reported inadequate support. The findings show that a considerable majority of participants reported having others in their life who understood their concerns, formed an emotional link, and showed affection and support. The current study's qualitative findings (pp. 108-F4 and N4) revealed that having someone to laugh with, ask advice from, sympathise with one's concerns, love, and make one feel desirable reduced emotional distress and improved emotional and social quality of life. This finding is consistent with Jewett et al. (2022), who discovered a link between emotional support and improved emotional quality of life. The qualitative findings of this study (pp. 107-F4) revealed that women who received adequate emotional support from their spouses were less self-conscious and had healthier self-esteem. This echoes Csuka et al. (2023) who established that emotional support from spouses boosts self-esteem. However, Ginter and Braun (2019) disagreed that spouses provide the most emotional support for breast

cancer patients. The current study verified Ginter and Braun's (2019) result that most women received emotional assistance elsewhere since their partners did not.

A significant 216 (84%) of respondents had satisfactory informational support, which implies they had access to information that helped them comprehend the disease, treatment side effects, and treatment options. The qualitative study (pp. 113–T7, T4, and N3) found that patients need disease and treatment information to understand and make informed decisions, minimising treatment-related anxiety. The majority of study participants came from KNH, which had a good navigation system for practical and informational support, which may explain why so many women felt informed and supported. This confirms Ojewole et al. (2018)'s conclusion that unmet informational needs exacerbate anxiety and harm breast cancer patients' mental health.

Even though quantitative findings indicate adequate social support, the qualitative findings (pp.107-T2) established existence of negative support and its effects on health-seeking behaviours and prognostic outcomes. Negative social support occurs when the recipient perceives the support as unhelpful or feels socially constrained by others (Sebri et al., 2021). In this study (pp.107-T2) participant narratives revealed that social constraints influenced their health-seeking behaviour and that they felt emotionally isolated and alone because they had no one to communicate their concerns with or seek advice. This data lends support to Ginter and Braun's (2019) assertion that relationships are reciprocal, emphasising that social contexts can be beneficial or stressful. Like Ginter and Braun (2019), current qualitative findings (pp. 110–111–T2 and FG6) found that positive social support improved emotional and social functioning and quality of life, while a stressful social environment impaired them.

4.17 Inferential Statistics on Psychosocial Distress Predictors

This section presents the results of hypothesis testing, which involved identifying predictors of psychosocial distress across general distress, anxiety, and depression levels. The second phase aimed to determine the influence of these predictors on the quality of life of breast cancer patients.

4.18.1 Clinical and Socio-demographic Predictors of Psychosocial Distress

This section evaluates clinical sociodemographic predictors of psychosocial distress using a multinomial logistic regression model. The model was applied to participants who were classified into normal, clinically significant, or severely distressed categories. The normal category was used as a reference. The results were as presented in Table 4.19:

Table 4.19

Clinical and Socio-demographic Predictors of Psychosocial Distress

Parameter Estimates							
Distress Severity	Variable	B	S.E	Wald	df	P-Values	Odds Ratios
Clinically Significant	Marital Status						
	Single(RC)						1.000
	Married	-1.080	0.923	1.367	1	0.242	0.340
	Separated	-1.307	0.863	2.293	1	0.130	0.271
	Widowed	0.326	1.357	0.058	1	0.810	1.386
	Education						
	Primary Education(RC)						1.000
	Secondary	-0.152	0.641	0.057	1	0.812	0.859
	Tertiary/College	-0.513	0.592	0.751	1	0.386	0.599
	Income						
	Some Income(RC)						1.000
	No income	1.075	0.482	4.976	1	0.026	2.930
	Age						
	Below 45 Years(RC)						1.000
	45 And Above	0.091	0.459	0.039	1	0.843	1.095
	Stage						
	Late Diagnosis (RC)						1.000
	Early Diagnosis	-0.636	0.454	1.968	1	0.161	0.529
Severely Distressed	Marital Status						
	Widowed(RC)						1.000
	Single	-0.365	0.888	0.169	1	0.681	0.694
	Married	-0.532	0.835	0.405	1	0.524	0.587
	Separated	1.262	1.315	0.921	1	0.337	3.532
	Education						
	Primary Education(RC)						1.000
	Secondary	0.334	0.598	0.313	1	0.576	1.397
	Tertiary/College	-0.344	0.552	0.388	1	0.533	0.709
	Income						
	Some Income(RC)						1.000
	No income	1.705	0.439	15.081	1	0.001	5.500
	Age						
	Below 45 Years(RC)						1.000
	45 And Above	-0.236	0.416	0.321	1	0.571	0.790
	Stage						
	Late Diagnosis (RC)						1.000
	Early Diagnosis	-1.135	0.414	7.506	1	0.006	0.321

a The reference category is: Normal.

Data shows that cancer patients with no income were more likely to experience clinically significant distress by a factor of 2.930 ($p < 0.026$) compared to those with some income. Thus, income emerged as a significant predictor of clinically significant distress. However, P-values > 0.05 for marital status, level of education, age, and stage of disease indicate that these variables were not predictive of clinically significant distress. When comparing breast cancer patients with severe distress to those with normal distress, income (OR = 5.50; $p = 0.000$) and

stage of diagnosis ($OR = 0.32$; $p = 0.006$) emerged as significant predictors of severe distress. This means that patients with no income were 5.5 times more likely to experience severe distress. Equally, the odds of experiencing severe distress decreased by 0.321 for those who obtained an early diagnosis, compared to those with a late diagnosis. The findings were statistically significant at 5%. However, age, marital status, and education showed p -values > 0.05 , indicating they were not predictors of psychosocial distress.

This finding is notable because lack of money and resulting financial distress were rated as the major source of anxiety for many participants in the qualitative phase of this study (pp. 82–83: T7, FG5, and HF1). Additionally, this finding is comparable with those of Zafar and Abernethy (2015), who discovered that financial stress could be just as toxic as chemotherapy and other cancer treatments. This lends support to Link and Phelan's (1995) Fundamental Cause Theory, which suggests income, is a fundamental cause influencing treatment accessibility, affordability, timeliness, compliance, prognostic outcomes, and psychosocial distress.

Age, education, and marital status had no effect on psychosocial distress in this study. However, qualitative findings (pp. 104–FG7) showed that many breast cancer patients lost their jobs. Thus, this may explain why education has no significant relationship with distress. Moreover, qualitative findings established that marital status provided extra NHIF services, but age had no cumulative influence because young and old women had distinct psychological stressors (pp. 71–C1). This contradicts Al-Ghabeesh et al. (2019) and Konieczny et al. (2020), who showed a positive connection between education, marital status, age, and psychosocial distress.

4.18.2 Clinical and Socio-demographic Predictors of depression

This section used multinomial logistic regression to analyse socio-demographic predictors of depression, dividing them into three categories: normal, borderline, and clinical. A respondent was picked at random and assigned to one of these categories, with the normal category serving as the reference group. The results were as shown in Table 4.20:

Table 4.20

Demographic Predictors of depression

Parameter Estimates

Depression	Variable	B	S.E	Wald	df	P-Values	Odds Ratios
Border Line	Marrital Status						
	Single(RC)						1.000
	Married	0.179	0.632	0.080	1	0.777	1.196
	Separated	-0.370	0.583	0.403	1	0.526	0.691
	Widowed	0.449	0.792	0.321	1	0.571	1.566
	Education						
	Primary Education(RC)						1.000
	Secondary	0.129	0.472	0.075	1	0.784	1.138
	Tertiary/College	-0.512	0.455	1.270	1	0.260	0.599
	Income						
	Some Income(RC)						1.000
	No income	0.933	0.355	6.913	1	0.009	2.543
	Age						
	Below 45 Years(RC)						1.000
	45 And Above	0.152	0.355	0.183	1	0.669	1.164
Clinical Caseness	Stage						
	Late Diagnosis (RC)						1.000
	Early Diagnosis	-0.045	0.340	0.017	1	0.895	0.956
	Marrital Status						
	Widowed(RC)						1.000
	Single	-0.008	0.665	0.000	1	0.990	0.992
	Married	-0.037	0.602	0.004	1	0.951	0.964
	Separated	0.884	0.807	1.201	1	0.273	2.420
	Education						
	Primary Education(RC)						1.000
	Secondary	0.860	0.531	2.628	1	0.105	2.364
	Tertiary/College	0.136	0.521	0.068	1	0.795	1.145
	Income						
	Some Income(RC)						1.000
	No income	1.552	0.381	16.565	1	0.001	4.723
	Age						
	Below 45 Years(RC)						1.000
	45 And Above	-0.150	0.373	0.162	1	0.687	0.860
	Stage						
	Late Diagnosis (RC)						1.000
	Early Diagnosis	-0.685	0.357	3.678	1	0.049	0.504

a The reference category is: Normal.

Having no income resulted in an odds ratio of 2.543 and $p = 0.009$, indicating that when comparing BC patients in the normal category to those with borderline symptoms, those without an income were 2.54 times more likely to develop borderline depression. Similarly, when comparing BC patients in the normal category to those with clinical depression, having

no income showed OR = 4.723; $p = 0.000$, indicating that women diagnosed with breast cancer who had no income had a 4.72-fold higher risk of developing clinical depression than those who did. The findings were statistically significant at the 5% level. Consequently, income emerged as a significant predictor of depression. According to Ngan et al. (2023), the financial burden caused by expensive breast cancer treatment exerts a complex interaction that induces distress comparable to that caused by chemotherapy toxicity. These findings resonate the findings of Alagizy et al. (2020) and Carlson et al. (2019), who determined that untreated psychosocial distress is more likely to lead to clinical conditions like depression. Furthermore, their findings connected depression to poor prognoses and a lower overall quality of life.

Early diagnosis had an OR of 0.504 and a p -value of 0.049, indicating that women detected early were 0.504 times less likely to experience clinical depression than those diagnosed later. The 5% significance level was met. Late diagnosis comes with a heavier burden of symptoms, psychosocial distress, and a poor prognosis (Fernández-De-Larrea et al., 2018). The qualitative study (pp. 78–D1) indicated that late diagnosis and fungating wounds induced rejection, shame, stigmatisation, and social withdrawal, which may explain depression for this cohort. This is consistent with Fernández-De-Larrea et al. (2018) and Twahir et al. (2021), who found depression and higher mortality in late-diagnosed breast cancer patients. Interestingly, marital status, education, and age did not predict clinical depression ($p > 0.05$).

4.18.3 Clinical and Socio-demographic Predictors of Anxiety

Using multinomial logistic regression, this section examined the sociodemographic predictors of anxiety among breast cancer patients. The data were classified into three categories: clinical caseness, borderline, and normal, with normal serving as the reference group. The results of the analysis were as displayed in Table 4.21:

Table 4.21

Socio-demographic Predictors of Anxiety

Parameter Estimates							
Anxiety	Variable	B	S.E	Wald	df	P-Values	Odds Ratios
Border Line	Marrital Status						
	Single(RC)						1.000
	Married	0.818	0.607	1.813	1	0.178	2.265
	Separated	0.591	0.538	1.207	1	0.272	1.806
	Widowed	1.060	0.790	1.799	1	0.180	2.886
	Education						
	Primary Education(RC)						1.000
	Secondary	0.307	0.465	0.437	1	0.508	1.360
	Tertiary/College	0.386	0.458	0.708	1	0.400	1.470
	Income						
	Some Income(RC)						1.000
	No income	0.705	0.356	3.919	1	0.048	2.025
	Age						
	Below 45 Years(RC)						1.000
	45 And Above	0.015	0.357	0.002	1	0.965	1.016
	Stage						
	Late Diagnostics(RC)						1.000
	Early Diagnostic	0.275	0.334	0.678	1	0.410	1.316
Clinical Caseness	Marrital Status						
	Widowed(RC)						1.000
	Single	1.023	0.581	3.103	1	0.078	2.782
	Married	0.25	0.525	0.226	1	0.634	1.284
	Separated	1.788	0.734	5.932	1	0.015	5.980
	Education						
	Primary Education(RC)						1.000
	Secondary	0.828	0.473	3.059	1	0.080	2.289
	Tertiary/College	0.527	0.482	1.197	1	0.274	1.694
	Income						
	Some Income(RC)						1.000
	No income	1.044	0.358	8.500	1	0.004	2.840
	Age						
	Below 45 Years(RC)						1.000
	45 And Above	0.206	0.352	0.342	1	0.559	1.229
	Stage						
	Late Diagnostics(RC)						1.000
	Early Diagnostic	-0.269	0.333	0.653	1	0.419	0.764

a The reference category is: Normal.

Breast cancer patients in the borderline category with no income had an odds ratio of 2.025 and a p-value of 0.048, but those in the clinical caseness category had an odds ratio of 2.840 and p-value of 0.004. This suggests that BC patients with no income had 2.03 times the odds of borderline anxiety and 2.84 times the odds of clinical anxiety. Both outcomes had a

significance level of <0.05 . This outcome was expected given the high distress scale ratings, which demonstrate that untreated psychosocial distress is likely to progress to clinical conditions such as anxiety (Carlson et al., 2019). Furthermore, the findings demonstrate the distress thermometer's reliability in identifying persons at risk of clinical emotional distress. The qualitative findings (pp. 86: D1 and C1) attributed anxiety to financial stress, mastectomy-related self-consciousness, and self- and social stigma. This finding echoes Mahlaq et al. (2023) and Tsaras et al. (2018), who determined prevalent anxiety among breast cancer patients.

4.18 Treatment Side Effects as Predictors of Psychosocial Distress

The study used multinomial logistic regression to investigate whether treatment side effects predicted psychosocial distress. Multinomial logistic was acceptable since general distress was nominal with three mutually exclusive categories: normal, clinically significant, and extremely distressed. A cancer patient was randomly assigned to one of three groups, with normal being the reference group. The findings were as presented in Table 4.22:

Table 4.22

Relationship between treatment side effects and psychosocial distress

Parameter Estimates							
Distress Severity	Treatment Side Effects	B	S.E	Wald	df	P-Value	Odds Ratios
Clinically Significant	Mild(RC)						1.000
	Severe	0.426	0.439	0.944	1	0.331	1.531
Severely Distressed	Mild(RC)						1.000
	Severe	1.062	0.386	7.567	1	0.006	2.892

a The reference category is: Normal.

b This parameter is set to zero because it is redundant.

The odds ratios for breast cancer patients in the categories of clinically significant distress and severe distress were found to be 1.53 ($p = 0.331$) and 2.892 ($p = 0.006$), respectively. This indicates that the likelihood of having clinically significant distress increased by a factor of 1.53 for those who had severe treatment side effects. However, the connection may not be statistically significant because the p-value of 0.331 is rather high. Moreover, the likelihood of

severe distress was 2.89 times higher for those with severe treatment side effects compared to those with mild side effects. The association is statistically significant at a 5% level. This finding is significant since it implies that the treatment's adverse effects influenced distress levels above the >7 threshold. If untreated, this acute distress could lead to depression, anxiety, or both (Ebob-Anyah & Bassah, 2022). This supports Fang et al.'s (2024) meta-analysis, which indicates treatment-related symptoms like pain, exhaustion, and menopause were predictors of psychosocial distress.

4.19.1 Treatment Side Effects as Predictors of Anxiety

The data was analysed using multinomial logistic regression, with anxiety as the dependent variable and treatment side effects as the independent variable. Table 4.23 summarises the findings:

Table 4.23

Relationship between treatment side effects and anxiety

Parameter Estimates							
Anxiety	Treatment Side Effects	B	S.E	Wald	df	P-Value	Odds Ratios
Border Line	Mild(RC)						1.000
	Severe	1.523	0.357	18.243	1	0.001	4.586
Clinical Caseness	Mild(RC)						1.000
	Severe	1.617	0.345	21.925	1	0.001	5.038

a The reference category is: Normal.

Borderline anxiety had an odds ratio of 4.586 ($p = 0.000$), whereas clinical anxiety had an OR of 5.038 ($p = 0.000$). This means that BC patients with severe side effects were 4.58 times more likely to develop borderline anxiety than those with mild side effects. Furthermore, those who experienced severe side effects were 5.03 times more likely to develop clinical anxiety. Both correlations were statistically significant at the 5% level, demonstrating a strong association between medication side effects and psychosocial distress. Treatment side effects exert a heavy somatic and psychological burden on breast cancer patients, which impairs their affective states.

Similar to Bubis et al. (2018), this study found that treatment side effects like hair and weight loss, hot flashes, sleep disturbance, fatigue, and sexual dysfunction influenced breast cancer patients' anxiety and quality of life. This supports Su et al. (2022), who found a link between symptom severity and clinical anxiety, depression, or both. This finding contradicts Muzzatti et al.'s (2020) findings that breast cancer patients experienced clinical anxiety, particularly during diagnosis and treatment.

4.19.2 Treatment Side Effects as Predictors of Depression

This section examined the potential predictive value of treatment side effects for depression. The data was again fitted with multinomial logistic regression, this time with depression as the outcome variable and treatment side effects as the predictor. Table 4.24 shows the results:

Table 4.24

Relationship between treatment side effects and depression

Parameter Estimates

Depression	Treatment Side Effects	B	S.E	Wald	df	P-Value	Odds Ratios
Border Line	Mild(RC)						1.000
	Severe	0.96	0.3	8.044	1	0.005	2.620
Clinical Caseness	Mild(RC)						1.000
	Severe	1.41	0.3	16.481	1	0.000	4.108

a The reference category is: Normal.

The odds ratio for severe treatment side effects compared to mild ones was 2.620, p-value 0.005. The clinical caseness category had an OR of 4.108 ($p = 0.000$). The results indicate that BC patients with severe side effects were 2.62 times more likely to develop borderline depression than those with mild side effects. Moreover, the likelihood of clinical depression in BC patients with severe treatment side effects was 4.11 times higher than in women with mild side effects. Both correlations were significant at 5%. Consequently, treatment-related side effects predicted depression at all levels. Depression impairs the ability to fulfil social and family duties, affecting all aspects of quality of life (Culbertson, 2020). This finding supports

Ndetei et al. (2018) conclusion that clinical depression was present in more than half of breast cancer patients and KNH. Consequently, while not revolutionary, the current discovery is significant as it highlights an ongoing deficiency in the existing BC treatment framework.

4.19 Body image as predictor of psychosocial distress

The third objective was to determine if body image predicted psychosocial distress in women with breast cancer in Nairobi County. Body image contained three subscales: satisfaction with appearance, sexual function and the centrality of breasts to sexual experience and identity. This was done by fitting the data to multinomial logistic regression. The findings were as shown in Table 4.25:

Table 4.25

Relationship between body image and psychosocial distress

Parameter Estimates							
Distress Severity	Variable	B	S.E	Wald	df	P-Values	Odds Ratios
Clinically Significant	Body Image After Breast Cancer						
	Positive(RC)						1.000
	Negative	0.398	0.234	2.893	1	0.001	1.489
	Sexual Function						
	Not Affected(RC)						1.000
	Affected	1.211	0.71	2.9256	1	0.002	3.357
	Sexual Relationship						
	Worsened(RC)						1.000
	No Effect	-0.18	0.11	2.8187	1	0.000	0.833
	Improved	-0.2	0.12	2.5548	1	0.000	0.823
	Importance of Breast						
	Not Important(RC)						1.000
	Important	0.172	0.11	2.6834	1	0.000	1.188
Severely Distressed	Body Image After Breast Cancer						
	Positive(RC)						1.000
	Negative	0.608	0.37	2.7149	1	0.001	1.837
	Sexual Function						
	Not Affected(RC)						1.000
	Affected	1.243	0.77	2.6332	1	0.003	3.466
	Sexual Relationship						
	Worsened(RC)						1.000
	No Effect	-0.16	0.11	2.0893	1	0.001	0.853
	Improved	-0.16	0.1	2.5016	1	0.002	0.856
	Importance of Breast						
	Not Important(RC)						1.000
	Important	0.133	0.09	2.0452	1	0.001	1.142

a The reference category is normal.

The odds ratio for negative body image compared to those with positive body image was (OR = 1.489; $p < 0.001$). In other words, BC patients with a negative body image had 1.49 times the risk of clinically significant psychosocial distress. Similarly, individuals in the severe distress category demonstrated (OR = 1.873; $p = 0.001$). Thus, those with a negative body image had 1.87 higher odds of severe psychosocial distress. At 5%, these associations were significant. Low self-esteem, dissatisfaction with appearance, and social isolation can result from mastectomy and other breast cancer treatments, such as hair loss and skin discoloration (Ahn & Suh, 2023). Negative body perception is associated with psychosocial distress and a poor emotional and social quality of life (Morales-Sánchez et al., 2021). This finding supports

Grogan and Mechan's (2017) finding that breast loss and other post-BC changes are associated with little physical concern in the majority of women; however, the long-term psychosocial consequences of changes in appearance can be severe and long lasting.

Sexual function showed (OR = 3.357, $p = 0.002$) for clinically significant psychosocial distress and (OR = 3.466, $p = 0.003$), meaning that after breast cancer diagnosis and treatment, women with impaired sexual function had 3.36 higher odds of experiencing clinically significant psychosocial distress compared to those whose sexual function was not affected. Equally, those with affected sexual function had a 3.45-fold higher risk of severe psychosocial distress when compared to those whose sexual function was unaffected. Hence, sexual function was found to be an exceptionally strong predictor of psychosocial distress. Both associations were statistically significant at the 5% level. Treatment may exacerbate physiological and sexual problems such as vaginal dryness, making sex painful. Furthermore, poor body image and low sexual partner confidence can lead to psychosocial distress and diminished sexual quality of life (Brajkovic et al., 2021). This finding reinforces the conclusions by Hoyle et al. (2022), Yılmaz, and Gürler (2020) concerning the detrimental psychosocial effects of breast cancer treatments, such as mastectomy, which damage women's concept of femininity and self-confidence in sexual relationships. While this discovery is not novel in breast cancer research, it is a watershed moment in Kenya, where sexuality-related concerns are not addressed during treatment and no psychosocial interventions are available to address sexuality after breast cancer (Ndeti et al., 2018).

A steady or improved sexual relationship following breast cancer treatment was indicated (OR = 0.833 and 0.832; $p = 0.000$). This suggests that those with unaffected or improved sexual relationships had decreased likelihoods of clinically significant or severe psychosocial distress compared to those with deteriorating ones. Both correlations are 5% significant. Both correlations were significant at the 5% level. Sentimental support, which includes sexual

relationships, is critical in mitigating negative affective states (Hoyle et al., 2022). The current statistic supports qualitative findings (pp. 102–104: F2, T11, and N4) that strong sexual relationships increase self-esteem and emotional well-being. The findings contradict Momeni et al (2023) association between body image and poor sexual relationships. The current study's qualitative findings (pp. 104–FG2) showed that stigma and spouses treating women non-sexually equally caused unsatisfactory sexual relationships.

BC women in clinically significant and severe distress categories who valued their breasts after mastectomy had (OR = 1.888; $p = 0.000$ and 1.144; $p = 0.001$, respectively). This suggests that BC patients who valued their breasts for sexual experience and identity had a 1.19-fold higher risk of clinically significant distress and a 1.14-fold higher risk of severe psychosocial distress. The results were statistically significant at the 5% level. These results suggest that, in contrast to women who embrace their altered bodies, breast cancer patients who prioritise their breasts after a mastectomy may experience long-lasting distress due to the irrevocable situation (Álvarez-Pardo et al., 2023). This highlights the complex interplay between self-identity, body image, societal response, and emotional reactions that can cause psychosocial distress. Along with what An et al. (2022), Guedes et al. (2018), and Morales-Sánchez et al. (2021) found, these results show that not being happy with how you look after having a breast mastectomy is strongly linked to negative emotions and poor sexual, emotional, and social health.

4.20.1 Relationship Between Body Image and Anxiety

To determine whether body image predicts clinical conditions like anxiety, a multinomial logistic regression was fitted to the data, with anxiety as the outcome variable and body image variables as predictors. Table 4.26 summarises the findings:

Table 4.26

Relationship between body image and anxiety

Parameter Estimates							
Anxiety Severity	Variable	B	S.E	Wald	df	P-Values	Odds Ratios
Border Line	Body Image After Breast Cancer						
	Positive(RC)						1.000
	Negative	0.499	0.336	2.206	1	0.001	1.647
	Sexual Function						
	Not Affected(RC)						1.000
	Affected	1.247	0.808	2.382	1	0.002	3.480
	Sexual Relationship						
	Worsed(RC)						1.000
	No Effect	-0.179	0.099	3.269	1	0.000	0.836
	Improved	-0.183	0.120	2.326	1	0.000	0.833
Clinical Caseness	Importance of Breast						
	Not Important(RC)						1.000
	Important	0.167	0.102	2.681	1	0.000	1.182
	Body Image After Breast Cancer						
	Positive(RC)						1.000
	Negative	0.607	0.326	3.467	1	0.001	1.835
	Sexual Function						
	Not Affected(RC)						1.000
	Affected	1.298	0.799	2.639	1	0.005	3.662
	Sexual Relationship						
	Worsed(RC)					0.001	1.000
	No Effect	-0.169	0.117	2.086	1	0.016	0.845
	Improved	-0.177	0.091	3.783	1	0.002	0.838
	Importance of Breast						
	Not Important(RC)						1.000
	Important	0.143	0.101	2.005	1	0.000	1.154

a The reference category is: Normal.

Body image showed odds ratios of 1.467 ($p = 0.001$) and $OR = 1.835$ ($p = 0.001$) for those in the borderline and clinical caseness categories. This indicates that women with a negative body image post-breast cancer had a 1.65 times higher likelihood of experiencing borderline anxiety and 1.84 times higher odds of experiencing clinical anxiety. Both associations were 5% significant. Changes in appearance according to Lvarez-Pardo et al. (2023) might lead to unfavourable self-perceptions that society perpetuates. According to the qualitative findings (pp. 95-96: D1, T8, and FG8), mastectomy and other physical changes contributed to the emergence of "half-woman syndrome," a psychological condition characterised by diminished self-esteem, self-worth, and self-consciousness, which provoked social anxiety and isolation.

Furthermore, the finding supports Thakur et al.'s (2022) observation that anxiety is commonly associated with changes in appearance.

Furthermore, findings show that anxiety and sexual function are interconnected (OR = 3.480; $p = 0.002$ for borderline anxiety and OR = 3.662; $p = 0.005$ for clinical anxiety). Women with impaired sexual function after breast cancer diagnosis and treatment had 3.48 times the odds of borderline anxiety and 3.66 times higher odds of clinical anxiety than those whose sexual function remained unchanged. Cancer treatments and emotional states can alter all aspects of sexual function, including libido, arousal, lubrication, orgasm, satisfaction, and discomfort. Treatment side effects, stigma, rejection, and fungating wounds impaired sexual function, according to qualitative data (pp. 102: T11, FG2, and N4). The complex interaction of pharmacological side effects and environmental responses may have caused anxiety and low self-esteem. This study resonates with Brajkovic et al.'s (2021) meta-analysis of breast cancer anxiety and sexual function. This discovery has significance in Kenya, where breast cancer treatment has not typically incorporated sexuality.

The odds ratios for women whose sexual relationships were unchanged or improved were (OR = 0.834 and 0.824; $p = 0.000$ for borderline anxiety, and OR = 0.828; $p = 0.017$ and 0.821; $p = 0.005$ for clinical anxiety). This demonstrates that women whose sexual connections were maintained or improved were less likely to experience borderline or clinical anxiety compared with those whose sexual relationships worsened. The correlations were significant at a 5% level. This confirms the qualitative findings (pp. 102: N3) that rejection or intimate partners treating BC survivors non-sexually represent poor sexual relationships. However, intimate partner sentimental support enhanced self-esteem, femininity, and desirability, reducing emotional distress. Furthermore, this study supports Momeni et al.'s (2023) finding that husbands of women with BC avoid having intimacy for fear of harming their wives. Some husbands believed cancer was communicable or that sexual activity exacerbated the condition.

BC women with borderline and clinical anxiety who valued their breasts following mastectomy had (OR = 1.182 and 1.154; $p = 0.000$, respectively). This implies that BC patients who valued their breasts for sexual experience and identity had a 1.18-fold higher risk of borderline anxiety and 1.54-fold higher risk of clinical anxiety compared to those who did not place much value on their lost breasts. Both associations were statistically significant at the 5% level. The qualitative findings (pp.99: T10 and FG10) illuminated that the breast is a sentimental organ with many stakeholders, and BC survivors had to manage their grief as well as that of other stakeholders, especially children. Answering the question of "when the breast would grow again" caused anxiety and multiplied grief. This supports Thakur et al.'s (2022) claim that learning to feel comfortable with one's body throughout and after breast cancer treatment is a personal journey shaped by experiences and environment.

4.20.2 Relationship Between Body Image and Depression

To determine whether body image predicts clinical conditions like depression, a multinomial logistic regression was fitted to the data, with depression as the outcome variable and body image variables as predictors. Table 4.27 summarises the findings:

Table 4.27***Relationship between Body Image and Depression***

Parameter Estimates							
Depression Severity	Variable	B	S.E	Wald	df	P-Values	Odds Ratios
Border Line	Body Image after BC						
	Positive(RC)						1.000
	Negative	0.504	0.336	2.337	1	0.012	1.672
	Sexual Function						
	Not Affected(RC)						1.000
	Affected	1.297	0.898	2.08606	1	0.006	3.658
	Sexual Relationship						
	Worsened(RC)						1.000
	No Effect	-0.181	0.426	0.18053	1	0.000	0.834
	Improved	-0.193	0.12	2.58674	1	0.000	0.824
	Importance of Breast						
	Not Important(RC)						1.000
	Important	0.179	0.105	2.90621	1	0.000	1.196
Clinical Caseness	Body Image after BC						
	Positive(RC)						1.000
	Negative	0.629	0.331	3.611	1	0.002	1.876
	Sexual Function						
	Not Affected(RC)						1.000
	Affected	1.301	0.803	2.625	1	0.038	3.673
	Sexual Relationship						
	Worsened(RC)						1.000
	No Effect	-0.189	0.135	1.960	1	0.017	0.828
	Improved	-0.197	0.491	0.161	1	0.005	0.821
	Importance of Breast						
	Not Important(RC)						1.000
	Important	0.183	0.101	2.906	1	0.000	1.201

a The reference category is: Normal.

Participants with poor body image had a significantly higher odds ratio for borderline depression (OR = 1.672; $p < 0.012$) and clinical depression (OR = 1.873; $p = 0.001$). Essentially, the odds of clinical depression and borderline depression for BC patients with negative body image were 1.87 and 1.67 times greater, respectively, than for those with positive body image. At 5%, these relationships were significant. The findings indicate that body image has a significant role in predicting depression among breast cancer patients. Affected sexual function showed (OR=3.658; $p=0.006$ for borderline depression and OR=3.673; $p=0.038$ for clinical depression). Meaning, participants whose sexual function was affected had 3.66-fold increased risk of borderline depression and a 3.67-fold increased risk for clinical depression.

Unaffected and improved sexual relationships lowered borderline and clinical depression (OR = 0.834 and 0.824; $p = 0.000$ for borderline and 0.828; $p = 0.007$ and 0.821; $p = 0.005$ for clinical depression), respectively. This means that BC patients with unaltered or enhanced sexual relationships had a 0.83 and 0.82 lower risk of developing borderline depression. Those with unaltered or enhanced sexual relationships had 0.83 and 0.82 lower chances of clinical depression, respectively.

Furthermore, when compared to women who minimised the value of breasts after mastectomy, those who deemed them significant demonstrated (OR = 1.196 and 1.201; $p = 0.000$ for borderline and clinical depression, respectively). This is an indication that women who valued their breasts for their identity and sexual experience after mastectomy were 1.19 times more likely to suffer from borderline depression and 1.20 times more likely to develop clinical depression than those who did not place as much value. Both correlations were statistically significant at the 5% level.

Breast cancer treatment has consequences on appearance, sexuality, and relationships and mastectomy can be devastating for women whose breasts play an important role in their identity and sexual experience. Unmanaged subjective perception of the body or body image can raise the risk of depression and mood disorders while also disrupting intimate relationships (Sebri & Pravettoni, 2023). This finding agrees with Culbertson (2020) and Aitken and Hossan (2022), who connected poor body image after mastectomies and sexual dysfunction from treatment side effects to depression.

4.20 Association between Social Support and Psychosocial Distress

The primary aim of this study's fourth objective was to determine the influence of social support on the quality of life of breast cancer patients in Nairobi County. The data was analysed with a multinomial logistic regression model, examining psychosocial distress, anxiety, and

depression on a continuous scale divided into three distinct groups. Patients with breast cancer were randomly allocated one of the three categories, with the normal category used as the reference group. The findings were as summarised in Table 4.28:

Table 4.28

Relationship between Social Support and Psychosocial Distress

Parameter Estimates							
Distress Severity	Social-Support	B	SE	Wald	df	p-value	Odds Ratio
Clinically Significant	Low Socio-Support(RC)						1.000
	High Socio Support	-0.23	0.143	2.678	1	0.047	0.791
Severely Distressed	Low Social-Support(RC)						1.000
	High Social Support	-0.36	0.177	4.206	1	0.016	0.696

a The reference category is: Normal.

Anxiety Severity	Socio-Support	B	SE	Wald	df	p-value	Odds Ratio
Border Line anxiety	Low Socio-Support(RC)						1
	High Socio Support	-0.892	0.536	2.769	1	0.047	0.410
Clinical anxiety	Low Socio-Support(RC)						1.000
	High Socio Support	-0.191	0.798	2.628	1	0.014	0.826

a The reference category is: Normal.

Depression Severity	Socio-Support	B	SE	Wald	df	p-value	Odds Ratio
Border Line Depression	Low Socio-Support(RC)						1.000
	High Socio Support	-0.87	0.607	2.050	1	0.042	0.419
Clinical Depression	Low Socio-Support(RC)						1.000
	High Socio Support	-0.5	0.171	8.687	1	0.029	0.604

a The reference category is: Normal.

BC patients who received adequate social support demonstrated (OR = 0.791, $p = 0.047$ for clinically significant distress and OR = 0.696, $p = 0.016$ for severe distress). This suggests that people who had adequate social support were 0.79 and 0.70 percent less likely to experience clinically significant or severe distress, respectively. Similarly, in terms of anxiety, BC patients with adequate social support demonstrated (OR = 0.410; 0.047 for borderline and OR = 0.826; 0.014 for clinical anxiety). These odds ratios revealed a 0.41 and 0.83 reduction in the chance of developing borderline or clinical anxiety. Depression was linked with (OR = 0.419; $p = 0.042$ for borderline, OR = 0.604 for clinical depression). This suggests that BC patients who received adequate social support had a 0.42 and 0.60 decreased risk of suffering borderline or

severe depression. All results were significant at 5% level, suggesting that social support plays a protective function in mitigating the severity of psychosocial distress, anxiety and depression in breast cancer patients. Positive social support can have a buffering effect on general psychosocial distress and clinical conditions like depression and anxiety (Celik et al., 2021).

These findings echo those of Escalera et al. (2019), who found that social support reduced intrusive thoughts and anxiety. Closer to home, Isaiah (2019) found that KNH cancer patients with low social support were more anxious. These findings also buttress Singh Shrestha et al. (2017), who found that social support reduced depression and anxiety and improved quality of life. Adam and Koranteng (2020), Leung et al. (2014) and Wondimagegnehu et al. (2019), also found that a lack of social support predicted cancer-related distress, depression, and health-related quality of life. In contrast, the current study findings differ with those of Escalera et al. (2019) who found no significant relationship between social support and depression.

4.21 Psychosocial Distress Predictors and Quality of Life.

The study pinpointed psychosocial factors that predicted distress, anxiety, and depression among breast cancer patients in Nairobi County. These included income, diagnosis stage, treatment side effects, body image, sexual adjustment, and social support as a protective factor. A binary logistic regression model was used to examine their association with quality of life domains. The domains had two distinct outcomes: "poor QOL" and "good QOL," into which a randomly chosen patient was placed. The results of the four domains of QOL applied in this study: physical wellbeing, social and family wellbeing, emotional wellbeing and functional wellbeing also called global functioning were as presented in Tables 4.29-4.33:

Table 4.29***Psychosocial distress predictors and physical QOL***

Parameter Estimates						
Variable	B	S.E.	Wald	df	P-Value	Odds Ratios
Income						
Some income (RC)						1.000
No Income	-0.212	0.144	2.167	1	0.004	0.801
Stage of diagnosis						
Early Diagnosis(RC)						1.000
Late diagnosis	-0.122	0.083	2.161	1	0.007	0.885
Treatment Side Effects						
Mild(RC)						1.000
Severe	-1.457	0.526	7.673	1	0.002	0.233
Body image						
Positive(RC)						1.000
Negative	1.240	0.443	7.835	1	0.009	3.456
Sexual function						
Not Affected(RC)						1.000
Affected	-1.244	0.767	2.631	1	0.003	0.288
Sexual Relationships						
Worsed(RC)						1.000
No Effect	0.146	0.097	2.265	1	0.001	1.157
Improved	0.420	0.278	2.282	1	0.002	1.522
Importance of Breast						
Not Important(RC)						1.000
Important	-0.138	0.093	2.202	1	0.001	0.871
Socio-Support						
No Socio-Support(RC)						1.000
Socio Support	0.501	0.316	2.514	1	0.029	1.650

Income showed (OR = 0.801; $p = 0.004$), implying that BC patients with some income had a 0.80 lower likelihood of experiencing a good quality of life. The p-value of 0.004 is statistically significant, indicating a substantial link between income and physical QOL. This discovery is paradoxical, as the prevailing belief is that financial resources significantly influence treatment accessibility, adherence, healthy diet maintenance, treatment outcomes and quality of life (Surbhi et al., 2022). The qualitative findings (pp. 75: D1 and N2) established that low-income BC patients developed fortitude and stoicism because of necessity, which may explain their superior physical quality of life than women with income. This contradicts An et al. (2022), who reported that breast cancer patients' physical health declines with financial stress-related

psychosocial alterations. Studies conducted in Canada by Bubis et al. (2018) and in Kenya by Isaiah (2019) observed that rural and low-income BC patients had a higher physical quality of life than those in metropolitan areas, and Isaiah (2019) attributes his findings to stoicism and spirituality.

Late diagnosis was linked with (OR = 0.885; $p = 0.007$), indicating that BC patients diagnosed late had a 0.89 lower likelihood of having a good quality of life compared to those diagnosed early. The stage of diagnosis strongly influenced breast cancer patients' physical quality of life ($P = 0.007$). The qualitative findings (pp. 72–C1) linked late diagnosis to a higher symptom load and decreased overall wellbeing. Echoing Twahir et al. (2021), delayed diagnosis exacerbated symptoms and emotional distress, compromising patients' physical QOL.

Treatment side effects were associated with (OR = 0.233, $p = 0.002$), showing that breast cancer patients with severe side effects had 0.23 lower odds of having a good physical QOL when compared with those with mild side effects. Treatment side effects (symptom burden) are both proximal and distal predictors of physical well-being markers such as nausea, pain, fatigue, feeling ill, anxiety, depression, and incapacity to play roles. The findings support Safar and Mazanec's 2023 study that linked treatment side effects to poor physical quality of life in Kuwaiti breast cancer patients.

Body image was associated with (OR = 3.456; $p = 0.009$), an indication that breast cancer patients with a positive body image were 3.46 times more likely to report good physical QOL when compared to those with a negative body image. The P-value of 0.009 is statistically significant, demonstrating that body image significantly influences the physical quality of life. Despite the fact that body image is both a perceptive and emotional construct, this finding proves the existence of the mind-body connection. Furthermore, this is a novel finding because no earlier research has looked into the relationship between body image and quality of life in

Kenya. This finding supports An et al. (2022) and Bagheri and An et al. (2022) and Bagheri and Mazaheri (2015), who found a link between psychological alterations and physical wellbeing, citing mind-body interactions. The current investigation also supports the claim made by Pearlin et al.'s (1981) stress process model about the predictors, mediators, and moderators of distress and wellbeing, specifically the relationship between body image and physical quality of life.

Sexual function was connected to (OR = 0.288; $p = 0.003$), indicating that BC patients with sexual dysfunction had a 0.29 reduced likelihood of good physical QOL. Sexual function significantly influenced BC patients' QOL (p -value 0.003). Sexual dysfunction can harm relationships, degrade BC patients' sexual confidence, and worsen physical QOL through poor emotional and mind-body interactions (Vegunta et al., 2022). This finding is seminal in Kenya, where sexual health care is limited. This study corroborates Brajkovic et al. (2021) and Yilmaz and Gürler (2020) that sexuality issues affect numerous QOL factors.

Sexual relationships were linked to (OR = 1.157; $p = 0.001$ for unaffected relationships and OR = 1.522; $p = 0.002$ for improved relationships). Patients with unaffected sexual relationships had 1.16 times the odds of having a good physical QOL than those with deteriorating relationships. Sexual relationships that improved were 1.52 times as likely to lead to good physical QOL. The qualitative findings (pp. 104–F4) confirm this data, showing that meaningful sexual relationships (sentimental support) helped women preserve their feelings of attractiveness, desirability, and emotional well-being. However, those with broken sexual relationships felt rejected, resulting in poor body image and emotional well-being. This finding is significant because Kenyan BC treatment does not address sexual issues. Additionally, this finding supports Brajkovic et al. (2021), Hoyle et al. (2022), and Momeni et al. (2023), who linked sexual relationships to mental and physical well-being.

Breast significance to BC patients' identity and sexual experience after mastectomy was associated with (OR = 0.871; $p = 0.001$), implying that for every unit decrease in breast significance, the likelihood of poor physical QOL was reduced by 0.87. The results were significant ($p = 0.001$), demonstrating that stressing breasts for identity and sexual pleasure had a substantial influence on the physical quality of life of breast cancer patients. This suggests that prioritising other aspects of life, such as emotional well-being or physical health, may lead to a better overall quality of life (Dahlui et al., 2023). This study is relevant in Kenya because it indicates the absence of emotional and environmental responses to breast loss and disfigurement in breast cancer treatment. This study supports Yılmaz and Gürler's (2020) findings that breasts have both functional and emotional significance, eliciting attention from stakeholders who value breasts and amplifying sentiments of loss.

Social support was connected to (OR = 1.650; $p = 0.029$), implying that breast cancer patients with adequate social support have 1.65 times higher odds of experiencing good physical well-being compared to those with inadequate social support. The p -value of 0.029 suggests a strong positive relationship between social support and BC patients' physical wellbeing. Social support includes instrumental, emotional, sentimental, and informational support, which has been shown to reduce psychosocial distress and improve social and emotional well-being (Jadidi & Ameri, 2022). This finding support the findings of Isaiah (2019) and Khanuun & Makiyah (2021) that social support positively influences the physical health, overall quality of life, and adaptation of breast cancer patients.

Table 4.30***Psychosocial distress predictors and the social and family domain of QOL***

Parameter estimates						
Variable	B	S.E.	Wald	df	P-Value	Odds Ratios
Income						
No income (RC)						1.000
Some Income	0.046	0.029	2.516	1	0.008	1.047
Stage of diagnosis						
Late Diagnosis(RC)						1.000
Early diagnosis	0.376	0.253	2.209	1	0.0000	1.471
Treatment Side Effects						
Severe (RC)						1.000
Mild	0.458	0.312	2.155	1	0.009	1.581
Body Image						
Negative (RC)						1.000
Positive	0.417	0.286	2.126	1	0.006	1.517
Sexual function						
Not Affected(RC)						1.000
Affected	-1.241	0.752	2.723	1	0.003	0.289
Sexual relationships						
Worsed(RC)					0.001	1.000
No Effect	0.141	0.092	2.349	1	0.001	1.151
Improved	0.417	0.268	2.421	1	0.002	1.517
Importance of Breast						
Not Important(RC)						1.000
Important	0.131	0.083	2.491	1	0.001	1.140
Socio-Support						
No Socio-Support(RC)						1.000
Socio Support	0.499	0.312	2.558	1	0.009	1.647

Income was associated with (OR = 1.047; $p = 0.008$), meaning that for every unit increase in income, the odds of having a good quality of life increased by 1.05, or 4.7%. A substantial 0.008 p -value shows that income improves social and family QOL. Qualitative findings may explain the marginal statistically significant improvement in social and familial quality of life for individuals with some income. The women's narratives (pp. 86–FG2, D3, and F4) demonstrated that high-income women struggled with disclosure, denying them social support, while low-income women were more open and better at asking for support. Thus, the

qualitative findings debunk this finding. The finding also contradicts Surbhi et al.'s (2022) findings that BC patients' social and familial QOL was unaffected by economic status.

Second, early breast cancer diagnosis was associated with (OR1.471: $p = 0.000$), suggesting women with an early diagnosis had a 1.47 (47.1%) higher likelihood of good social and familial QOL. A p -value of 0.000 implies that early diagnosis has a strong positive influence on social and familial quality of life. Late diagnosis increases symptom load, which distresses and reduces quality of life (Mokhatri-Hesari & Montazeri, 2020). The qualitative findings (pp. 78-D1) demonstrated that late diagnosed women had a higher burden of symptoms and fungating wounds, leading to social isolation due to the stigma associated with foul-smelling wounds. This affirms Hassen et al. (2019) and Surbhi et al. (2022), who reported a strong link between diagnostic stage and social quality of life.

Additionally, the results show that mild treatment side effects were associated with (OR = 1.581; $p = 0.009$) meaning that BC patients with mild treatment side effects had a 1.58 (58.1%) increased likelihood of good social and family quality of life outcomes when compared with those with severe side effects. The finding is significant, with a p -value of 0.009, meaning that mild treatment side effects influenced social and familial QOL. This outcome was expected because treatment side effects may impede social participation and role performance (Safar and Mazanec, 2023). However, this finding, though expected, is crucial because Kenya's BC treatment model overlooks the intricate interplay of physical, psychological, and social factors affecting patients' quality of life. This finding supports Mandelblatt et al.'s (2020) finding that treatment side effects without intervention persist long after treatment, underscoring the necessity for continued monitoring and proactive therapies.

Furthermore, body image was associated with (OR = 1.517, $p = 0.006$), indicating that women with positive body image were 1.52 (51.7%) more likely to have a good social and family

quality of life after breast cancer than those with negative body image. The P-value of 0.006 is statistically significant, demonstrating that positive body image enhances social and familial quality of life. The qualitative findings (pp. 96: FG2, T9, and N1), breast cancer survivors with negative body image felt stigmatised and isolated. The finding support Grogan and Mechan's (2017) finding that asymmetry and breast loss may result in enduring psychosocial distress and impaired emotional and social quality of life.

Sexual function was linked with (OR = 0.289; $p = 0.003$), indicating that BC patients with affected sexual function had 0.29 (71.1%) lower odds of having a good social and family quality of life than those with unaffected sexual function. Sexual function significantly influenced breast cancer patients' social and family quality of life ($p = 0.003$). To sustain their female identity and give them a sense of meaning and purpose, intimacy is essential (Jadidi & Ameri, 2022). In the Kenyan breast cancer treatment model, sexual concerns have not been previously addressed, making this finding noteworthy. Furthermore, this conclusion echoes Brajkovic et al. (2021; Momeni et al. 2023), and Yılmaz and Gürler (2020) findings of decreased sexual function and impaired social and family well-being in breast cancer patients.

Sexual relationships following breast cancer diagnosis and treatment were associated (OR = 1.151:0.001 for unaffected relationships, 1.151:0.001 for improved relationships). Women who reported no effect had 1.15 (15.1%) higher odds of good social and familial QOL. Improved sexual relationships were associated with 1.52 (51.7%) increased odds of positive social and familial QOL. Sexual dysfunction from medication side effects, stigma, and partners' fear of harming their wives may diminish intimacy (Thakur, et al., 2022). The qualitative findings (pp. 99–N4) suggest that intimacy improves spousal relationships and well-being. This supports Jäkel et al. (2023), who found that lower sexual function hurts spousal relationships and family well-being.

Breast significance post-mastectomy was associated with (OR = 1.140; $p = 0.001$), meaning that women who did not consider their breasts significant for their identity and sexual experience had a 1.14 (14%) greater likelihood of good social and familial QOL. Because mastectomy was irreversible, women who valued their breasts for female identity and sexual satisfaction were likely to have poor emotional states (Thakur, et al., 2022). Qualitative findings (pp.99–T10) showed that breast loss damaged self-esteem, feelings of completeness, and self-consciousness, affecting social and familial relationships. This finding supports Álvarez-Pardo et al. (2023) findings that women view the breast as a sign of femininity, attractiveness, desirability, parenthood, and identity.

Finally, social support was linked with (OR = 1.647; $p = 0.009$), indicating that breast cancer patients who received adequate social support had a 1.65 (64.7%) higher likelihood of good social and familial outcomes. According to the qualitative findings, positive social support fosters emotional, social, and functional well-being, while negative support contributes to poor health-seeking, prognostic outcomes, and emotional distress (pp. 104–T2). Current findings support Ginter and Braun's (2019) research that positive social support improves emotional, social, and global quality of life.

Table 4.31***Psychosocial distress predictors and the emotional and cognitive domain of QOL***

Parameter Estimates						
Variable	B	S.E.	Wald	df	P-Value	Odds Ratios
Income						
No income (RC)						1.000
Some income	0.280	0.320	0.766	1	0.002	1.323
Stage of diagnosis						
Late Diagnosis(RC)						1.000
Early diagnosis	0.160	0.311	0.264	1	0.008	1.174
Treatment Side Effects						
Mild(RC)						1.000
Severe	-0.279	0.318	0.768	1	0.001	0.757
Body Image						
Negative(RC)						1.000
Positive	0.238	0.153	2.420	1	0.000	1.269
Sexual Function						
Not Affected(RC)						1.000
Affected	-1.243	0.743	2.799	1	0.003	0.289
Sexual Relationship						
Worsened(RC)						1.000
No Effect	0.132	0.083	2.529	1	0.001	1.141
Improved	0.411	0.271	2.300	1	0.001	1.508
Importance of Breast						
Important(RC)						1.000
Not Important	0.129	0.081	2.536	1	0.001	1.138
Social-Support						
No Social-Support(RC)						1.000
Adequate social support	0.476	0.309	2.373	1	0.004	1.610

Income was associated with (OR = 1.323, $p = 0.002$), meaning that BC patients who had some incomes were 1.32 (32.3%) more likely to have a good emotional quality of life when compared to those with no income. Income significantly influenced the emotional quality of life ($P = 0.002$). The qualitative findings (pp. 113: T5, FG1, and N2) showed that financial strain exacerbated anxiety and depression. This discovery further supports the results reported by

Ayyala (2020), which established a correlation between breast cancer patients experiencing financial hardship and diminished emotional well-being.

Early diagnosis was associated with (OR = 1.174; $p = 0.008$). The odds of having a good emotional quality of life were 1.17 (17.4%) higher for BC patients detected early. This finding complements qualitative data (pp. 75-FG5) that showed that late diagnosis was related with a significant burden of symptoms, notably fungating wounds, which can be humiliating for women. This supports previous studies by Ojewole et al. (2018; Sagarika and Prasanta 2019), and Wondimagegnehu et al. (2019) that found robust links between breast cancer patients' emotional well-being and diagnostic stage.

Additionally, treatment side effects were associated (OR = 0.757, $p < 0.001$). This reveals that breast cancer patients with severe treatment side effects had 0.76 (24.3%) lower odds of having a good emotional quality of life compared to those with mild side effects. Concerns concerning emotional quality of life were anticipated because of the complex combination of physical and psychologic therapeutic side effects. This supports qualitative evidence that showed treatment-related side effects such as neuropathic pain, which lasted long after treatment and made many women miserable. This supports Safar and Mazanec's (2023) findings that pain, fatigue, and insomnia exacerbate depression and emotional well-being.

Body image was associated with (OR = 1.269; $p = 0.000$). This suggests that BC patients with a positive body image were 1.27 (26.9%) more likely to have a good emotional quality of life than those with a negative body image. The p -value of 0.000 demonstrates a strong correlation between body image and emotional QOL. Despite being anticipated, this finding is distinctive in Kenya, as the treatment model for breast cancer does not focus on body image concerns. It also agrees with the qualitative results (pp. 116–LN1) indicating that breast cancer patients had unaddressed body image problems. Furthermore it echoes Álvarez-Pardo et al. (2023) and

Montañés-Muro et al. (2023) findings that body image concerns following BC can cause psychological issues such as depression, anxiety, distress, and a lower emotional quality of life.

Sexual function was linked with (OR = 0.289; $p = 0.003$), indicating that BC patients with impaired sexual function had 0.29 (71.1%) lower odds of having a good emotional quality of life. Sexual function significantly influenced the emotional quality of life ($p = 0.003$). Vegunta et al. (2022) suggest that a lack of sentimental support from meaningful sexual relationships and positive affective states may lower emotional well-being. This finding, albeit not ground breaking, is notable in Kenya, where sexual issues are not addressed. Furthermore, the finding supports Brajkovic et al. (2021), who discovered a link between sexual well-being and depression, as well as BC patients' emotional QOL.

Sexual relationships after breast cancer were related with (OR = 1.14 in unaffected category and 1.508 in improved category; p -values = 0.001). Meaning that BC patients with unaffected sexual relationships had a 1.41 (14.1%) higher likelihood of having a good emotional QOL, while those with improved sexual relationships had 1.51 (50.8%) higher odds. Sexual relationships positively influenced emotional quality of life (p -values 0.001). These findings support qualitative findings (pp. 102–N4) that intimate relationships enhance emotional functioning. The findings support Brajkovic et al.'s (2021) findings that intimate support improves breast cancer patients' affect, self-esteem, and emotional wellbeing.

Post-mastectomy breast importance was connected with (OR = 1.138; $p < 0.001$). This means that BC survivors who did not consider their breasts important to their identity and sexual experience after mastectomy had a 1.14 (13.8%) greater likelihood of having a good emotional QOL compared to those who valued their breasts. Emotional QOL was significantly influenced by breast importance ($p = 0.001$). The finding is significant because the Kenyan breast cancer treatment model does not account for breast loss and its detrimental effects on quality of life.

Furthermore, it mirrors the findings of Hanson et al. (2022), who identified long-lasting issues related to breast loss that had adverse effects on both emotional and sexual well-being.

Finally, social support was associated with (OR 1.610; $p = 0.004$), showing that BC patients with adequate social support had a 1.61 (61%) higher likelihood of having a good emotional quality of life compared to those who had inadequate social support. The p -value of 0.004 indicates that social support has a substantial influence on the emotional quality of life. This supports qualitative findings (pp. 104: F4 and F5) that social support may reduce psychosocial distress and negative affective states, improving emotional well-being. Moreover, the findings support Celik et al.'s (2021) finding that social support buffered psychosocial distress and enhanced breast cancer patients' resilience and emotional wellbeing.

Table 4.32

Psychosocial distress predictors and the functional domain of QOL

Parameter Estimates						
Variable	B	S.E.	Wald	df	P-Value	Odds Ratios
Income						
No Income (RC)						1.000
Some Income	0.072	0.047	2.347	1	0.005	1.075
Stage of diagnosis						
Late Diagnosis(RC)						1.000
Early diagnosis	0.710	0.327	4.714	1	0.006	2.034
Treatment Side Effects						
Severe(RC)						1.000
Mild	0.638	0.369	2.989	1	0.012	1.893
Body Image						
Positive (RC)						1.000
Negative	-0.089	0.058	2.355	1	0.023	0.915
Sexual function						
Not Affected(RC)						1.000
Affected	-1.244	0.767	2.631	1	0.003	0.288
Sexual Relationships						
Worsed(RC)						1.000
No Effect	0.146	0.097	2.265	1	0.001	1.157
Improved	0.420	0.278	2.282	1	0.002	1.522
Importance of breast						
Important(RC)						1.000
Not important	0.138	0.093	2.202	1	0.001	1.148
Socio-Support						
No Socio-Support(RC)						1.000
Socio Support	0.501	0.316	2.514	1	0.009	1.650

Money was related ($OR = 1.075$; $p = 0.005$), indicating that breast cancer patients with some income had 1.08 (7.5%) marginally higher odds of having a better functional quality of life as compared to those without income. The p -value of 0.005 is statistically significant, demonstrating that income affects the functional quality of life. This finding was surprising because income only had a significant positive correlation with emotional QOL, a marginally positive correlation with social and familial QOL, and a negative correlation with physical QOL. The results contradict Surbhi et al. (2022), who observed no effect of socioeconomic status on functional QOL.

Early breast cancer diagnosis was associated with ($OR = 2.034$; $p = 0.006$), indicating that women with an early diagnosis had 2.03 (103.4%) higher odds of having a better functional quality of life than those with a late diagnosis. A P -value of 0.006 indicates a robust relationship between the stage of diagnosis and functional QOL. This data supports the qualitative findings (pp. 72-C1) that late diagnosis affects more body parts, resulting in increased pain and lower capacity to operate optimally. This finding is consistent with Su et al.'s (2022), who discovered a significant relationship between diagnostic stage and overall well-being.

Furthermore, treatment side effects were linked ($OR = 1.893$; $p = 0.012$), implying that BC patients with mild treatment side effects were approximately 1.89 (89%) more likely to have a good functional quality of life than those with severe side effects. Mild treatment side effects had a significant favourable influence on functional quality of life ($p = 0.012$). Treatment side effects naturally affect a patient's physical, emotional, and social well-being, as well as their functional quality of life (Safar & Mazanec, 2023). Furthermore, the findings support Safar and Mazanec's (2023) finding that symptom load has a cumulative effect on the overall functioning of breast cancer patients.

Furthermore, body image was associated with ($OR = 0.915$; $p = 0.023$), meaning that breast cancer patients with a negative body image were approximately 0.92 (8.5%) less likely to have a good functional quality of life than those with a positive body image. The P-value of 0.023 is significant, demonstrating a strong link between negative body image and functional QOL. This conclusion is noteworthy, given the apparent disparity between body image and functional wellbeing. However, Paterson et al. (2016) found that mastectomy and lymphedema might have a deleterious impact on functional well-being. Emphasising the mind-body interplay, these effects may include employment, role-playing ability, stigma, low self-esteem, and negative body perceptions.

BC patients' sexual function was associated with ($OR = 0.288$; $p = 0.003$), showing that women with impaired sexual function had 0.29 (71.2%) lower odds of having a good functional quality of life. The 0.003 p-value shows that body image influences the functional quality of life. This finding is consistent with the qualitative findings (pp. 101–D2), which revealed that breast cancer's influence on sexuality is complex and influenced by both physical and psychological factors such as mastectomy, stigma, half-woman syndrome, and overall emotional distress. The findings support Momeni et al.'s (2023) claim that sexual well-being is an important indicator of breast cancer patients' overall functioning.

Intimate relationships following breast cancer were associated with ($OR 1.157$; $p = 0.001$ for unaffected relationships and $OR = 1.522$; $p = 0.002$ for improved relationships). According to these findings, women with unaffected sexual relationships were 1.157 (15.7%) more likely to have a good functional quality of life. Women with improved sexual relationships had 1.52 (52.2%) higher odds of having a good functional quality of life compared to those whose sexual relationships had worsened. These findings are consistent with the qualitative findings (pp. 107-F4), which showed that breast cancer survivors who had healthy sexual relationships had greater emotional health, self-esteem, and well-being. The study supports Montañés-Muro et

al.'s (2023) conclusions that communication, intimacy, and emotional support are essential for preserving quality of life.

After mastectomy, BC patients' breast significance was associated with (OR = 1.148; $p = 0.001$), implying that women who felt their breasts were insignificant to their identity and sexual experience after mastectomy were 1.148 (48%) more likely to have a better functional quality of life. A P-value of 0.001 indicates that the value assigned to the breast for identification and sexual experience has a significant influence on functional quality of life. Mastectomy impairs functional quality of life in social, psychological, and physical dimensions (Thakur et al., 2022). This research confirms Grogan and Mechan's (2017) findings that BC patients who valued their breasts less after mastectomy discovered new ways to love their bodies, boosting their emotional well-being and quality of life.

Finally, social support was associated with (OR = 1.650; $p = 0.009$), implying that women with adequate social support were 1.65 (65%) more likely to have a good functional quality of life than those with insufficient social support. P-value = 0.009 implies social support buffers functional quality of life. Positive social support decreases distress and improves breast cancer patients' physical and mental health (Adam & Koranteng, 2020). This finding is congruent with a Turkish study by Celik et al. (2021), who reported that social support improves functional quality of life in breast cancer patients. Finally, all predictor variables revealed statistically significant correlations with functional quality of life ($p < 0.05$).

4.22 The role of social support in moderating psychosocial distress and quality of life

This section examines whether social support moderates the relationship between psychosocial distress and quality of life for breast cancer patients in Nairobi County. The findings also show how social support influences life quality. It is a two-step analysis: Table 4.33 depicts the

influence of psychosocial distress on quality of life among breast cancer patients while controlling for the effect of social support.

Table 4.33

Influence of psychosocial distress on the QOL controlling for the influence of social support

Variables in the Equation							
	Variable	B	S.E.	Wald	df	P-Value	Odds Ratios
Step 1a	Distress Severity						
	Normal (RC)						1.000
	Clinically Significant	-0.525	0.378	1.929	1	0.002	0.592
	Severely Distressed	-0.314	0.323	0.945	1	0.030	0.731

Both clinically significant and severe distress were associated (OR = 0.592, $p = 0.002$ and OR = 0.731, $p = 0.030$). BC patients who experienced clinically significant or severe distress had 0.59 (40.8%) and 0.731 (26.9%) reduced odds of a good quality of life after controlling for social support. The relationship was statistically significant at 5% level. This supports the qualitative findings that social isolation intensified feelings of abandonment, anxiety, despair, and hopelessness (p. 104: T2 and N4). Bandura's reciprocal determinism concept explains how social support can influence breast cancer patients' experiences through the interaction of personal characteristics, behaviour, and environment. As a result, it comes as no surprise that social support acts as a buffer against psychosocial distress. This supports Fong et al. (2017), who found an absence of social support highly predicted stress, anxiety, depression, and a low quality of life.

The interplay between social support and psychosocial distress influence on the quality of life of breast cancer patients in Nairobi County was as depicted in Table 4.34:

Table 4.34***Relationship between social support, psychosocial distress and QOL***

Variables in the Equation						
	Variable	B	S.E.	Wald	df	P-Value
Step 1a	Distress Severity					
	Normal (RC)					1.000
	Clinically Significant	-0.510	0.295	2.989	1.000	0.005
	Severely Distressed	-0.297	0.192	2.393	1.000	0.007
	Socio-Support					
	No Socio-support (RC)					1.000
	Socio Support	0.453	0.309	2.149	1.000	0.001

This second model considered distress severity and social support in relation to quality of life. Clinically significant distress decreased the odds of a good quality of life (OR = 0.600, p-value 0.005). Individuals who were severely distressed also had lower odds of having a good QOL (OR = 0.743, p-value = 0.007). Social support increased the odds of a good quality of life (OR = 1.573, p-value = 0.001). The results confirm that clinically significant and severely distressed respondents had lower likelihood of having a good quality of life. Including social support into the model enhanced the quality of life for breast cancer patients, perhaps offsetting the detrimental influence of psychosocial distress, as indicated by the odds ratios on Table 4.34. Qualitative findings (pp. 104: F4, F5, and N4) revealed a favourable influence of social support on affective states as well as improved social and familial wellbeing. This finding complements the findings of Jadidi and Ameri (2022) and Celik et al. (2021), who discovered a link between social support, resilience, and a high global quality of life.

4.23 The Moderating Effect of Social Support on Predictors, Psychological Distress, and QOL

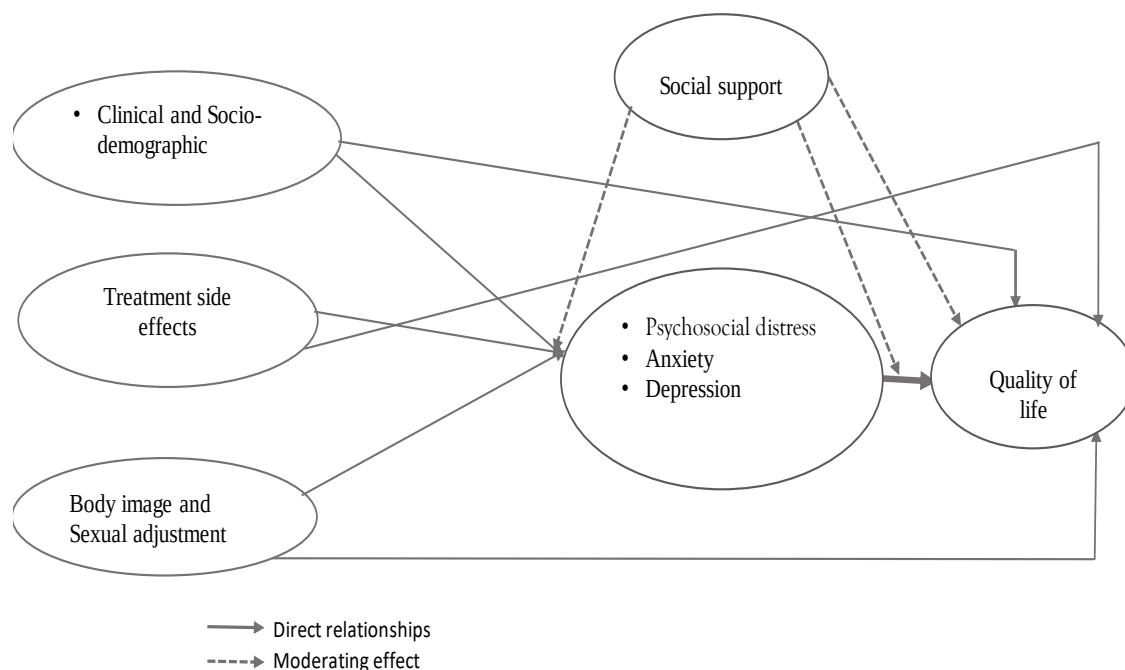
According to Albert Bandura's theory of reciprocal determinism, there exists a dynamic and reciprocal relationship between behaviour, environment, and individual factors, which results

in mutual influence. Bandura's hypothesis was correlated with the study's findings on the influence of positive social support in multiple ways, as depicted in Figure 4.5 below:

Figure 4.5

Figure 4 5: Moderating Effect of Social Support

Moderating Effect of Social Support



Surprisingly, the mediating variable of psychosocial distress in our study only partially mediated. The independent variables, including clinical and social demographic parameters, treatment side effects, and body image, also exerted a direct influence on the quality of life. The study found that social support, despite being a moderating variable, did not only reduce the influence of predictor variables on psychosocial distress but also acted as a moderator on the influence of psychosocial distress on quality of life and had a direct positive influence on QOL even when distress was present. Despite the expected results, the levels of moderation were unexpected and significant, demonstrating the effectiveness of instrumental, emotional, and informational support in mitigating psychosocial distress and improving breast cancer patients' quality of life and treatment outcomes. This outcome is consistent with Almuhtaseb

et al. (2021)'s emphasis on the importance of social support in improving resilience and quality of life.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS OF THE STUDY

5.1 Introduction

The research on the influence of psychosocial distress predictors on the quality of life of women with breast cancer in Nairobi County is summarised and concluded in this chapter. As this is a QUAL/QUAN study, the conclusions and summaries have integrated the findings from both phases.

5.2 Summary of Qualitative Findings

This exploratory phase of the study explored the experiences of women with breast cancer, focusing on the influence of personal experiences on psychosocial distress and quality of life. The median age of the women was 48 years. Five main themes emerged quality of life, psychosocial distress, treatment side effects, body image, social support, and unmet needs. The study found that participants experienced psychosocial distress at every stage of the illness, with financial distress being the primary cause.

Exhaustion, hair and weight loss, skin discoloration, and hot flushes were the most common treatment side effects. Fatigue compromised role function, while hair, weight, and skin discolouration raised self-consciousness. Hot flushes and other treatment side effects hampered sexual function.

Mastectomy was associated with negative body image, low self-esteem, the "half woman" syndrome, impaired sexual function, stigma, and increased self-consciousness, all of which contributed to social isolation and a lower quality of life. The breast emerged as an organ with multiple meanings and stakeholders; its loss led to emotional pain and grief among stakeholders, especially children. Neuropathic pain was widespread and persistent; its clusters of symptoms were distressing and had a detrimental effect on the women's well-being.

Negative social support led to suboptimal health-seeking behaviours and emotional distress, while positive support ameliorated emotional distress and overall quality of life. Informational support was adequate, but issues regarding doctors' lack of empathy were voiced. The society stigmatised BC patients by setting death dates and withholding support.

The findings highlighted the complexity of breast cancer treatment, making it costly and preventing many patients from receiving prompt treatment. Restructuring SHIF to provide holistic coverage, social protection programmes, and public-private partnerships to reduce breast cancer patients' particular income constraints was the message to policymakers. The participants' collective appeal to society was, "Please don't label and stigmatise us." "God owns the calendar; do not set our days on it."

5.3 Summary of Quantitative Findings

5.3.1 Determination of the prevalence of psychosocial distress experienced by women diagnosed with breast cancer in Nairobi County

The participants reported severe and pervasive psychosocial distress. Furthermore, 86% reported general clinical-severe distress, with money issues being the most pressing. In addition, 77% experienced borderline-clinical anxiety and depression, with 75% reporting moderate-to-clinical emotional distress.

5.3.2 Establishing the influence of clinical and socio-demographic characteristics on the quality of life in women with breast cancer in Nairobi County.

The median age was 47 years, 63% of the population was unemployed, 49% received a late diagnosis, and 51% underwent a mastectomy. In this study, age, marital status, and education did not predict distress. Without income, severe distress was highly predicted (OR = 5.50; $p = 0.000$), but early-stage diagnosis was inversely associated (OR = 0.321; $p\text{-value} = 0.006$). Clinical depression and anxiety were closely associated with a lack of income. Significant correlations were between anxiety (OR = 2.8; $p\text{-value} = 0.004$) and clinical depression (OR =

4.7; $p = 0.000$). Early diagnosis reduced the risk of clinical depression ($OR = 0.504$; $p\text{-value} = 0.049$). Interestingly, the diagnosis stage did not affect anxiety.

Income and stage of diagnosis influenced all domains of quality of life. Women with money had a lower likelihood of favourable physical outcomes ($OR = 0.801$, $p = 0.004$). Late diagnosis had somewhat lower odds than early diagnosis ($OR = 0.885$, $p = 0.007$). Women with some income had slightly better odds of favourable social and familial outcomes ($OR = 1.047$, $p = 0.008$), and early diagnosis enhanced the odds of positive outcomes ($OR = 1.471$, $p < 0.001$). Better emotional and cognitive outcomes were associated with some income and early diagnosis ($OR = 1.323$, $p\text{-value} = 0.002$) and ($OR = 1.174$, $p = 0.008$), respectively. Finally, income significantly improved functional outcomes ($OR = 1.075$, $P\text{-value} = 0.005$) and early diagnosis ($OR = 2.034$, $P\text{-value} = 0.006$).

5.3.3 Determining the influence of treatment side effects on quality of life in women with breast cancer in Nairobi County.

The most common treatment side effects reported by study participants were hair loss (90%), weight loss (87%), skin colour change and hot flashes (83%), fatigue (80%), low appetite (79%), pain (69%), memory and attention (68%), sexual difficulties (56%), and lymphedema (51%). Treatment side strongly predicted severe psychosocial distress, those with severe side effects were 2.9 times more likely to be distressed, and they had a 5 times higher risk of clinical anxiety and 4 times higher risk of clinical depression. This strong relationship was found to be significant ($p = 0.000$).

Severe treatment side effects lowered physical QOL compared to mild side effects ($OR = 0.233$, $p = 0.002$). Women with mild treatment side effects had a superior social and familial quality of life ($OR = 1.581$, $p = 0.009$). Severe side effects decreased positive emotional and cognitive well-being (0.757 , $P\text{-value} = 0.001$). Finally, treatment side effects influenced

functional well-being, with mild side effects having better outcomes than severe ones (P-value = 0.012; OR = 1.893).

5.3.4 Establishing the influence of Body image on quality of life in women with breast cancer in Nairobi County.

The breast was utilitarian, emotive, and had stakeholders, according to qualitative findings. Breast loss grieved the mother, children, and spouse. Post-treatment appearance changes caused low self-esteem, social disengagement, and emotional distress. Before breast cancer, 98% of women liked their bodies. However, only 39% expressed a positive body image following breast cancer. Before breast cancer, 93% of women were sexually confident. However, 72% had lower libido and 61% had worse sex satisfaction after BC. Breasts were essential to 99% of women's feminine identity and sexual experience, therefore losing them affected their emotional and sexual well-being.

Poor body image, sexual function, relationships, and breast importance predicted psychosocial distress. Poor body image made severe distress 1.8-fold more likely in women. Those with reduced sexual function had 3.5 times the risk of severe psychosocial distress, while those with no change or had improvement in their intimate relationships after breast cancer had 0.85- and 0.86-times lower risks. Mastectomy survivors who valued their breasts were 1.1 times more likely to experience significant psychosocial distress. At 5%, all associations were significant.

Equally, after breast cancer, negative body image predicted anxiety and depression. Women with a negative body image were 1.8 times more likely to develop clinical anxiety than those with a positive body image. In addition, a poor body image increased clinical depression risk by 1.9 times. Reduced sexual function was associated with clinical depression, resulting in a 3.7-fold increase in borderline-clinical depression risk. Women with stable or enhanced sexual relationships had lower odds of developing clinical depression (OR= 0.834 and 0.824,

respectively. Women who valued their breasts post-mastectomy were 1.1 times more likely to experience clinical depression. All relationships were statistically significant ($p=0.000<0.05$).

Body image had a significant relationship with all domains of QOL. Positive body image after breast cancer was associated with increased odds of good physical QOL compared to a negative body image (OR = 3.456, $p = 0.009$). A reduced likelihood of good physical QOL was associated with sexual dysfunction after breast cancer treatment (OR = 0.288, $p = 0.003$). Better physical QOL was associated with maintained or improved sexual relationships, rather than worsening relationships (improved: OR = 1.522, $p = 0.002$; no effect: OR = 1.157, $p = 0.001$). Breast importance influenced physical QOL, with those who valued them having slightly reduced odds of good QOL (OR = 0.871, $p < 0.001$).

BC patients with a favourable body image had better odds of positive social and familial outcomes (OR = 1.517, $p = 0.006$). Sexual dysfunction was related to reduced odds of positive outcomes (OR = 0.289, $P\text{-value} = 0.003$). Both maintained and improved sexual relationships were associated with increased social and family well-being (OR = 1.151 and 1.517, $P\text{-values} = 0.001$ and 0.002 , respectively). Further, a substantial correlation exists between a positive body image and good emotional and cognitive QOL (OR = 1.269, $P = 0.000$). Sexual function and relationships were crucial to participants' emotional and cognitive well-being. Sexual dysfunction was linked to lower emotional and cognitive QOL (OR = 0.289, $P\text{-value} = 0.003$). Maintained or improved sexual relationships were linked to good emotional and cognitive QOL (OR = 1.141 and 1.508, $P\text{-values} = 0.001$). The perceived breast value post-mastectomy was essential. Perceiving the breast as having a limited effect on sexual and feminine identity was associated with improved emotional and cognitive well-being (OR = 1.138, $P = 0.001$).

Women with negative body image had lower odds of good functional QOL (OR = 0.915, $P\text{-value} = 0.023$). Further, positive functional outcomes were less likely in women with sexual

dysfunction (OR = 0.288, P = 0.003). Unaffected and improved sexual relationships increased functional well-being odds (OR = 1.157 and 1.522, P = 0.001 and 0.002). After mastectomy, low breast importance was related to better functional well-being (OR = 1.148, P = 0.001).

5.3.5 The association between social support and quality of life in women with breast cancer in Nairobi County

The four social support indicators were instrumental, emotional, affectionate, and informative. Descriptive analysis showed most respondents had adequate social support. An overwhelming 86% of the participants received adequate instrumental support. In addition, 84% received adequate emotional support, 91% received affectionate support, and 84% received informational support. According to qualitative findings, those who experienced inadequate support, though few, were in a crisis.

Social support moderates' psychosocial distress, clinical depression, and anxiety. Adequate social support reduced the risk of severe psychosocial distress in women by 0.79 (OR = 0.79). Socially supported women were 0.4 and 0.9 times less likely to have borderline or clinical anxiety, respectively. Finally, social support buffered depression; the odds ratios 0.4 and 0.6 show a reduction in the risks of borderline or clinical depression, respectively, for every unit increase in social support. All the associations were significant at the 5% level.

Furthermore, positive, adequate social support was associated with positive outcomes in all QOL domains. Adequate social support was associated with better odds of good physical QOL than inadequate support (OR = 1.65). Similarly, social support predicted positive social and familial well-being (OR = 1.647). Furthermore, there was a strong correlation between socio-support and positive emotional and cognitive QOL (OR = 1.610). Finally, positive functional well-being was positively associated with social support (OR = 1.650). All relationships were significant at the 5% level.

5.3.6 *Social support moderates' psychosocial distress and quality of life in women with breast cancer.*

Social support was associated with lower odds of psychosocial distress (OR=0.592; $p = 0.00$) and higher odds of a good quality of life (OR = 1.573; $p = 0.001$). This shows that the presence of social support may act as a protective factor, ameliorating the detrimental influence of psychosocial distress and promoting a higher quality of life for breast cancer patients.

5.4 **Conclusions**

Breast cancer treatment necessitates a multidisciplinary approach to provide comprehensive, patient-centred care. This strategy considers the physical, psychosocial, and spiritual aspects of the illness, enhancing patient and family outcomes and improving quality of life. The study emphasises the widespread psychosocial distress that breast cancer patient's experience, but the disease-centred biomedical paradigm still governs cancer treatment and management with little to no psychosocial services. These findings will form the foundation for multidisciplinary, multisector policy formulation, psychological distress interventions, and research to promote holistic care for women with breast cancer.

Psychosocial distress among breast cancer patients was prevalent and severe, with a significant proportion experiencing clinical to severe distress. There was thus sufficient evidence to reject the null hypothesis that psychosocial distress in breast cancer patients is neither common nor severe. Financial strain and loss of livelihood were common issues, influencing timely access to treatment and prognostic outcomes. Additionally, a gap in health insurance exists, as NHIF does not cover diagnostics, limiting some patients' access to treatment, which is contingent on diagnostics. Mental health challenges, such as anxiety and fear of the unknown, were prevalent throughout the disease continuum, especially during the diagnosis and treatment planning stages. Persistent pain was a significant concern, necessitating effective pain management strategies. Issues related to relationships, treatment decisions, meaning, and purpose were also

distressing problems that required psychosocial interventions. Notably, there was a high comorbidity rate between depression and anxiety, in addition to a high incidence of both conditions individually. This is an indication that untreated psychosocial distress may progress into diagnosable mental disorders that require clinical attention.

The findings partially rejected the null hypothesis that clinical and social-demographic determinants do not significantly influence the quality of life of women with breast cancer in Nairobi County, revealing income and diagnosis stage as predictors. Lack of income predicted psychosocial distress, anxiety, and depression, while the stage of diagnosis predicted only psychosocial distress and depression. Income and stage of diagnosis negatively correlated with all QOL domains except physical, where patients lacking income had a slightly better physical quality of life. The median diagnosis age was 47, with many respondents under 50. This is a worrying sign that the age of diagnosis is declining. Stages three and four, which are late and come with a higher symptom load, poor prognostic outcomes, and a lower quality of life, identified half of the respondents.

Treatment-related side effects were predictive of psychosocial distress and breast cancer patients' quality of life, thus rejecting the null hypothesis. All domains of quality of life suffered from severe treatment side effects, whereas mild side effects were associated with a higher overall quality of life. These results emphasise the significance of controlling and alleviating treatment side effects to enhance many facets of quality of life for breast cancer patients.

There was a strong link between post-breast cancer body image, psychosocial distress, and clinical anxiety and depression, refuting the null hypothesis. The implications for quality of life were significant. Body image and sexual dynamics had a substantial relationship with all aspects of quality of life. Addressing and promoting healthy body image and sexual dynamics in post-treatment care may considerably reduce psychosocial distress and enhance BC patient's

quality of life. These findings highlight the importance of this often-overlooked variable in breast cancer care, which has far-reaching implications for quality of life. Furthermore, the findings have heuristic significance and establish the groundwork for future studies on body image and sexuality in order to create tailored interventions that address sexuality concerns in the Kenyan context.

We confirmed the null hypothesis that social support moderates' psychosocial distress and improves quality of life for breast cancer patients. Given the concept of African Ubuntu, we expected social support to be generally adequate. Moreover, the study found that positive social support moderates psychosocial distress and improves global quality of life for breast cancer patients. However, negative support negatively influences health-seeking behaviours and prognostic outcomes. A patient-centred cancer care approach is necessary to address the unique needs of women without social support. Finally, although psychosocial distress can pose a significant obstacle to the well-being of women with breast cancer, robust positive social support can enhance resilience and quality of life. This underscores the importance of incorporating comprehensive supportive care interventions into the management of breast cancer. In addition to having heuristic value, these results lay the groundwork for future research on negative social support.

5.5 Study Recommendations

Based on the study's objectives, we offer the following recommendations:

5.5.1 *Quality of life*

- i. By tying these findings to past research, this study emphasises the need for a patient-centered, holistic approach to breast cancer care that treats the disease, its side effects, and psychosocial distress that affects all domains of quality of life.

- ii. Quality of life as a treatment outcome will require oncology units to adopt a multidisciplinary holistic approach that takes into account the effects of cancer treatment on survivorship, work, and other roles and obligations with proper referral and follow-up structure.
- iii. Low energy and lymphedema impair functionality of many breast cancer patients; hence, the county and national governments should come up with social protection policies to improve QOL in survivorship.

5.5.2 *Prevalence of psychosocial distress*

The prevalence of psychosocial distress, clinical anxiety, depression, and comorbid anxiety and depression (emotional distress) among breast cancer patients suggests the following recommendations to enhance psychosocial well-being and quality of life:

- iv. Oncology facilities should incorporate distress screening as an additional vital sign indicator. Screening for distress will facilitate not only detection of distressing issues, but also clinical anxiety, depression and PTSD.
- v. As part of BC treatment strategy, oncology facilities should incorporate psychotherapy services incorporating professionals who can handle individual, couple, family and sexual therapy.
- vi. KNH should consider integrating mental health in oncology treatment plans by laying structures to harness resources domiciled in the palliative care and mental health units to facilitate development of holistic interventions and follow-up programmes.
- vii. The KNH mental health department should be looped in oncology services to develop targeted interventions for body image, sexuality issues, and other comprehensive programs focusing on psychoeducational interventions.

- viii. Oncologists and other healthcare practitioners should involve patients in treatment planning. Participating in treatment decisions can help patients feel in control and lessen distress.
- ix. Treatment plans should incorporate financial counselling. Information aids decision-making and distress reduction.
- x. KNH and other oncology hospitals should provide psychotherapy and self-care interventions to alleviate compassion fatigue among oncology nurses and other healthcare oncology personnel.

5.6.3 *The influence of clinical and socio-demographic characteristics on quality of life.*

We offer the following recommendations to improve care and support based on respondents' income distribution, diagnosis stage and age, and education:

- i. NHIF/SHIFA should overhaul cancer funding to eliminate health care coverage and benefit gaps such as diagnostic tests that prohibit patients from accessing crucial follow-up treatments and medications.
- ii. Health regulators should ensure affordable and equitable cancer services to eliminate treatment cost disparities, divert traffic away from public hospitals, and prevent long wait times that delay diagnosis and worsen prognosis.
- iii. The National Institute of Cancer Kenya should fund research on younger women's breast cancer risk factors.
- iv. To help healthcare providers communicate with breast cancer patients without formal schooling, oncology departments should provide in-house, ongoing communication training.

5.5.4 *The influence of treatment side effects on quality of life*

Treatment side effects (symptom burden) negatively affect psychosocial distress and quality of life across dimensions. Therefore, we propose the following for more mindful management of treatment side effects to enhance care:

- i. Clinicians should inform BC patients about side effects before and during treatment to prepare them psychologically, empowering them to actively participate in their care and make informed decisions.
- ii. To enhance global quality of life, cancer facilities should implement a multidisciplinary strategy for managing treatment side effects, involving nutritionists, psychologists, social workers, oncologists, rehabilitation specialists, and integrative therapists.
- iii. Breast cancer patients with lymphedema and arm functional loss should receive functional wellness programmes as part of their treatment. Integrative therapies, including rehabilitation, physiotherapy, and occupational therapy, may improve function and independence.
- iv. Side effects of treatment, such as neuropathy, memory and concentration issues, fatigue, and sleep disruptions, persist even after recovery. To enhance patients' QOL, integrative therapies are required to manage treatment side effects along the disease continuum.

5.5.5 *Influence of body image on the quality of life*

Based on this study's revelation of the profound significance of body image and sexual adjustment concerns, the following recommendations can be considered to improve women's quality of life after breast cancer treatment:

- i. Cancer facilities should incorporate psychotherapy into the treatment planning protocol as a standard procedure to assist married and unattached couples adjust well to body changes, breast loss, and sexual function.

- ii. As part of breast cancer, treatment oncology centres should incorporate sexual education, support for sexual function, and resources like sex therapy and medical interventions to improve sexual health.
- iii. Support group stakeholders, to offer body-value psychoeducation in post-mastectomy support groups to mitigate breast loss, perceived femininity loss, and half-woman syndrome.
- iv. SHIF should include breast prostheses in its funding for breast cancer survivors, as they help alleviate body image and asymmetry concerns.
- v. The National Institute of Cancer Kenya should work with stakeholders to establish how the cottage industry model can make breast prostheses inexpensive while creating jobs for breast cancer patients.
- vi. The National Institute of Cancer Kenya should invest in research and innovation to comprehend the intricate link between body image, sexual function, and quality of life post-breast cancer, to facilitate the creation of targeted interventions.

5.5.6 *The influence of social support on psychosocial distress and quality of life*

- i. Cancer facilities should adopt person-centred strategies to identify and provide psychosocial support to BC patients in dire circumstances.
- ii. SHIF should cover consultation fees, diagnostic costs, and all therapies to close coverage gaps that prevent patients from accessing treatment.
- iii. Cancer centres should provide support groups for women with breast cancer because they provide compassionate understanding, encouragement, and strength to people fighting the illness.
- iv. Faraja Cancer Support should collaborate with county oncology facilities and other stakeholders to develop virtual communities, reduce geographical constraints, and expand peer support services for breast cancer patients.

- v. Faraja Cancer Support and other stakeholders who run support groups should consistently assess their programmes to determine efficacy and responsiveness to evolving demands.
- vi. The Kenya Cancer Institute should engage stakeholders in community awareness campaigns to reduce stigma and promote a supportive environment for breast cancer survivors to enhance their overall QOL.
- vii. All County health departments should establish cancer registries to assess needs. This information can help identify cases in severe need of social support and subsistence, personalising help starting with SHIF enrolment.
- viii. The Kenya Cancer Institute should work with the government, stakeholders, and well-wishers to establish businesses that cater to breast cancer patients' needs, including physical difficulties such as loss of hand functionality and low energy, in order to reduce job and income losses and provide survivors with purpose.

5.6 Suggestions for Further Research

- i. The current study was limited in the sense that it tested relationships. There is need for follow-up studies to test causation between the identified psychosocial distress predictors and quality of life.
- ii. Research to determine the influence of negative social support on psychosocial distress, quality of life and prognostic outcomes.
- iii. Development of psychotherapeutic interventions for treating anxiety, depression, traumatic distress, body image concerns, sexuality issues and strengthening social support.

- iv. Research to examine the influence of mastectomy on spouses and children, as their reactions can significantly influence the body image, sexuality, and mental well-being of breast cancer patients.
- v. Research to test efficacy of psychosocial distress intervention models to determine the models that work best in the Kenyan context.
- vi. Longitudinal research to monitor emergent issues along the disease continuum as well as the dynamic nature of post-treatment experiences and the efficacy of targeted interventions in fostering enduring improvements in quality of life for breast cancer survivors.
- vii. To comprehend the phenomena of neuropathic pain in this population, further research is necessary.

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APPENDICES

Appendix 1: Qualitative Data Collection Instruments

To measure Influence of Psychosocial Distress Predictors on Quality of Life in Women with Breast Cancer in Nairobi County

Serial No..... Hospital No.....Date of interview.....

Annex 1 - In-depth Interview Guide - Patients

1. **Creating rapport:** introduction and getting to know the respondent.
Probe: Name, marital status, number of children, level of education, employment status, income
2. When were you diagnosed with cancer?
Probe: year, month, stage of disease?
3. Please tell me how you felt when you found out that you had breast cancer.
Probe: fear, anger, worry, anxiety, depression What kind of treatment (s) have you received so far?
4. How has cancer diagnosis and treatment changed your life and wellbeing?
Probe: thoughts and feelings, doing things for self, work, appearance, relationships, spirituality, hardest thing you are experiencing
5. a) Describe any side affects you have experienced during and after treatment.
Probe: Pain, tiredness, sleep, hotflashes, memory/concentration, swelling in the arm. Effects on patients life in general? Which symptom(s) is bothering or distressing you the most?
6. a) Describe how your physical appearance has changed because of surgery and/or treatment?
b) Have these changes changed how you see yourself and how you feel about how you look?
c) Please explain how these changes affect your sense of attractiveness and femininity. What about sexual interest?
Probe: feelings of attractiveness, self-consciousness, shame, social avoidance, libido effects on emotional, sexual and social functioning
7. Tell me something about your social support in terms of family, friends and healthcare providers.
b) Please share how social support or the lack thereof affects your well-being.
Probe: being listened to, assurance of being understood, feeling cherished, affection, cook meals, self-care, clean house, children, accompany to hospital, financial support, do things together, empower you with disease/treatment related information
8. Please tell me about any needs you have, as a breast cancer patient that you believe are not being met.
Probe: family, friends, employers, healthcare providers, how this unmet needs affect t quality of life
9. Where do you derive your strength?

Probe: *Self, spirituality, family, friends, workmates*

10. Do you have questions or something to add?

Annex 4 - Key Informant Interview Schedule - Nurses

2. Please tell me something about yourself (education, service year)
3. How long have you been involved in taking care of cancer patients?
4. What type of services does the cancer centre give and how many breast cancer patients do you see in a month?
Probe: *total number, number of new patients, type of treatment offered*
5. What are the common psychosocial challenges that you observe with the patients?
Probe: *financial, treatment delay, fear, worry, mood, stigma, relationships, support (practical, emotional, informational, interactional)*
6. Which are the common treatment related symptoms you have observed among breast cancer patients?
7. Share your observations on the effect of mastectomy and other treatment related body changes on the women's body image.
8. Please explain if at this centre there is a standard procedure for screening, monitoring and managing psychosocial distress at every stage of the disease.
9. In your opinion, does psychosocial distress affect the women's QOL? Please explain.
10. Do you have questions you wish to ask or something to add?

Annex 5 – Expert Opinion - Interview Schedule - Oncologists

1. Please tell me something about yourself (education, service year)
2. How long have you worked as an oncologist?
3. Tell me about the typical age of the women you see who are diagnosed with breast cancer.
4. Please explain whether you think that a woman's age when she is diagnosed with breast cancer affects how she feels, relates with people and her quality of life.
5. What are some of the most prevalent treatment-related side effects you see in women diagnosed with breast cancer?
Probe: *do the patients get information about potential side effects? Are the symptoms monitored and addressed? Impact on women's QOL?*
6. Please explain if you spend time in your practice listening to or observing the cancer patient's non-disease issues.
Probe: *ask about, feelings, ask/observe mood, concerns on body image, sexual Wellbeing, fertility?*
7. Share your observation on how a mastectomy and other treatment related body changes affect a woman's body image.
 - b) In your opinion, does body image effect the women's quality of life? Please explain.
Probe: *satisfaction with appearance, feelings of beauty, femininity, desirability, sexuality/libido*
8. What are the most prevalent psychological and social stressors you have observed among breast cancer patients, based on your encounters with them? How, in your opinion, does psychosocial distress affect the quality of life?
Probe: *fear, worry, adjustment to diagnosis, mood, finances, stigma, relationships, information about the disease, treatment options and decisions; explain aspects of their QOL that are most affected in your opinion.*
9. Please explain whether psychosocial distress is identified, monitored, and treated at all cancer stages in hospitals where you work.
Probe: *considering distress a treatable complication in breast cancer? Screening to identify patients with clinically significant mental disorders, thoughts on offering psychosocial support (counselling, spiritual support) multidisciplinary approach to cancer care.*
10. Do you have questions you wish ask or something to add?

Annex 6 – BC Patient's Focus Group Discussion Guide

Introduction and giving consent

Thank you all for coming today. My name is Wanjiru Muriithi and this is (research assistant). We are conducting research to determine whether your breast cancer experiences are predictive of psychosocial distress and, if so, how this distress is affecting your well-being and quality of life. In our discussion today, we would like to discuss how your lives have changed since the time of diagnosis and treatment, as well as how cancer has affected your lives. Here is the procedure for this discussion:

1. We shall take you through the process of informed consent:
 - Inform you what the study is about
 - Potential benefits and risks of participating
 - Request you to allow us to record and scribble notes about the discussion.
 - Inform you how your privacy will be protected
 - Ensure you of voluntary participation and freedom to leave the discussion if you so choose
 - Agree on modes of engagement and duration of the discussion
 - If you choose to participate, we will ask for your written or fingerprinted consent.

Icebreaker: Catch a feeling!

Let us start by introducing ourselves....

1. Let's each share our first names, your ethnicity and which part of the country you come from
2. Please tell us a little about yourselves:
Probe: how old are you, marital status, when were you diagnosed? Stage at diagnosis, treatment received, children? Level of education, work, occupation?
3. Please explain the thoughts and feelings you struggled with after diagnosis
***Probe:** since then, have these thoughts and feelings maintained/improved/worsened?*
4. Share with us previous and current treatment side effects affecting you and their effect on your physical, emotional, memory and concentration social, work, relationships and sexuality.
***Probe:** which symptoms are the most disturbing? Which aspects of your wellbeing do these side effects affect?*
5. a) What aspects of your appearance have changed because of cancer and its treatment?
b) Have these changes affected how you feel about yourself as a woman?

c) Please explain how these changes have affected your wellbeing.

Probe: *Do you have concerns about these changes? Are you self-conscious or ashamed, tell us how you feel in relation to your feelings of femininity, attractiveness, desirability and sexuality*

6. Let us talk about the support you receive from your family, partner, friends, coworkers and supervisors, spiritual community, and healthcare providers, and how the support or lack of it is influencing your wellbeing?

Probe: *being listened to, being understood, encouraged, affection, cook meals, help with self-care, housework, children, accompanying to hospital, financial support, engage in fun activities, and give useful information about the disease and treatment choices?*

7. a) Please tell us about how your life has changed because of your cancer diagnosis and treatment and how this is affecting your quality of life.

Probe: *thoughts and feelings, self-esteem, sexuality, doing things for self, work and other roles, relationships, libido, spirituality, lifestyle, current struggles*

8. Please let us know if there are needs or concerns that you feel are not met or addressed in your cancer journey

Probe: *treatment decisions, counselling, dietary and exercise information, information about the disease and treatment side effects*

9. Where do you derive your strength?

Probe: *helpful encounters in your cancer journey*

10. Are there some issues from your lived experiences that you wish to add before we finish?

Thank you for sharing your thoughts, feeling and experiences with us today. We salute you mamas

Appendix 2: Quantitative Data Collection Instruments

Topic: Influence of Psychosocial Distress Predictors on Quality of Life in Women with Breast Cancer in Nairobi County

Serial No..... Hospital No.....Date of interview.....

Section A – Socio and Clinical Demographics

I would like to ask you to answer a few general questions about yourself:

Please tick the correct answer or fill in the space provided.

1. What is your year of birth	— — — —	
2. What is the highest level of education you have completed?	☐ None at all ☐ Secondary school	☐ Primary School ☐ College/university ☐ Informal
3. What is your marital status?	☐ Single ☐ Married ☐ Cohabiting	☐ Separated ☐ Divorced ☐ Widowed
4. What is your current employment status?	☐ Employed ☐ Business ☐ Unemployed	☐ Student ☐ Retired ☐ Other: _____
5. How much money do you make in a month? Tick the range that applies to you	Below 5,000 5,000 – 10,000 10,000 – 20,000 20,000 – 30,000 30,000 – 40,000 40,000 – 50,000 Above 50,000	
6. At which stage were you diagnosed with breast cancer? Tick the stage that applies to you	☐ Stage 1 ☐ Stage 2	☐ Stage 3 ☐ Stage 4
7. Did you undergo a surgical procedure? Tick the procedure that applies to you:	☐ Mastectomy ☐ Lumpectomy	

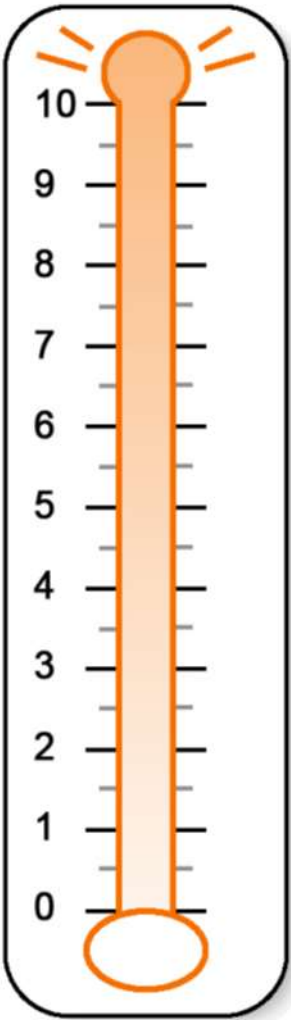
Section B – Distress Thermometer and Problem Checklist (PL)

INSTRUCTIONS:

The thermometer seeks to measure your perceived level of distress. Please point to the number between (0-10) that best describes how much distress you have been experiencing in the past week including today.

Figure 1: An adapted version of NCCN Distress Thermometer and Problem List for Patients

An adapted version of NCCN Distress Thermometer and Problem List for Patients



Which of the read out items best describes what has been bothering you in the past week, including today.

Problem List

Finances	[]
Having enough food	[]
Relationships	[]
Discomfort	[]
Taking on roles	[]
Treatment decisions	[]
Fear	[]
Anxiety	[]
Depression	[]
Sense of meaning or purpose	[]
Other	_____

Section C – Hospital Anxiety and Depression Scale

This questionnaire is designed to establish how you are feeling now, and how you have been feeling for the last one week.

Instructions:

The questions will be read out to you at a pace that suits you. You will respond to the statement that comes closest to how you have been feeling in the past week. Do not take too long over your replies: your immediate reaction to each item will probably be more accurate than a long thought out response.

I feel tense or ‘wound up’:	A	I feel as if I am slowed down:	D
Most of the time	3	Nearly all of the time	3
A lot of the time	2	Very often	2
Time to time, occasionally	1	Sometimes	1
Not at all	0	Not at all	0
I still enjoy the things I used to enjoy:	D	I get a sort of frightened feeling like ‘butterflies in the stomach’:	A
Definitely as much	0	Not at all	0
Not quite so much	1	Occasionally	1
Only a little	2	Quite often	2
Not at all	3	Very often	3
I get a sort of frightened feeling like something awful is about to happen:	A	I have lost interest in my appearance:	D
Very definitely and quite badly	3	Definitely	3
Yes, but not too badly	2	I don’t take as much care as I should	2
A little, but it doesn’t worry me	1	I may not take quite as much care	1
Not at all	0	I take just as much care as ever	0
I can laugh and see the funny side of things:	D	I feel restless as if I have to be on the move:	A
As much as I always could	0	Very much indeed	3
Not quite so much now	1	Quite a lot	2
Definitely not so much now	2	Not very much	1

Not at all	3	Not at all	0
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Worrying thoughts go through my mind:	A	I look forward with enjoyment to things:	D
A great deal of the time	3	A much as I ever did	0
A lot of the time	2	Rather less than I used to	1
From time to time but not too often	1	Definitely less than I used to	3
Only occasionally	0	Hardly at all	2

I feel cheerful:	D	I get sudden feelings of panic:	A
Not at all	3	Very often indeed	3
Not often	2	Quite often	2
Sometimes	1	Not very often	1
Most of the time	0	Not at all	0

I can sit at ease and feel relaxed:	A	I can enjoy a good book or radio or TV programme:	D
Definitely	0	Often	0
Usually	1	Sometimes	1
Not often	2	Not often	2
Not at all	3	Very seldom	3

The hospital anxiety and depression scale. Acta Psychiatrica Scandinavica. 1983;67(6):361-370 2.

Section D – Treatment Side Effects (symptom burden)

Patients sometimes report that they have the following symptoms or treatment side effects. If you had the symptom DURING THE PAST WEEK, please respond yes. If you did have the symptom, how much did it DISTRESS or BOTHER you?

Check <u>all</u> the symptoms you have had during the PAST WEEK.	➔➔ IF YES: How much did it DISTRESS or BOTHER you?					
	Yes [✓]	Not at all [0]	A little bit [1]	Some what [2]	Quite a bit [3]	Very much [4]
Pain						
Constipation						
Diarrhea						
Nausea/vomiting						
Appetite						
Lack of energy						
Sleep disturbance						
Swollen arm or hand						
Hot flashes						
Changes in skin colour						
Memory and concentration						
Mouth sores						
Sexual difficulties						
Hair loss						
Gained /lost weight						
If you had any other symptoms during the PAST WEEK, please list them below, and indicate how much the symptom DISTRESSED or BOTHERED you.						
1. _____						
2. _____						

II. Below are other commonly listed symptoms. Please indicate if you have had the Symptom DURING THE PAST WEEK, and if so, how OFTEN it occurred.

Check <u>all</u> the symptoms you have had during the PAST WEEK	➔➔ IF YES, How OFTEN did it occur?				
	Yes [✓]	Rarely [1]	Occasionally [2]	Frequently [3]	Almost Constantly [4]
Feeling sad					
Worrying					
Feeling irritable					
Feeling nervous					

Memorial Symptom Assessment Scale – Short Form [Msas-Sf]

Section E – Body Image Scale

Statements in this section seek to understand how surgery and treatment side effects have altered your appearance and how this has affected their body image. The questionnaire is designed to help the researcher better understand how breast cancer and its treatment has affected how you think and feel about your body and sexuality. Your answers will be kept confidential. Please indicate the answer that addresses your feelings or best describes your situation.

1. Prior to having breast cancer how satisfied were you with your physical attractiveness?

- [1] Not at all satisfied
- [2] Somewhat satisfied
- [3] Moderately satisfied
- [4] Very satisfied
- [5] Extremely satisfied

2. Prior to having breast cancer, how comfortable were you showing your body to others

- [1] Not at all satisfied
- [2] Somewhat satisfied
- [3] Moderately satisfied
- [4] Very satisfied
- [5] Extremely satisfied

3. Prior to having breast cancer, how comfortable were you with the shape/proportion of your body?

- [1] Not at all satisfied
- [2] Somewhat satisfied
- [3] Moderately satisfied
- [4] Very satisfied
- [5] Extremely satisfied

4. How comfortable are you showing your body to others since having breast cancer?

- [1] Not at all satisfied
- [2] Somewhat satisfied
- [3] Moderately satisfied
- [4] Very satisfied
- [5] Extremely satisfied

5. How comfortable are you with the changes in your body since having breast cancer?

- [1] Not at all satisfied
- [2] Somewhat satisfied
- [3] Moderately satisfied
- [4] Very satisfied

[5] Extremely satisfied

6. How comfortable are you showing your affected area to others since having breast cancer?

[1] Not at all satisfied

[2] Somewhat satisfied

[3] Moderately satisfied

[4] Very satisfied

[5] Extremely satisfied

Sexual Adjustment Scale

1. Prior to having breast cancer, how satisfied were you with your sex life?

[1] Not at all satisfied

[2] Somewhat satisfied

[3] Moderately satisfied

[4] Very satisfied

[5] Extremely satisfied

2. Prior to having breast cancer, how confident did you feel about yourself as a sexual partner?

[1] Not at all confident

[2] Somewhat confident

[3] Moderately confident

[4] Very confident

[5] Extremely confident

3. How has having breast cancer affected your desire for sexual contact?

[-2] Substantially decreased

[-1] Decreased

[0] No effect

[1] Increased

[2] Substantially increased

4. How has having breast cancer affected your sexual relationship(s)?

[1] Very much worsened

[2] Worsened

[3] No effect

[4] Improved

[5] Very much improved

5. How has having breast cancer affected the frequency with which you initiate sexual contact?

[1] Very much worsened

[2] Worsened

[3] No effect

- [4] Improved
- [5] Very much improved

6. How has having breast cancer affected your sexual satisfaction when you have sex?

- [1] Very much worsened
- [2] Worsened
- [3] No effect
- [4] Improved
- [5] Very much improved

7. How important are your breasts to your sexual experience?

- [1] Not at all important
- [2] Somewhat important
- [3] Moderately important
- [4] Very important
- [5] Extremely important

8. How important are your breasts to your identity as a woman?

- [1] Not at all important
- [2] Somewhat important
- [3] Moderately important
- [4] Very important
- [5] Extremely important

Adopted from: Sexual Adjustment and Body Image Scale (SABIS): A New Measure for Breast Cancer Patients (Dalton et al., 2009)

Section F – Social Support Scale

This section seeks to understand your feelings on the support you get from family, friends, workmates, and spiritual community in the form of companionship, assistance, or other types of support: Please indicate how often each of the following kinds of support is available to you if you need it.

On a scale on 1-5 which score best describes your situation?

- 1 – none of the time
- 2 – a little of the time
- 3 – some of the time
- 4 – most the time
- 5 – all the time

Indicate the score that best describes the support you get:

	None of the time	A little of the time	Some of the time	Most the time	All the time
If you needed support, how often is someone available:	1	2	3	4	5
To help you if you were confined to bed?	1	2	3	4	5
To take you to the doctor if you need it?	1	2	3	4	5
To prepare your meals if you are unable to do it yourself?	1	2	3	4	5
To help with daily chores if you were sick?	1	2	3	4	5
To have a good time with?	1	2	3	4	5
To turn to for suggestions about how to deal with a personal problem?	1	2	3	4	5
Who understands your problems?	1	2	3	4	5
To love and make you feel wanted	1	2	3	4	5
To give you information to help you understand a situation with regards to cancer or its treatment.	1	2	3	4	5

Abbreviations: mMOS-SS, modified Medical Outcomes Study Social Support Survey; MOS-SS, Medical Outcomes Study Social Support Survey

Section G – Quality of Life Scale

This section contains statements that seek to understand how diagnosis with breast cancer and its treatment has affected your quality of life: physically, emotionally, sexually, socially, and functional wellbeing. Please indicate the statement that agrees with you on a scale of 0-4 [0] not at all; [1] a little bit; [2] somewhat; [3] quite a bit; [4] very much

Please indicate or mark one number per line to indicate your response as it applies to the past 7 days.

<u>PHYSICAL WELL-BEING</u>		No t at all	A littl e bit	Som e- what	Quite a bit	Ver y muc h
GP1	I have a lack of energy	0	1	2	3	4
GP2	Nausea makes me feel unwell	0	1	2	3	4
GP3	Because of my physical condition, I have trouble meeting the needs of my family	0	1	2	3	4
GP4	I have pain	0	1	2	3	4
GP5	I am bothered by a number of side effects of treatment	0	1	2	3	4
GP6	I feel ill	0	1	2	3	4
GP7	I am forced to spend time in bed	0	1	2	3	4

<u>SOCIAL/FAMILY WELL-BEING</u>		No t at all	A littl e bit	Som e- what	Quite a bit	Ver y muc h
GS1	I feel close to my friends	0	1	2	3	4
GS2	I get sufficient emotional support from my family	0	1	2	3	4
GS3	I get sufficient support from my friends	0	1	2	3	4
GS4	My family has accepted my illness	0	1	2	3	4
GS5	I am satisfied with family communication about my illness	0	1	2	3	4

GS6	I feel close to my partner (or the person who is my main support)	0	1	2	3	4
.....						
Q1	<i>Regardless of your current level of sexual activity, please answer the following question. If you prefer not to answer it, please mark this box and go to the next section.</i>					
GS7	I am satisfied with my sex life	0	1	2	3	4

Please circle or mark one number per line to indicate your response as it applies to the past 7 days.

<u>EMOTIONAL WELL-BEING</u>		Not at all	A little bit	Some-what	Quite a bit	Very much
GE1	I feel sad	0	1	2	3	4
GE2	I am satisfied with how I am coping with my illness	0	1	2	3	4
GE3	I am losing hope in the fight against my illness	0	1	2	3	4
GE4	I feel nervous	0	1	2	3	4
GE5	I worry about dying	0	1	2	3	4
GE6	I worry that my condition will get worse	0	1	2	3	4

<u>FUNCTIONAL WELL-BEING</u>		Not at all	A little bit	Some-what	Quite a bit	<u>Very much</u>
GF1	I am able to work (include work at home)	0	1	2	3	4
GF2	My work (include work at home) is fulfilling	0	1	2	3	4
GF3	I am able to enjoy life	0	1	2	3	4
GF4	I have accepted my illness	0	1	2	3	4

GF5	I am sleeping well	0	1	2	3	4
GF6	I am enjoying the things I usually do for fun	0	1	2	3	4
GF7	I am content with the quality of my life right now	0	1	2	3	4

Please circle or mark one number per line to indicate your response as it applies to the **past 7 days**.

<u>ADDITIONAL CONCERNS</u>		Not at all	A little bit	Some- what	Quite a bit	Very much
B1	I am bothered by inability to have children	0	1	2	3	4
B2	One or both of my arms are swollen and tender	0	1	2	3	4
B3	I have problems raising my arm or moving it sideways	0	1	2	3	4
B4	I worry that other members of my family might someday get the same illness I have	0	1	2	3	4
B5	I worry about the effect of stress on my illness	0	1	2	3	4

Appendix 3: Participant Information and Consent Form

Study Title: Influence of Psychosocial Distress Predictors on Quality of Life in Women with Breast Cancer in Nairobi County

Principal Investigator\and institutional affiliation: Wanjiru Muriithi Anastasia –

Kenya Methodist University

Co-Investigators and institutional affiliation: Zipporah Kaaria (PhD) and Job Mapesa (PhD) – Kenya Methodist University

Introduction

Thank you for agreeing to speak with me today:

My name is Wanjiru Muriithi, and I am a PhD candidate in Counseling Psychology at Kenya Methodist University. This form is intended to provide you with information that will assist you in deciding whether to participate in the study or not. You are welcome to ask questions and request clarification on any aspect of this study. The form also explains the potential benefits or risks of taking part in the study, your right to withdraw before completing the interview. If you consent to the study, you will sign the consent form or provide your fingerprint. Your treatment and other services will not be affected if you choose not to participate.

Purpose of the Study

Even though psychosocial distress is a part of breast cancer diagnosis and treatment, it is not seen as a problem that needs treatment and care in Kenya. This study aims to know about your experiences with breast cancer and how it has changed your life. It also seeks to learn about your personal struggles and how they affect your wellbeing and quality of life. The hope is that the findings can be used to advocate for a more holistic breast cancer treatment and management strategy.

Participation (your part in the study)

Participation in this study is voluntary. I am requesting that you voluntarily participate in this study by allowing me to interview you as a woman living with breast cancer. If you agree to participate in the study, this is some of the information we shall get from you:

1. Socio-demographic information like your age, marital status, education level and occupation, diagnostic information like stage at diagnosis and type of treatment undertaken.
2. Information about your experiences with breast cancer in a face-to-face interview, which will take between 20 and 30 minutes of your time and will be recorded with your permission.

3. Responding to a researcher administered questionnaire that will take 15-20 minutes on distress levels, treatment side effects, body image, social support, and subjective quality of life.
4. Sharing your breast cancer experiences with six to eight other women battling breast cancer in a focus group discussion that will be recorded with your permission. The conversation will last two hours.

Only the chief investigator will have access to the voice recording of your interview or conversation. The recorded information will be stored on the chief investigator's laptop in a password-protected folder. The use of numeric identifiers will replace your names. If your statement is chosen as one of the landmark statements to be included in the results, only numeric identifiers will be used.

Possible Risks

This interview is about your personal cancer experiences. The questions may elicit painful memories or feelings that have been suppressed. If this occurs, the researcher or research assistants, who are counselling psychologist, will create a safe space for you to process your emotions. You can expect unconditional positive regard, empathy, and time to process your emotions.

Possible Benefits

Although there are no immediate benefits, it is possible that your voice will serve as the impetus for a person-centered breast cancer treatment approach.

Confidentiality

To the best of our ability, we will protect information about you and your participation in this research. There will be no mention of you in any reports. Only the chief investigator will have access to your entire set of data. Two research assistants, on the other hand, will interact with some of your data as they scribble notes during one-on-one interviews or focus group discussions.

Right to refuse or withdraw

You are free to decline any of these requests without consequence (your decision will not affect the health care you would normally receive. Your participation in the study, on the other hand, is priceless. It will help to make this study more meaningful.

Compensation

Participation is optional and is not compensated in any way.

Staying in the Research (concluding and interview)

If you decide to participate but are unable to stay until the end of the interview, it is acceptable for you to withdraw.

Your Rights as a participant

To protect you as a participant, this proposal has been reviewed and approved by KNH-UoN ERC. An ERC is a committee that reviews research studies in order to help protect participants. If you have any questions about your rights as a research participant, you may contact *Chief Investigator* - Anastasia Wanjiru Muriithi (anastacia.muriithi@kemu.ac.ke) Kenya Methodist University -P O Box 45240-00100 -Nairobi

For more information about your rights as a respondent, you may contact KNH-UoN ERC – P O Box 20723- 00202 - Email: uonknh_erc@uonbi.ac.ke [Tel:2726300](tel:2726300) Ext:44102

Annex 1: Individual Interview - Consent Form (Statement of Consent)**Participant's statement**

I have read this consent form or had the information read to me. I have had the chance to discuss this research study with a study counselor. I have had my questions answered in a language that I understand. The risks and benefits have been explained to me. I understand that my participation in this study is voluntary and that I may choose to withdraw any time. I freely agree to participate in this research study.

I understand that all efforts will be made to keep information regarding my personal identity confidential.

By signing this consent form, I have not given up any of the legal rights that I have as a participant in a research study.

I agree to participate in this research study: **Yes** **No**

Participant printed name: -----

Participant signature I Thumb stamp ----- **Date** -----

Thank you for agreeing to participate

Researcher's statement

I, the undersigned, have fully explained the relevant details of this research study to the participant named above and believe that the participant has understood and has willingly and freely given his/her consent.

Researcher's Name: ----- **Date:** -----

Signature -----

Role in the study: -----

For more information contact: Chief Investigator - Anastasia Wanjiru Muriithi
(anastacia.muriithi@kemu.ac.ke) (Cellphone: 0722856706 - Kenya Methodist University - P
O Box 45240-00100 -Nairobi

Witness Printed Name (*/f witness is necessary, a witness is a person mutually acceptable to both the researcher and participant*)

Name ----- **Contact information** -----

Signature Thumb stamp: ----- **Date;** -----

Annex 2: Focus Group Discussion Consent form (Statement of Consent)

Participant's statement

I have read this consent form or had the information read to me. I have had the chance to discuss this research study with a study counselor. I have had my questions answered in a language that I understand. The risks and benefits have been explained to me. I understand that my participation in this focus group discussion is voluntary and that I may choose to withdraw any time. I freely agree to participate in this research study.

I understand that all efforts will be made to keep information regarding my personal identity confidential.

By signing this consent form, I have not given up any of the legal rights that I have as a participant in a research study.

I agree to participate in this research study: **Yes** **No**

Participant printed name: -----

Participant signature I Thumb stamp ----- **Date** -----

Thank you for agreeing to participate.

Researcher's statement

I, the undersigned, have fully explained the relevant details of this research study to the participant named above and believe that the participant has understood and has willingly and freely given his/her consent.

Researcher's Name: ----- **Date:** -----

Signature -----

Role in the study: -----

For more information contact: Chief Investigator - Anastasia Wanjiru Muriithi
(anastacia.muriithi@kemu.ac.ke) (Cellphone: 0722856706 - Kenya Methodist University -
P O Box 45240-00100 -Nairobi

Witness: Director Psychosocial Support Services – Faraja Cancer Support

Name ----- **Contact information** -----

Signature Thumb stamp: ----- **Date;** -----

Annex 3 – Key Informant Consent Form

I, the undersigned, confirm that, I have given consent to participate in the study with a clear understanding of the objectives and conditions of the study and with recognition of my right to withdraw from the study if I change my mind.

I _____ do hereby give consent to be interviewed. I have been given the necessary information about the research. The proposal has been explained to me in the language I understand.

Key Informant's Signature: _____ Date: ____/____/____

Investigator _____ Date: ____/____/____

Thank you for agreeing to participate.

Appendix 4: Nairobi University & Kenyatta National Hospital ERC Approval



UNIVERSITY OF NAIROBI
FACULTY OF HEALTH SCIENCES
P O BOX 19675 Code 00202
Telegrams: varsity
Tel: (254-020) 2726300 Ext 44355

KNH-UoN ERC
Email: uonknh_erc@uonbi.ac.ke
Website: <http://www.erc.uonbi.ac.ke>
Facebook: https://www.facebook.com/uonknh_erc
Twitter: @UONKNH_ERC https://twitter.com/UONKNH_ERC



KENYATTA NATIONAL HOSPITAL
P O BOX 20723 Code 00202
Tel: 726300-9
Fax: 725272
Telegrams: MEDSUP, Nairobi

Ref: KNH-ERC/A/502

6th December, 2022

Anastasia Wanjiru Muriithi
Reg. No PSC-4-0085-1/2020
PhD Candidate
Dept. of Theology, Religious & Counselling
School of Education & Social Sciences
Kenya Methodist University



Dear Anastasia,

RESEARCH PROPOSAL: INFLUENCE OF PSYCHOSOCIAL DISTRESS PREDICTORS ON QUALITY OF LIFE IN WOMEN WITH BREAST CANCER IN NAIROBI COUNTY (P644/07/2022)

This is to inform you that KNH-UoN ERC has reviewed and approved your above research proposal. Your application approval number is **P644/07/2022**. The approval period is 6th December 2022 – 5th December 2023.

This approval is subject to compliance with the following requirements;

- i. Only approved documents including (informed consents, study instruments, MTA) will be used.
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by KNH-UoN ERC.
- iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to KNH-UoN ERC 72 hours of notification.
- iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to KNH-UoN ERC within 72 hours.
- v. Clearance for export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days upon completion of the study to KNH-UoN ERC.

Protect to discover

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) <https://research-portal.nacosti.go.ke> and also obtain other clearances needed.

Yours sincerely,



DR. BEATRICE K.M. AMUGUNE
SECRETARY, KNH-UoN ERC

c.c. The Dean, Faculty of Health Sciences, UoN
 The Senior Director, CS, KNH
 The Assistant Director, Health Information Dept., KNH
 The Chairperson, KNH- UoN ERC
 The Chair, Dept. of Theology, Religious & Counselling, Kenya Methodist University
 Supervisor: Dr. Zipporah Kaaria, Dept. of Theology, Religious & Counselling, Kenya Methodist University
 Dr. Job Mapesa, Dept of Public Health, Kenya Methodist University

Protect to discover

Appendix 5: Nacosti Approval

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 776054	Date of Issue: 21/December/2022
RESEARCH LICENSE	
	
This is to Certify that Miss., Wanjiru Anastasia Muriithi of Kenya Methodist University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: Influence of Psychosocial Distress Predictors on Quality of Life in Women with Breast Cancer in Nairobi County for the period ending : 21/December/2023.	
License No: NACOSTI/P/22/22726	
776054 Applicant Identification Number	 Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Verification QR Code	
	
NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.	
See overleaf for conditions	

Appendix 6: Kenyatta National Hospital Oncology Department Approval


KENYATTA NATIONAL HOSPITAL
 P.O. Box 20723-00202 Nairobi
 Tel.: 2726300/2726450/2726565
 Research & Programs: Ext. 44705
 Fax: 2725272
 Email: whiresearch@gmail.com

PAH
Receipt no: DRE0017932
KNH/R&P/FORM/01

Study Registration Certificate

- Name of the Principal Investigator/Researcher
Wanjiru Muriuki Anastasia
- Email address: anastasia.muriuki@kenya Posta Tel No. 0722 856 706
- Contact person (if different from PI) _____
- Email address: _____ Tel No. _____
- Study Title
Influence of psychosocial distress predictors on quality of life in women with breast cancer in Nairobi county
- Department where the study will be conducted Oncology Department (CTC)
(Please attach copy of Abstract)
- Endorsed by Research Coordinator of Department where study will be conducted.
 Name: Dr C. Nyongesi Signature: [Signature] Date: 9/1/23
- Endorsed by KNH Head of Department where study will be conducted.
 Name: _____ Signature: _____ Date: _____
- KNH Research Ethics Committee approved study number P644/07/2022
(Please attach copy of ERC approval)
- I Wanjiru Muriuki Anastasia commit to submit a report of my study findings to the Department where the study will be conducted and to the Department of Medical Research.
 Signature: Wanjiru Date: 9/01/2023
- Study Registration number (Dept/Number/Year) CTC 172/2023
(To be completed by Medical Research Department)
- Research and Program Stamp _____

All studies conducted at Kenyatta National Hospital must be registered with the Department of Medical Research and investigators must commit to share results with the hospital.

Appendix 7: Faraja Cancer Support Approval



Wanjiru Muriithi <shiru.ana@gmail.com>

Request for Permission to Access Female Breast Cancer Patients at Faraja Cancer Support

Elsie Mulindi <elsie@farajacancersupport.org>
To: Wanjiru Muriithi <shiru.ana@gmail.com>
Cc: Maryam Hassan <maryam@farajacancersupport.org>

Tue, Jan 10, 2023 at 12:23 PM

Dear Wanjiru,

We have talked.

We are happy to support your course as it adds to the body of knowledge on the subject Cancer. We are sure that we shall also benefit from your findings once completed. Pls share with us your executive summary of findings as may be applicable to us.

Maryam, herein copied will offer any support that you need as detailed in your "ask". Pls feel free to reach out to her as necessary.

I also take this opportunity to extend my appreciation on behalf of Faraja for the kind services that you offer to our patients, caregivers, volunteers/interns and moving forward, the debrief session for nurses at KNH, both in Counselling and supervision.

Thank you Wanjiru,

The very best!

Elsie

[Quoted text hidden]

4 attachments

 **Letter Faraja.docx**
19K

 **Ethical clearance letter.pdf**
331K

 **Research_Permit_NACOSTIP-22-22726.pdf**
243K

 **ABSTRACT.pdf**
293K

Appendix 8: Health Global Cancer Centre Kenya Approval

HCGCCK
CANCER CENTRE
adding life to years

Research Authorization Letter

25th March 2023

Institutional Review Board
HCG Cancer Care Kenya
01 Shivachi Road
Parklands,
NAIROBI.

Dear IRB Members,

After reviewing the proposed study, "*Influence of Psychosocial Distress Predictors on Quality of Life in Women with Breast Cancer in Nairobi County*", presented by Muriithi Anastasia Wanjiru PSC-4-0085-1/2020, Department of Counselling Psychology at Kenya Methodist University

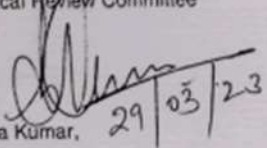
I am granting permission for the study to be conducted at HCG Cancer Care Kenya. I understand the purpose of the project is to determine the influence of psychological stress among women with breast cancer on quality of life. The primary activity at **HCG CCK** will be to conduct interviews with four patients, a nurse from HCGCCK, and an as well as facilitate focus group discussions at Faraja Cancer Support with same patients.

I understand that **conducting interviews** will occur for **90 days** I expect that this project will end not later than **25th June 2023**.

I understand that Muriithi Anastasia Wanjiru will obtain consent for all participants in the study. Muriithi Anastasia Wanjiru has agreed to provide a copy of all IRB approved study protocol materials including the approved consent documents. Any data collected by Muriithi Anastasia Wanjiru will be kept confidential and will be stored in a secure location per the approved protocol.

Dr Adarsh Chandramoleswar,
Chair, Ethical Review Committee

Peter Rotich
Secretary, ERB

Sincerely,  29/03/23

Bhupendra Kumar,
CEO
Cancer Care Kenya
+254727884882
info@cancercarekenya.com

HCG CCK Cancer Centre
An undertaking of Cancer Care Kenya Ltd - Shivachi Road, Parklands, PO Box. 39173, Nairobi 00623 Kenya
+254 (0) 727 844882, 737 844 882 | info@hcgck.com | hcgck.com



**Body Image and Psychosocial Distress: Implications for Breast Cancer
Patients' Quality of Life in Nairobi County**

Anastacia Wanjiru Muriithi^{1}, Zipporah Kaaria², Job Mapesa³*

^{1, 2, 3} Kenya Methodist University P.O. Box 45240 – 00100, Nairobi, Kenya.

**Correspondence email: anastacia.muriithi@kemu.ac.ke*

Abstract

Patients with breast cancer undergo invasive treatment and surgical procedures, which could result in temporary or permanent body changes. How breast cancer patients and others react to their altered bodies influences psychosocial distress, their quality of life and treatment efficacy. This study examined body image, psychosocial distress, and quality of life in breast cancer patients. This study used a phenomenological approach to examine the experiences of breast cancer patients. Using probability and expert sampling, 32 breast cancer patients were selected from a target sample of 763, along with five nurses and three physicians. In-depth interviews and focus group discussions were used to collect the data. The interview transcripts were coded, and inductive method was used to generate themes of significance. Four sub-themes emerged from the analysis; namely, altered appearance, diminished self-esteem, the meaning of the breast, and sexuality after breast cancer. The study found that poor body image and psychosocial distress were prevalent among breast cancer patients but inadequately understood and managed. Widespread but unaddressed were impaired body image and sexuality issues. Additionally, the patient's environment mediated body image and subjective wellbeing. Psychosocial distress also negatively affected emotional, social, sexual, and role-function quality of life. The study recommends provision of breast prostheses as well as creation of individual and couple counselling services and support groups. Policymakers and hospitals need to adopt a patient-centred approach that takes breast cancer patients' disease and body image concerns into account.

Keywords: *Breast cancer; body image; psychosocial distress; -quality of life; qualitative study.*

IJPP 11(3); 26-38

Clinical and Socio-Demographic Predictors of Psychosocial Distress in Women with Breast Cancer in Nairobi, Kenya

Wanjiru Muriithi^{1*}, Zipporah Kaaria¹, Job Mapesa¹

¹*Kenya Methodist University, P.O. Box 267–60200Meru, Kenya*

**Corresponding Author's: anastacia.muriithi@kemu.ac.ke*

Abstract

Research shows that 25%–50% of breast cancer patients worldwide experience distress, with African reporting 71% and Kenyan 34-50% distress cases. This study investigated clinical and socio-demographic predictors of breast cancer patients' psychosocial distress. Poor quality of life outcomes, reduced adherence to treatment, and inferior clinical and psychosocial functioning are all associated with psychosocial distress. This study adopted an exploratory, sequential cross-sectional design. The study targeted 763, 18–70-year-old female breast cancer patients. Breast cancer patients, nurses, lay navigator, and oncologists were enlisted through opportunity sampling technique for collection of both the qualitative and the quantitative data. Interviews, focus group discussions, and questionnaires were used to collect data. Using a total score of >11, with NCCN cut-off mark of >4 for clinically significant distress; and >7 for severe distress, psychosocial distress was screened using distress thermometer and problem checklist. Notably, income and stage of diagnosis emerged as significant predictors of psychosocial distress, clinical anxiety, and depression. Income predicted severe distress (OR = 5.5, $p = 0.001$), anxiety (OR = 2.8, $p = 0.004$), depression (OR = 4.7, $p = 0.001$), and early diagnosis had an inverse relationship with distress (OR = 0.3, $p = 0.006$) and depression (OR = 0.5, $p = 0.049$). Still, testimonials showed that young women had more emotional distress, while elderly women had more physiological distress. Marriage provided two insurance policies. The study emphasises understanding of emotional and psychological distress factors, identifying patients who need extra help, and using psychotherapy and social interventions to alleviate suffering, enhance resilience, and improve treatment outcomes

Keywords: *Clinical, Socio-demographics, Breast cancer, Psychosocial distress, Predictors, Mixed-methods*

IJPP 12(3); 72-87